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for the Australian Curriculum

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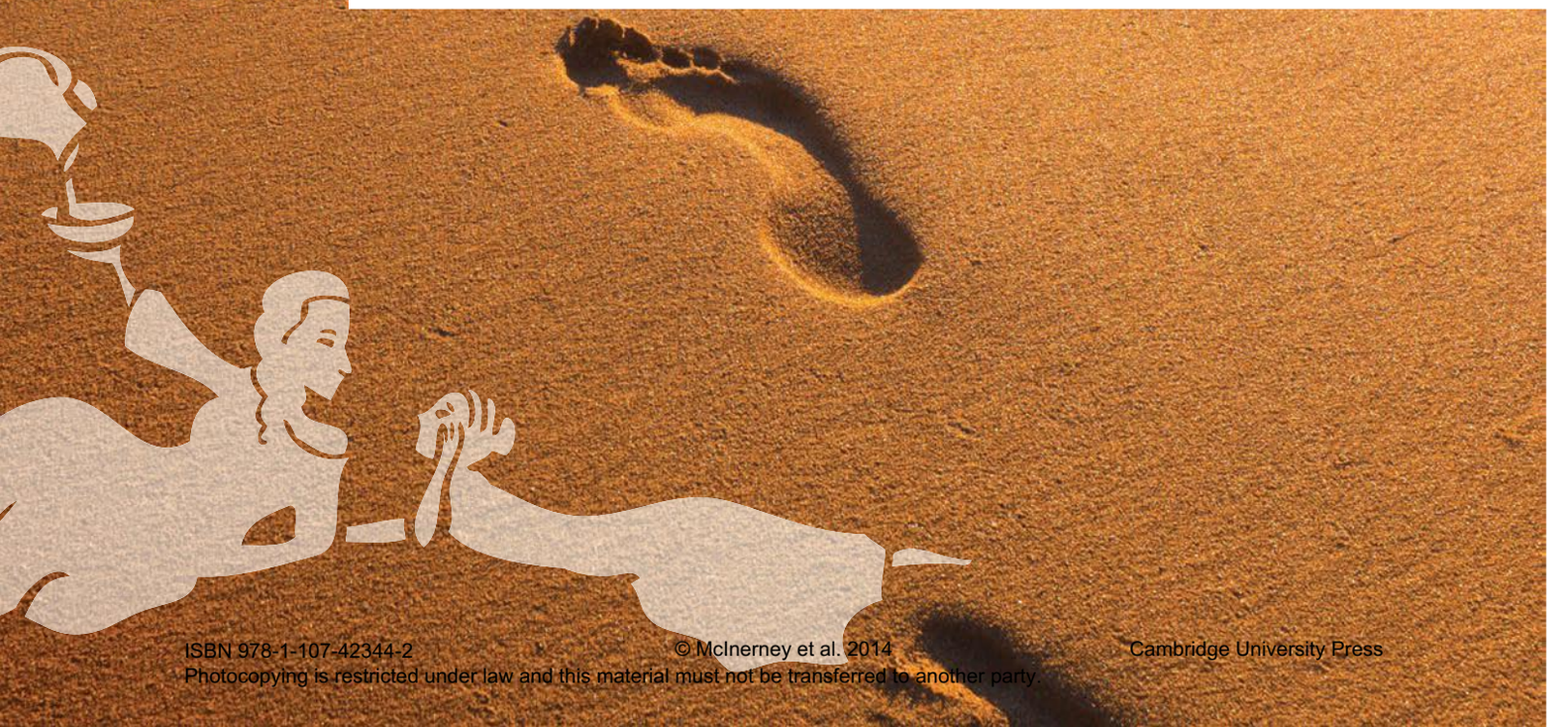
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The Economics and Business and Civics and Citizenship sections of this textbook were written to the noted curriculums. This follows a decision by the council of federal, state and territory education ministers that the curriculums should be made available to states and territories for their use.



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Foreword



The writing of the Australian Curriculums for geography, history, economics and business, and civics and citizenship is an important and exciting chance for all of us to study these subjects separately. However, by having all of the subjects in this textbook, it makes us aware that there is significant correlation between them. In our world of simplistic divisions of knowledge there is always the danger that we see these subjects as quite separate and not connected. These subjects have a synergy and connection that is logical and obvious.

For example, to understand a history we need to consider the geography, and to make sense of the geography of a place or phenomenon we need to consider the concept of change over time. In 1987 the American geographer Donald Meinig said:

> geography and history are complementary and interdependent, bound together by the very nature of things. This relationship is implied by such common terms as space and time, area and era, places and events, pairs that are fundamentally inseparable. In practice the two fields are differentiated by the proportionate emphasis each gives to these terms.

As shown in this textbook, the connection and interdependency of these subjects are particularly relevant as we study them in the Australian Curriculum.

Another example of the impact of geography on history is highlighted when we look at the rise and fall of the Roman Empire. Some argue that the rise of the empire relied on a favourable location enabling good agricultural production, mountain protection, accessible travel and expansive trade, and that the fall of the empire had to do with a regional drought that decreased the fertility of the land and agricultural output. As a result, the lack of food strained the empire and damaged the political situation to the point of collapse. To further expand on the geographical and historical connection, how could we study Australian history without recognising the impact of geography on our settlement, politics, national character, military involvement and much more? As the Australian historian Geoffrey Blainey said in his 1966 book *Tyranny of distance*:

> geographical remoteness has been central to shaping our history and identity – and it will continue to form our future.

While the team of authors assembled by Cambridge University Press to write *Humanities & Social Sciences for the Australian Curriculum* have written the textbook as distinct geography, history, economics and business, and civics and citizenship chapters in accordance with the curriculum, these topics frequently entwine. Such connections are found early in the history chapters when the geography of the area of study is highlighted by the inclusion of maps, and in geography the key concept of change makes it unavoidable to view the content without considering change over time and planning for the future.

In this textbook you will learn about the connection between humans and their social and environmental surroundings and hence the connection between all subjects. In history you will study the ancient to modern world and the historical change in diverse societies around the world, including the end of the Roman world, the emergence of both Christianity and Islam, feudalism, trade routes, voyages of discovery, contacts and conflict. You will study the Vikings, Medieval Europe, the Ottoman Empire, Renaissance Italy, the Khmer Empire, Japan under the shoguns, Polynesian expansion around the Pacific, the Mongol Empire, the Black Death, and the Spanish conquest of the Americas. In the geography chapters you will study the nature and importance of the interconnections between

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humans and the environment in different places around the world. In the landforms and landscapes chapters you will learn not only about the formation and nature of landforms and landscapes but also their importance and connection to humans. With this importance comes an examination of the use, management and sustainability of landscapes into the future. The year level focus on sustainability, interconnection and change continues into the changing nations chapters where you will study the causes and impacts of urbanisation and migration in Australia, China and the United States and consider issues associated with sustainable planning for the future. The economics and business chapters will prepare you for a future of understanding and participating in the Australian market, Australian businesses and your rights as a consumer. The civics and citizenship sections will outline your responsibilities and freedoms as an Australian citizen. These studies will enable you to see the interconnections between migration in Australia and around the world, the relationships between landscapes and humans and participating in the market system.

This textbook is unique in including many curriculums in one textbook. By doing so you will become aware of the relationships between these subjects and you will have the opportunity to connect them in a creative and meaningful way. The chapters are presented in a concise way with plenty of online supporting materials, interesting thoughts and facts, relevant primary and secondary sources, creative activities using relevant skills, eye-catching images and illustrations, glossary definitions and many other features to make this an outstanding resource for your learning. The authors hope that you find the study of these subjects of great relevance to you and most importantly enjoyable to learn about. Remember, the subjects are entwined and to really understand one we must consider the others.

Malcolm McInerney



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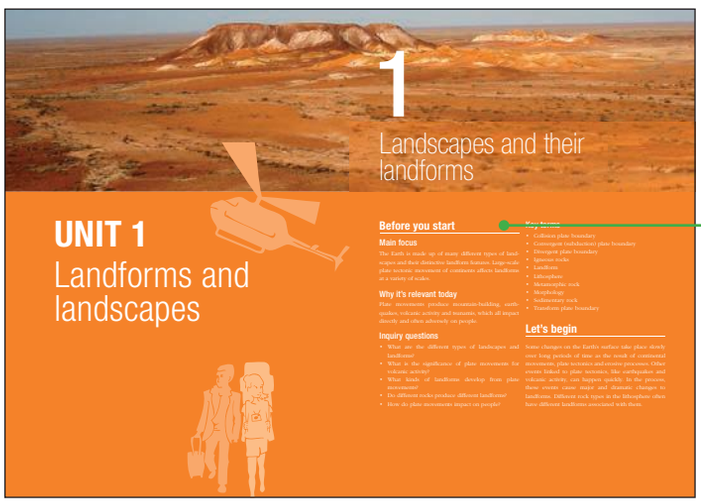
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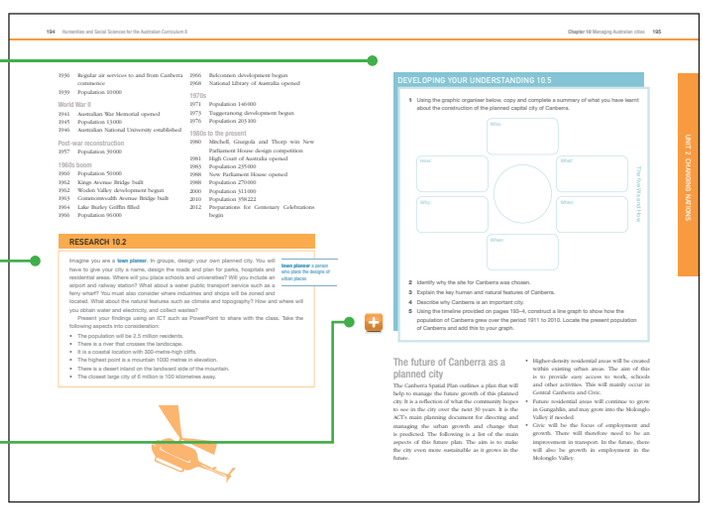
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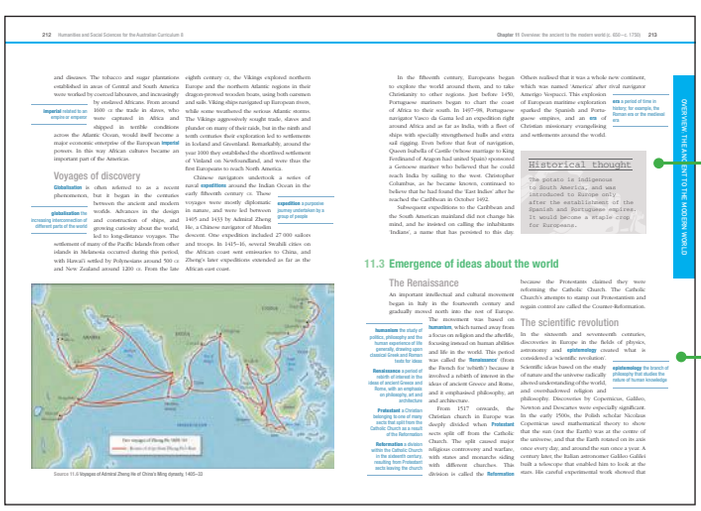
Chapter openers feature **Before you start** and **Let's begin** sections, which focus your attention on the topics being studied and prepare you for your in-depth investigations.



A variety of **Developing your understanding** activities and **Research** tasks explore key concepts, develop skills and draw back to the general learning capabilities and cross-curriculum priorities.

Icons alert you to additional activities and case studies available for download online through Cambridge GO for extra practice and further investigation.





Thought and fact boxes highlight interesting information to enrich your learning.

Glossary terms are bolded in the text, defined in the margins and collated at the end of the textbook for easy reference.

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Reflecting and consolidating questions at the end of the chapter include short answer and extended response to test your knowledge through the reinforcement of key concepts and application of skills.

Chapter summaries review the main ideas of the topic to reflect and consolidate on what you have learned.



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Chapter 16 Angkor/Khmer Empire (c. 802 – c. 1431) 353

Reflecting and consolidating

Chapter summary

- The Khmer took advantage of the regularly flooding Tonle Sap, developing a water management system that fostered successful rice cultivation. This provided an excellent foundation for the development of the Khmer Empire.
- Indianisation greatly influenced the development of the Khmer civilisation religiously, politically and culturally. Trade between China and India enabled Funan to flourish. However, when the trade routes changed, Funan declined and the region's economy was forced to become more self-reliant.
- The inland state of Zhenla profited from the rich agricultural land of the Cambodian basin and encouraged the development of a sophisticated Indianised Khmer culture.
- Zhenla consisted of a number of local rulers, who occasionally had sufficient power to dominate the rest of the region, but this was only temporary, lasting until that king's death.
- Jayavarman II managed to unite the Khmer under his authority and created a lasting union. He initiated the Devaraja cult to help maintain his authority, while religiously uniting the Khmer.
- The king was responsible for maintaining dharma in the empire and he was the people's protector, both militarily and spiritually. The prosperity of the empire was tied to the behaviour of the king.
- The Khmer Empire relied upon a large bureaucracy, looking after the legal system, government and taxation. Some of these officials held hereditary positions, but many were appointed personally by the king, demonstrating the king's control over a centralised administration.
- The daily life of the Khmer has been recorded by a Chinese diplomat, Zhou Daguan, enabling historians to study their way of life in greater depth.
- The prosperity of the Khmer Empire enabled art and architecture to flourish, leading to the construction of some of the world's greatest buildings, such as Angkor Wat. Infrastructure, such as highways, bridges, reservoirs and hospitals helped to maintain the empire.
- Many reasons have been proposed for the decline of the empire, including invasion, religious revolution, climate change, ecological disasters and economic change.
- The Khmer Empire has left an important artistic, religious, cultural and political legacy not only to Cambodia but also to the world.

Short-answer questions

1 Explain why water management was important to Angkor.
2 How did Angkor relate to other peoples?
3 Describe the role of Angkor's king.
4 Outline how Indianisation influenced Angkor.
5 What function did Angkor's temples serve?

Source analysis

Study Sources 16.37 and 16.38 and answer the following questions:

1 List the features identified by Zhou Daguan.
2 Compare the similarities and differences between Sources 16.37 and 16.38.
3 How does Source 16.37 relate to the depiction of the 'Churning of the Sea of Milk' (see Source 16.13 on page 331)?
4 Why might religious imagery be used to decorate non-religious buildings?

The walls of the city are about 20.9 [roughly 10 kilometres] in circumference. There are five gateways … There are two gates facing east, one gateway facing in each of the other directions. Around the outside of the city walls there is a very large moat. This is spanned by big bridges carrying roads into the city. On either side of every bridge there are 54 stone deities. They look like generals, huge and fierce-looking.

The five gateways are all alike. The [handrails] of the bridges are all made of stone and are carved into the shape of snakes, each snake with nine heads. The 54 are all pulling at the snake with their hands, and look as if they are preventing it from escaping. Above the gateways in the city wall there are five Buddha heads. Four of them face toward the four cardinal points, and one of them is placed in the middle. It is decorated with gold. On either side of the gates the stones are carved into the shape of elephants.

Source 16.37 An excerpt from Zhou Daguan's writings, concerning Angkor Thom

Source 16.38 The causeway and South Gate of Angkor Thom

Extended-response question

Imagine that Jayavarman VII has appointed you to head a trade delegation to China. Your mission is to convince the Chinese Emperor of the strengths of the Khmer economy and explain why China should accept Khmer goods, highlighting the country's resources, agricultural productivity and the water management systems. However, as the Chinese Emperor rarely meets ambassadors face-to- face, you are required to set out your argument as an essay. To convince a sceptical emperor, you must be thorough in your delivery and use evidence to support your claims.
Somsaang ta-or (Khmer = Good luck)!

DEPTH STUDY 2: THE ASIA-PACIFIC WORLD



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Civics and citizenship: Law and citizens 483

Civics and citizenship

Law and citizens

Sources of law

There are two main ways in which laws are created in Australia: either through passing a law through parliament (which is called **statute law**) or through a ruling made by a judge (which is called **common law**). An example of a statutory law is the 2012 Carbon Tax, which was made law as a way to focus on sustainability and energy use.

Our laws can either be defined as **criminal laws** or **civil laws**. A criminal law address crimes relating to the harming, threatening or endangering of a person's health or welfare. For instances, assault and murder are examples of crimes addressed by criminal law. A civil law refers to crimes in which financial compensation is being pursued, for example, over damages caused to a property or the settlement of a will. It is possible to have some criminal situations in which both laws apply. For example, in 2006 swimmer Nick D'Arcy assaulted fellow swimmer Simon Cowley. Under criminal law, D'Arcy was found guilty to 'recklessly causing grievous bodily harm'. Under civil law, Cowley sued D'Arcy for damages caused by the fight. D'Arcy was order to pay Cowley $180 000.

Australia is also subject to **international laws**, particularly around trade issues and relationships with other countries. Over 95% of all Australian trade conduct overseas is with Asia. As such it is important to have a strong legal relationship with the region to ensure that good relations and trade continue. Australia is a member of the Asia-Pacific Economic Cooperation (APEC), which ensures that the trade of goods and services continues in the region so that all countries can benefit and develop their economies.

statute law statutory laws are passed through parliament

common law law passed through a ruling made by a judge

criminal law law that address crimes relating to the harming, threatening or endangering of a person's health or welfare

civil law law that addresses crimes in which financial compensation is being pursued

international law law established and recognised between nations

Source 8.2.1 World leaders at the 2007 APEC meeting in Sydney, including then-Prime Minister John Howard.

Customary law

Before the arrival of Europeans to Australia, Aboriginals and Torres Strait Islander peoples had their own sources of law and ways of enforcing them. This legal system is called **customary law**, as it is law that has developed over a long period of time based on social norms or customs of a particular indigenous group. Customary law not only outlines punishment for breaking the rules of the group, but also includes the practices and customs that create a sense of community and encourage a connection to the land. Aboriginals and Torres Strait Islander peoples practise oral history. history, cultural practices and law are passed on through storytelling and oral communication.

Indigenous customary law is different for the different groups within different locations. Customary law was not recognised as a source of law in Australia until the last decade and is still considered a very controversial topic. For example, the Northern Territory investigated into the inclusion of customary law within the broader legal system in 2005 and found that while in some areas of Australian law it would be effective, in others it would not. For example, under customary law in the Northern Territory polygamy (having more than one wife at the same time), arranged marriages and corporal punishment (punishment through the use of violence) are all considered acceptable. These three examples of customary laws contradict the broader Australian legal system. The investigation concluded that where possible customary laws should be taken into consideration in the Northern Territory if the Aboriginal or Torres Strait Islander person wants it to be included, but the customary laws cannot contradict the other sources of law in Australia.

customary law law that has developed over a long period of time based on the social norms or customs of a particular Aboriginal or Torres Strait Islander group

The responsibility of a citizen

Regardless of religious, ethnic or cultural backgrounds, all Australians have to act as responsible citizens. Being a responsible citizen is more than just obeying the law (although that is a key aspect). As Australians, our responsibilities include paying taxes, voting in all elections, respecting the rights of others and being informed on important issues within the country. It is important to always act as a responsible citizen in order to function effectively as a community.

Source 8.2.2 It is important to enrol to vote and be a responsible citizen.

DEVELOPING YOUR UNDERSTANDING 8.2.1

1 Outline the difference between criminal and civil law.
2 Identify which of the following offences would be considered examples of criminal or civil law: stealing a car, injuring another person, lying about medical qualifications and painting graffiti on a wall.
3 Highlight the difference between customary law and other sources of law. Explain the issues around customary law.
4 Choose one of the responsibilities of a citizen and explain why you think the responsibility is important to the Australian community.

CIVICS AND CITIZENSHIP

Civics and citizenship sections introduce the content descriptions for this subject area in a succinct manner and include **Developing your understanding** activities to ensure all four learning areas of humanities and social sciences are covered.

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Geography



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UNIT 1
Landforms and landscapes



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1 Landscapes and their landforms

Before you start

Main focus

The Earth is made up of many different types of landscapes and their distinctive landform features. Large-scale plate tectonic movement of continents affects landforms at a variety of scales.

Why it's relevant today

Plate movements produce mountain-building, earthquakes, volcanic activity and tsunamis, which all impact directly and often adversely on people.

Inquiry questions

- What are the different types of landscapes and landforms?
- What is the significance of plate movements for volcanic activity?
- What kinds of landforms develop from plate movements?
- Do different rocks produce different landforms?
- How do plate movements impact on people?

Key terms

- Collision plate boundary
- Convergent (subduction) plate boundary
- Divergent plate boundary
- Igneous rocks
- Landform
- Lithosphere
- Metamorphic rock
- Morphology
- Sedimentary rock
- Transform plate boundary

Let's begin

Some changes on the Earth's surface take place slowly over long periods of time as the result of continental movements, plate tectonics and erosive processes. Other events linked to plate tectonics, like earthquakes and volcanic activity, can happen quickly. In the process, these events cause major and dramatic changes to landforms. Different rock types in the lithosphere often have different landforms associated with them.

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1.1 Types of landscapes and landforms

landform a naturally formed feature on the Earth's surface, having a characteristic shape or form

landscape the visible features of an area including both the natural (mountains, forests, rivers, etc) and human elements (roads, houses, bridges, etc)

riverine associated with rivers

arid dry or parched; refers to regions such as deserts

karst limestone region where underground water is the main cause of distinctive landforms

channel the hollowed-out path formed by a river or stream

levee a sediment embankment bordering a channel

flood plain low-lying ground that is subject to flooding from a nearby river

terrace a 'platform' of fairly flat land, often a former flood plain that has become stranded by later down-cutting by the river

Landforms of varying sizes and shapes, when taken together, are referred to as a **landscape**. There are many different types of landscapes, including but not limited to:

- coastal landscapes
- **riverine** landscapes
- **arid** landscapes
- mountain landscapes
- **karst** landscapes.

The landforms have relation-ships with each other, which means they form distinctive groupings in these different landscapes. In downstream riverine landscapes, for example, landforms will include a **channel**, possibly a **levee**, and a **flood plain** or **terrace**. Some landforms are extensive, like arid zone dunes that continue for many kilometres. When numerous dunes have formed, as in the Arabian Peninsula or Central Australia, they make up a dune field that can extend for hundreds of kilometres. Other landforms are small, such as individual pedestal rocks that may be shaped like an anvil or mushroom, and reach only a metre or so in height. Geographers and others try to explain these differences in size, shape and grouping of landforms.



Source 1.1 Sand dunes near Liwa oasis, the Empty Quarter, Abu Dhabi, United Arab Emirates

The processes that produce landforms are both large and small in scale. At a large scale, the Earth's surface is influenced by forces that affect the distribution and nature of continents and oceans. The solid continents and sub-oceanic floors provide the raw materials for other kinds of processes to act on and change. The Earth's entire surface, whether exposed as landmasses or lying beneath the ocean, is affected by **erosion**, **deposition** and **weathering**. When considering landforms, we are viewing features that have evolved over time in response to different forces acting on them.

erosion the process of transferring rocks, sediment or solutions (transportation) from one place to another (deposition)

deposition the last stage of the erosion process, when the material being moved settles on a surface

weathering the breakdown of rocks and sediments into smaller particles or a solution

Studying landforms

Physical geographers examine the **lithosphere**, biosphere, atmosphere and hydrosphere. In relation to the lithosphere, the field of **geomorphology** concentrates on the surface features of the Earth, examining landforms and the processes that have produced them. Some of these visible features are formed rapidly while others develop only over long periods of time. A large river system like the Murray–Darling may have existed for millions of years, for example, but a smaller cut-off meander or billabong along the stream can form quickly during a flood.

lithosphere the solid upper zone of the Earth, including soil and underlying rocks to a depth varying between about 7 and 200 kilometres

geomorphology the study of landscapes and landforms, and the processes that have made them the way they are

lithology the general physical characteristics of rocks

Rocks and weathered materials near the Earth's surface are often referred to by the general term **lithology** (*lithos* is the Greek word for rock). As landform development results from processes operating on both rocks and weathered materials, these lithologies influence how effective the processes can be and how long they take before particular landforms appear. Some ancient

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DEVELOPING YOUR UNDERSTANDING 1.1

Iconic landscapes are those that are most famous and popular. In some instances, a particular dominating feature within the landscape makes it 'iconic', like Uluru in the arid landscape of Central Australia or Half Dome in the glaciated landscape of Yosemite National Park in the United States. Other iconic landscapes cover larger areas, such as the Grand Canyon in the United States or the gorges along the Yangtze River in China.



Source 1.2 Half Dome in the glaciated landscape of Yosemite National Park, United States

1. Research some iconic landscapes and create a top 10 list.
2. Locate these landscapes on a virtual map. You will find a link to Google Earth at www.cambridge.edu.au/hass8weblinks and you can download the software if you do not already have it.
3. Describe what makes these landscapes iconic.
4. Describe the difference between a landform and a landscape.
5. List the types of landforms found in riverine landscapes.
6. Select another type of landscape (for example, a coastal or arid landscape) and list the types of landforms you may find.
7. Research online illustrations showing different landforms to create a labelled 3D model or annotated sketch of a landscape that contains a number of different landforms. Materials you could use to make a model include paper, cardboard, sand, rocks, paint, toothpicks – be creative! Compare your model or sketch with the rest of the class and evaluate its accuracy.

sedimentary rock rock formed from sediments that have later been welded or pressed together

metamorphic rock igneous or sedimentary rock that has been subjected to extreme pressures or temperatures that have changed its original characteristics

sedimentary and **metamorphic rocks** may be up to 4 billion years old, allowing for surface processes of change to have operated for a long time. Other rocks are forming today and have only been exposed to weathering processes for geologically short periods. For example, volcanoes are still creating rocks by producing lava that solidifies and, although some weathered sediments may be hundreds or tens of thousands of years old, current processes are contributing to their further breakdown. In some cases, weathering processes involve solutions that may be removed from the weathered rock or cause compaction (or lithification) of sediments.

Sedimentologists interpret weathered materials in order to determine their provenance, the processes operating to produce or change sediments, and the sedimentary environments that led to the formation of sedimentary rocks. For example, old river channels can often be identified in sedimentary rocks, thereby providing

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information about the conditions under which the sediments were deposited before becoming compressed into rock. If streamflow is vigorous and swift, then large pebbles and boulders can be transported. Conversely, where streams are slow flowing and have low energy, mainly fine sediments like clays and silts will be deposited. Other sediments have been laid down on the ocean floor, and these often contain remnants of broken shells or marine organisms, which provide clues to the sediments' origins.

Physical geographers and sedimentologists are interested in the same object: the Earth's surface. In addition, geologists want to understand how the Earth itself formed and its history, especially in relation to rocks that comprise its solid components. Rocks and sediments both occur on the Earth's surface, contributing to the development of landforms. These materials act as a framework for the surface and near-surface processes of weathering, erosion and sedimentation. Combined, this broad framework and the processes acting on it produce landscapes and their landforms.

Landforms

Landforms can be considered at a continental scale, at which point they are referred to as **physiographic or geomorphic regions**. Some physiographic regions in Australia include mountain chains, shield (plateau) areas and dune fields. At the continental scale, there are different landforms and landscapes that contribute to the nature of continental surfaces. At the even larger global scale, continents and oceans together make up the Earth's surface. We will now examine the Earth at this very large global scale, and show how changes at this scale affect landforms at smaller scales.

physiographic or geomorphic region an area of the Earth's surface with similar landforms and topography

DEVELOPING YOUR UNDERSTANDING 1.2

1 The table below is a sequence of features at different geomorphic scales. Add in two examples at the continent, landscape, landform and weathering feature scales.

Geomorphic feature	Example	Two additional examples
Continent	Australia	
Landscape	Coastal	
Landform	Dune	
Weathering feature	Honeycomb weathering	
Quartz grain	In coastal dunes	
Clay mineral	In weathered rock	

2 Create a list of the landforms and weathering features that you have seen. Then research online and locate topographic maps that show some of these different landforms. Compare your list and maps with those of others in the class.

3 Identify the landform and weathering features that appear in more than one landscape type. (For example, does honeycomb weathering occur only in coastal landscapes?) Discuss possible reasons why a landform or weathering feature may be present in more than one landscape type.

Starting at the large spatial scale of the Earth's framework, the distribution of continents and oceans needs to be viewed over long timespans (large temporal scales). Crystals that have been dated to more than 4000 million years old have been found in rocks younger than those in Western

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Australia. The oldest rock, also around 4000 million years old, has been identified in a relatively stable area in Canada. So why are some of these rocks, thought to be present at the time when the Earth came into being, so much older than many others on Earth? We know that, in places where volcanoes are active today, lava can solidify into rock. Other rocks have formed at different stages throughout the long geological time of Earth's history. This suggests that environments have changed over time and that particular events like volcanism may be intermittent. Let us start by considering the Earth's mainly solid framework over large space and large time, before examining how this affects present-day global patterns of mountains and volcanoes.

The Earth's composition

Our knowledge of the Earth's composition has been gained mainly through studying earthquakes and the **seismic waves** they produce. Although the maximum depth at which an earthquake has been detected is about 800 kilometres, energy waves from earthquakes extend out through the Earth. These waves and the rates at which they travel can be interpreted from multiple recording stations on the Earth's surface, allowing scientists to work out which zones are solid and which are fluid or plastic, and the probable types of minerals found in each zone.

seismic wave a shock or energy wave caused by earth movements

The rocks and solid materials of the Earth's surface are together referred to as the lithosphere. The upper part of the lithosphere, the Earth's crust, extends down about 40 to 80 kilometres under the continents, but thins to about 7 kilometres under the oceans. The crust is referred to as **sial** because it is made up of rocks containing large amounts of silica and aluminium. Beneath the crust lies the plastic **asthenosphere**. This layer is dominated by rocks containing silicon and magnesium, and is known as **sima**. Because the crust (sial) is less dense than the mantle (sima), the crust is sometimes thought of as 'floating' on the mantle. This means that the sial of which our continents form a part has the potential to be affected by what is happening in the underlying sima of the asthenosphere. This idea is important for understanding continental movements and plate tectonics. Beneath the asthenosphere, the Earth's upper mantle extends with a transition zone to a depth of about 700 kilometres before reaching the lower mantle at a depth of nearly 3000 kilometres. Here the Earth's materials have high strength. This layer then gives way to the fluid outer core, which has temperatures exceeding 5500°C. At a depth of about 5100 kilometres, there is a sharp boundary with the solid inner core. Overall, there is a gradation of mineral densities from the densest (iron and nickel) in the centre of the Earth to increasingly greater proportions of less dense minerals above the core.

sial crust or outer part of the Earth, forming the continents, which are mainly made up of rocks containing **si**lica and **al**uminium

asthenosphere the plastic mantle layer below the Earth's crust, composed mainly of sima

sima the lower part of the Earth's crust on which the continental plates float, made up of rocks which contain large amounts of **si**lica and **ma**gnesium



DEVELOPING YOUR UNDERSTANDING 1.3

1. Draw a labelled diagram of the composition of the Earth, using information provided in the text.
2. Discuss how we know the Earth is not hollow.
3. Explain why continents are sometimes described as 'floating' across the Earth's surface.

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1.2 Continental drift and plate tectonics

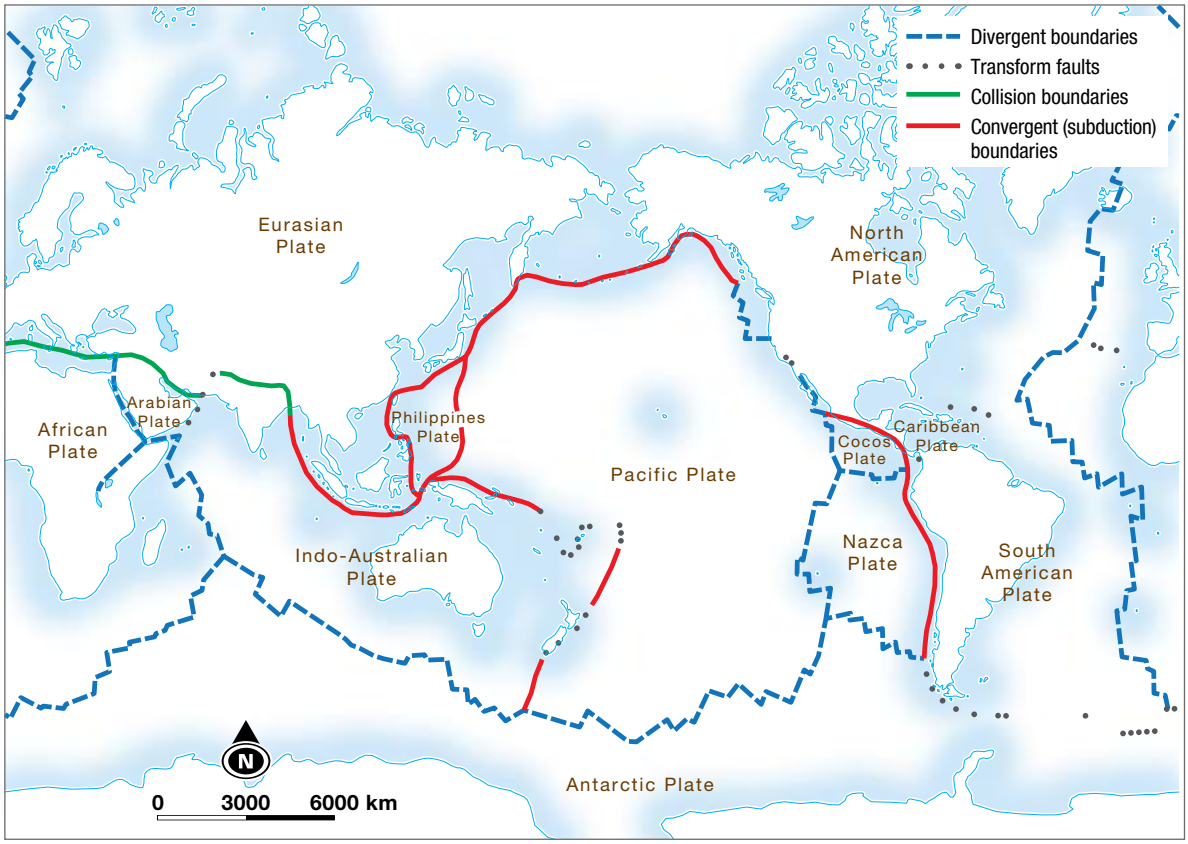
Large-scale events can have impacts on interpreting landforms at both the continental and local levels. For example, why is there a continuous line of mountain ranges along the western margins of North and South America (the Andes and the Rockies)? At a regional scale, why are the Himalayas gradually becoming higher? In Australia, why are mountains not as high as mountains on other continents? The answers to these questions are linked to the behaviour of the Earth's crust.

The most visible part of the Earth's crust is the surface of continents. When mapping the outlines of the continents of Africa and the Americas, a Portuguese **cartographer** in the sixteenth century noted the shapes of these continents, and suggested that they had previously formed a single landmass. In his map of 1527, Diogo Ribeiro pointed to the complementary outlines of the western coastline of Africa and the eastern coastline of South America, which looked as though the continents had been pulled apart. This idea was considered fanciful and was ignored at the time. It was not until the early twentieth century that a German scientist, Professor Alfred Lothar Wegener, pursued scientific evidence that showed fossil species in eastern America and western Africa were the same. If the notion of drifting continents was to be rejected, then the only possible explanation of the fossil evidence was the parallel development of exactly the same species in different continents, an explanation that was discounted. Subsequently, Alexander du Toit in South Africa became a strong supporter of the **continental drift theory**, and in 1937 published *Our Wandering Continents*. He suggested that Wegener's 'parent' landmass, called Pangaea, had existed until about 250 million years ago, when it broke into two parts: Laurasia in the Northern Hemisphere and **Gondwanaland** in the Southern Hemisphere. Additional continents

cartographer a person who constructs and draws maps

continental drift theory the idea that major continents may have split from a common original landmass

Gondwanaland one of two super-continents believed to have existed 510 to 180 million years ago



Source 1.3 Tectonic plates and their boundary conditions

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came into being when these two landmasses were further broken up, and du Toit found more evidence of geological links between Africa and South America. The continental drift theory answered questions about global-scale fossil distributions, climate changes and landmass shapes, but the theory raised another mystery: even though it happened over a long time, what mechanism could account for huge landmasses moving about across the Earth's crust?

Knowledge about links between the continents and what is happening beneath the Earth's surface has increased dramatically over the last 30 years. We now know that the Earth's core is extremely hot, and that heat from the outer Earth is lost through **conduction** into space. Such energy transfer from the core to space can take place by conduction or **convection**. Energy transfer through conduction is neutral in relation to landmass movement. However, when **convection plumes** develop, the energy produced is sufficient to push continents and large landmasses slowly across the crust. In other places, this energy pulls plates and landmasses apart. Landmasses at the scale of continents are then referred to as being part of around nine major tectonic plates – for example, North America covers a large part of the North American Plate. In the case of Australia, the situation is different, as our continent forms part of the Indo-Australian Plate, which also has large areas of ocean. The entire plate is moving steadily northwards, so that the Indian peninsula is colliding with part of the Southern Eurasian Plate. The Himalayas have been formed at the boundary between these two plates.

conduction the molecule-by-molecule transfer of energy through a substance

convection the current-like motion of fluids in response to an uneven distribution of heat

convection plume an accumulation of hot molten rock at the boundary between the Earth's core and mantle; the molten rock then rises in a plume through a thin or fractured zone of the mantle

DEVELOPING YOUR UNDERSTANDING 1.4

1. Using the internet, find a map or maps showing Pangaea, Laurasia and Gondwanaland. Do the outlines of present-day continents support the idea that Gondwanaland split up into different continents, including Australia? (For maps showing continental fit between Africa and South America, you could use search for 'continental fit between Africa and South America'.)
2. Describe the evidence proposed to support arguments for continental drift.
3. Explain why notions of continental drift were rejected for a long time before being accepted.

Plate movements

Tectonic plate movements occur both on continents and on ocean floors. By investigating patterns of volcanic activity and the absolute amount of continental movement over a number of years, scientists have proposed that plates are moving in different pathways and at different rates. Some plate boundary locations and movements are unclear, and these are referred to as plate boundary zones. Different land-forms are associated with different kinds of plate boundary, giving clues to the way plates are behaving. The main plate boundary types are described as **divergent**, **collision**, **convergent (subduction)** or **transform**. These will be described along with their effects on landforms.

divergent plate boundary the point where plates are pulled apart, allowing molten rock to emerge at the Earth's surface

collision plate boundary the point where two plates of similar strength or speed collide

convergent (subduction) plate boundary the point where two plates are moving towards each other and collide, with one plate being pushed beneath the other; the lower plate is the 'subducted' plate

transform plate boundary the point where two plates slide, grate or jerk past one another

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Divergent plate boundaries

Here plates are being pulled apart and new rocks of volcanic origin are emerging in these spreading zones. It is thought that convection plumes exist below the spreading zones, generating both the energy for plate movement and the volcanic activity associated with it. Perhaps unexpectedly, plates that move apart do not always leave depressions or gaps in the Earth's crust. When plates diverge beneath oceans, the movement is referred to as **seafloor spreading**, and it allows for the release of molten magma, which generates substantial submarine volcanic activity. It is the continued outpourings of lava and volcanic rocks that lead to the formation of major oceanic ridges like the Mid-Atlantic Ridge, which extends for thousands of kilometres. Although the rate of seafloor spreading in the Atlantic seems small – about 2.5 centimetres per year – over millions of years the plates have moved many kilometres. The Mid-Atlantic Ridge goes through Iceland, where the North American Plate and the Eurasian Plate are moving apart, and active volcanoes follow these plate boundaries, producing dramatic scenes of hot lava encountering ice. On land, major spreading has resulted in the development of the African Rift Valley, with its associated lines of volcanic activity. The Red Sea has also been formed by diverging plates.

seafloor spreading the separation of tectonic plates on the floor of the ocean, allowing molten rock to emerge and form new ocean floors and mountains, such as the Mid-Atlantic Ridge



Source 1.4 Volcanic ash cloud, Iceland, 2010 eruptions

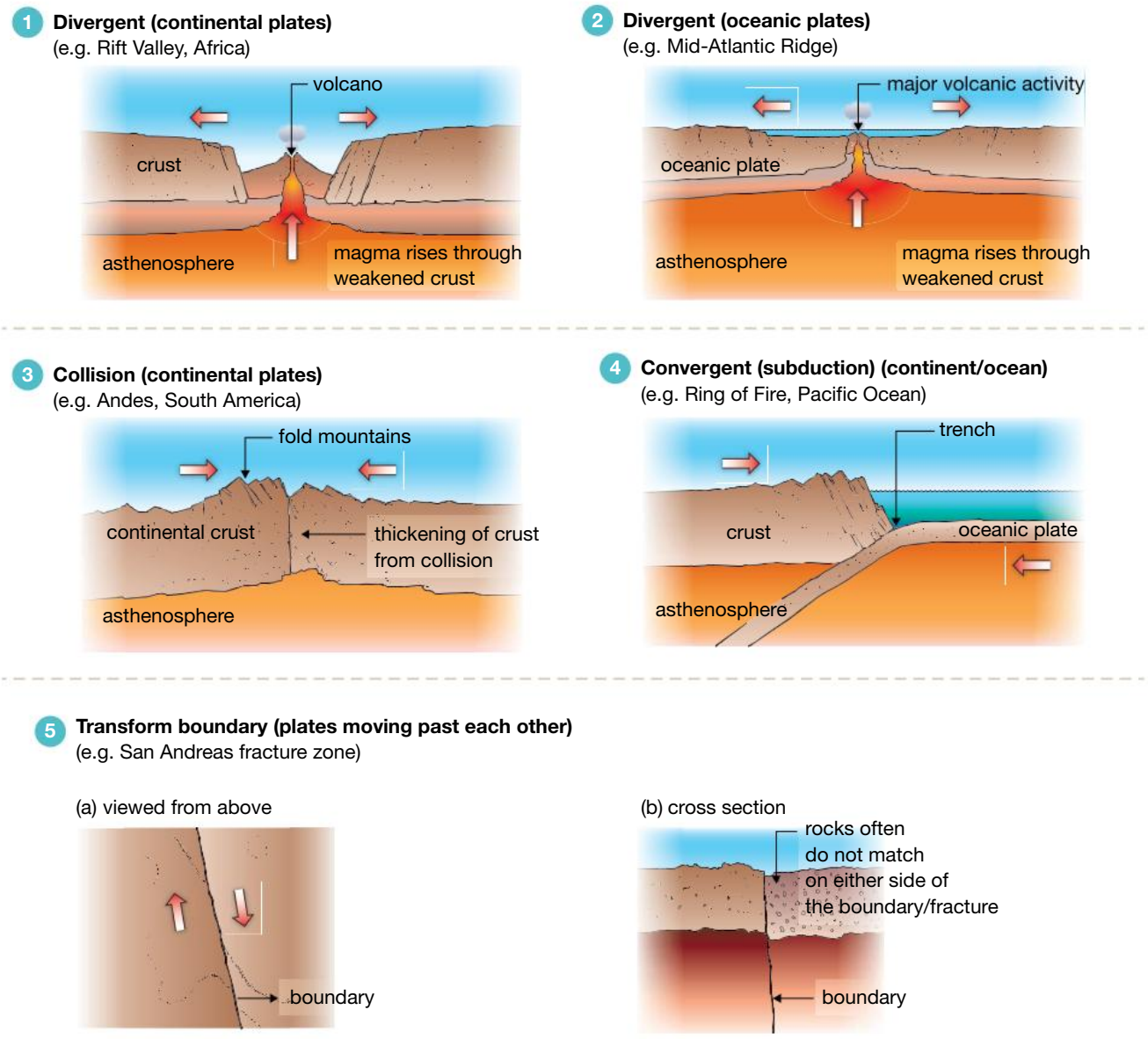


Source 1.5 Volcanic fissure marked by volcanic cones, Iceland

Collision plate boundaries

These boundaries occur when plates are moving towards one another, resulting in the plates colliding. Even though plates are moving slowly, they often adjust quickly, causing earthquakes. If the plates have approximately the same rock density, the collision forces parts of the landmasses upwards. This has happened in the Himalayas, where the Indo-Australian Plate is moving northwards and the Eurasian Plate is moving southwards. Scientists believe that India has moved about 6400 kilometres northwards over the last 80 million years, colliding with Asia between about 20 and 40 million years ago. This collision has caused the Indian landmass to slow down to about half its previous rate of movement, but the collision of continental plates moving head-on into each other has created large compression stresses in both landmasses. Although some stress was relieved by upward movement of the plate edges that formed the Himalayas, the remaining and continuously developing additional stresses continue to cause numerous earthquakes.

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Source 1.6 Divergent, collision, convergent (subduction) and transform plate boundaries

The Himalayas are still rising at a rate of around 1 centimetre per year and its highest mountain, Mt Everest, currently reaches nearly 9 kilometres (8854 metres) above sea level. At present rates of uplift, Mt Everest will gain another metre in height over the next century. The **strongly folded** European Alps mark the continental collision between the western boundary of the Eurasian Plate and the northern margins of the African Plate. Countries around the Mediterranean thus experience earthquake activity. The ocean boundary between the Indo-Australian Plate and the Pacific Plate lies to the east of Australia, and here the Pacific Plate is moving at a rate of about 10.5 centimetres annually. In other places where plates are colliding beneath the ocean, deep trenches are formed as part of a subduction process.

strongly folded squeezed into sharp folds as a result of great horizontal pressure

Convergent (subduction) plate boundaries

Convergent boundaries occur when two plates move towards each other and one is forced beneath (or subducted under) the other. Convergent boundaries often behave differently from the

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collision responses of two land masses. Continental plates are less dense than oceanic plates; some oceanic plates may be denser than others; and plates may also be moving at different rates. Under these circumstances of plate differences, a process of subduction in which one plate is pushed beneath the other occurs. This can result in deep trenches being formed as the subducting plate is dragged beneath the stronger plate. Where the faster-moving oceanic Pacific Plate collides with the slower-moving oceanic Philippines Plate, the Marianas Trench reaches a depth of nearly 11 kilometres. The convergent boundary of the Eurasian Plate and the Indo-Australian Plate lies along an arc to the west of Java, and it was adjustment between plates along this subduction trench that resulted in the major earthquake and catastrophic Indian Ocean tsunami on Boxing Day 2004.

Geographical thought

Not all tsunamis are caused by earthquakes. In 563 CE, a tsunami wave between 3 metres and 8 metres high inundated the shores of Lake Geneva, Switzerland. Triggered by a massive rockfall, the tsunami pushed river sediments into the lake, resulting in a sudden rise in lake levels, flooding and loss of life. Currently, at least 1 million people live within the area flooded by the 563 CE tsunami.

Ocean–ocean convergence boundaries are often marked by lines of submarine volcanoes, which may eventually emerge from the ocean as islands. As the ages of volcanic rocks can be determined, the direction of movement of plates can be confirmed by the relative ages of the ocean's volcanic rocks. The oldest volcanoes represent the earliest positions of the plates, while the youngest volcanoes being those under which the plates have moved most recently.

ocean–ocean convergence boundary the point where two oceanic plates move towards each other and one is pushed beneath the other

Subduction is common at continental–oceanic plate boundaries. The western boundary of the continental South American Plate (less dense) encounters the oceanic Nazca Plate (denser) and is being subducted under the landmass. In the process, the edge of the landmass is being lifted by the oceanic plate and the Andes have been formed. However, the edge of the oceanic Nazca Plate is not moving smoothly beneath the landmass, resulting in a build-up of stresses that cause earthquakes when the plates readjust.

Transform plate boundaries

Transform plate boundaries are those where plates move horizontally past each other without colliding. However, plates do not glide past one another – their edges fracture and large-scale broken parts of the crust grate and grind against each other, generating large **shear stresses**. These boundaries have numerous faults or fracture zones; they often occur on the ocean floor and result in relatively shallow earthquakes compared with the deep earthquakes along collision boundaries. Of the transform fault boundaries found on landmasses, the San Andreas Fault zone in the western United States is probably the best known. It extends for more than 1000 kilometres, and in places is tens of kilometres wide. At an average annual rate of movement of around 5 centimetres, the plates are moving relatively quickly past each other. The fault zone connects two divergent plate boundaries, one to the north and the other to the south.

shear stress stress caused by two objects moving at an angle to each other

Australia and plate tectonics

Unlike other continents, the Australian landmass has not been subjected to major collisions or transform plate boundary conditions. This means that we do not have an equivalent of the Rockies, the Andes, the European Alps or the Himalayas, or high mountains like Mt Kilimanjaro in Africa (5895 metres). The Tasman Sea between Australia and New Zealand formed after divergence of the two landmasses and later the Great Dividing

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Geographical thought

In April 1906, a magnitude 8.3 earthquake struck along the San Andreas Fault zone. The rupture, which extended for nearly 480 kilometres, moved at estimated speeds of about 2.7 kilometres per second (or more than 9000 kilometres per hour). Violent shaking for up to 1 minute had more severe effects in areas underlain by sediments, like reclaimed parts of San Francisco Bay, than it did over bedrock. The San Francisco quake was associated with **offsets** of up to 6.4 metres, which were shown by movement in fences, lines of trees, roads and rail lines. Vertical displacement reached up to 0.9 metres. Both movements caused major disruption not only to buildings but also to water and gas pipelines, telegraph lines and power lines. When escaping gas ignited, water was not available to fight the fires, which raged for 3 days after the quake. Altogether around 28 000 buildings were destroyed, 87% of them wooden structures. The death toll is estimated to have been around 3000 in San Francisco itself, where 225 000 people of a total population of 400 000 were left homeless.

offset horizontal displacement



Source 1.7 Damage to buildings in San Francisco after the 1906 earthquake

Range was uplifted. Over geological time, the range has been eroded down to a maximum height of 2230 metres at Mt Kosciuszko. The Great Dividing Range extends for about 3500 kilometres along the east coast of Australia, and now acts as a watershed dividing the west-flowing rivers towards the inland from the shorter coastal rivers flowing to the east.

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DEVELOPING YOUR UNDERSTANDING 1.5

1 In your own words, describe the four main plate boundary types.
2 Explain why collision boundaries between two continental plates behave differently from convergence between two oceanic plates.
3 Identify the types of plate boundaries most often associated with earthquakes.
4 Copy the graphic organiser below and give an example of each boundary type and associated landforms.

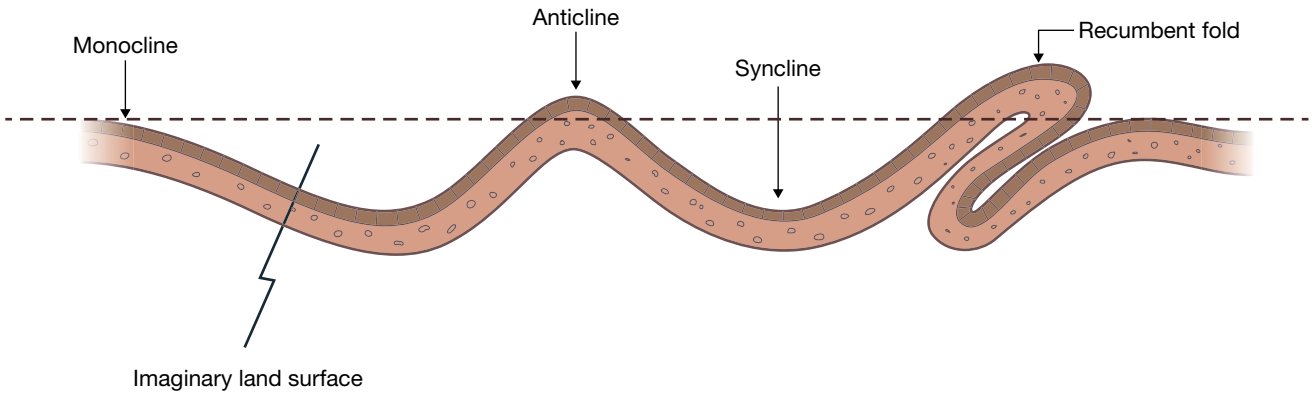
Nature of plate boundary	Example (location)	Landform/s
Collision	Himalayas	High mountains
Divergent		
Convergent (subduction)		
Transform		

Rocks responding to pressure

The Earth's surface is capable of being deformed or bent slightly (a process that is called plastic deformation, or rock elasticity), but relative to materials underlying the crust it is rigid and brittle. This means that stresses can be applied in a particular place without the surface rock breaking immediately. However, if stresses continue to build up, they eventually will cause the crust to fracture and sometimes to bend. These large-scale outcomes of earth forces are referred to as tectonic landforms, and are produced by faulting and folding. Evidence for tectonic landforms is most obvious and lasts the longest when the affected rocks are very resistant to weathering and erosion.

Folding

When plates collide or converge, the edges of some continents are forced upwards and mountains are formed. This process usually causes large fractures in the crust and occasional rapid movements to release the built-up stresses. The readjustment of the stress load affects rocks at the surface. Any lateral or sideways pressure (compression) can result in rocks being squeezed and then responding to this stress by buckling. Rocks formed from sediments being deposited in layers or beds (sedimentary rocks) and layered rocks that have been subjected to extreme pressure following their formation (metamorphic rocks) can both respond by buckling or folding.



Source 1.8 Different fold types

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The main kinds of folds are anticlines, synclines, monoclines and recumbent folds.

Anticlines and **synclines** are often associated with one another. Anticlines are beds that have been forced upwards, producing an upward bulging of rocks and a convex upward shape at the surface. The syncline represents the nearby rocks that have been squeezed downwards (convex downward shape). Even though the rocks have been distorted, the oldest layer remains in the centre or lowest point of the anticline. Because the formation of an anticline involves stretching of rocks at the top of the bulge, additional cracks often appear, usually at right angles to the bedding layers. This means that the higher parts of the anticline are the most fractured and vulnerable to weathering and erosion. In the field, younger fractured rocks on the former crest of an anticline may be eroded away, leaving younger rocks on the flanks and older underlying rocks remaining at the centre of the anticline.

anticline the upward bulging of rocks caused by compression

syncline the downward squeezing of rocks caused by compression

The reverse of this is the syncline, which represents a convex downward fold. In the centre or lowest point of the syncline lies a zone of compressed rocks, which are more resistant to forces of weathering and erosion. Over long periods of time the fractured anticlinal bulges will be weathered and eroded down, leaving the synclinal part of the fold system as the highest point in the landscape. Wilpena Pound in the Flinders Ranges of South Australia is an eroded syncline.

Monoclines can be formed by fault movements at depth and may be gentle folds without steeply inclined layers.

Recumbent folds are those that have folded over themselves or overturned ('reclining'), so that initially the youngest rocks are on the surface. When the fold is eroded, older rocks beneath the original upper layer become exposed.

monocline a simple fold that occurs singly rather than as part of a series of anticlines and synclines

recumbent fold a layer of rock that has folded or appears to have flopped over



Source 1.9 Wilpena Pound, South Australia, an eroded syncline; the basin shape represents the centre of the syncline where rocks have been compressed.

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Fold mountains

Folding is often accompanied by uplift, so that fold mountains are relatively common. Many mountain ranges have folded rocks, and this shows that they have been subjected to compression or shear pressure. All the folded mountain ranges in Australia also have **faults** present, and sometimes the ranges are marked by an **escarpment**. Compared with the high mountains making up the European Alps, the Himalayas, the Andes and the Rockies, Australia's fold mountains are much more subdued.

fault a fracture in rocks or sediments where movement has occurred as a result of compression or shear stress

escarpment a sharp and continuous break in slope that may extend for hundreds of kilometres



Source 1.10 Fault line forming an escarpment in the Rift Valley, Kenya, Africa

Faulting

Faults are linear or **curvilinear** fractures that may be approximately vertical, or be angled towards the surface, and often more than one fault is present. Where rocks have been subjected to compression, folding or uplift, or where shear stresses have developed, faults of diverse lengths may form to relieve the stress. In some cases, a series of fractures (faults) will occur within metres or kilometres of one another, as happens in the Mt Lofty Ranges near Adelaide. Other fault lines have eroded into major landforms, such as the Darling Fault to the east of Perth.

curvilinear in a curved line when viewed from above

Faults are not always associated with folding or compression. Where plates are diverging, large-scale fractures or faults develop. The Rift Valley in Africa has formed from plates diverging and the land between them becoming lower than that on either side. A string of active volcanoes has developed along the fault lines, marking the boundary between relative uplift and subsidence. This situation of fault lines separating higher from lower ground is referred to as a **block fault**, because the land in such areas tends to move as cohesive large chunks or

block fault a large area of land upthrust by earthquake activity

Geographical thought

Faults or fracture lines can develop while people are watching. In 1968 at Meckering, 130 kilometres east of Perth, a 6.9 magnitude earthquake created a rupture 37 kilometres long. The **earthquake focus** was shallow – about 7 kilometres, compared with about 30 kilometres for the Japan earthquake in 2011. At Meckering, railway lines buckled, the ground moved visibly in waves or bumps, numerous fractures opened to about 5 centimetres and then closed, and sudden changes in land surface elevation were noted. Eyewitness accounts include that of a driver who saw 'immediately in front of him a 2.5 metres high bump [rising] in the road where 2 seconds before none had existed'. Another observer, travelling in the opposite direction along the Great Eastern Highway, 'felt the shaking and saw the scarp rise, and crashed into a tree at the roadside, breaking an arm'. General vertical displacement along the new fault scarp was 1.5 metres.

earthquake focus the depth where rupture from an earthquake occurs

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horst a chunk of fault-bounded land that is higher than the land on either side

graben a chunk of fault-bounded land that is lower than the land on either side

blocks. At a much smaller scale, the Mt Lofty Ranges represent a block-faulted range, bounded by faults on both sides, with additional faults and associated 'blocks' between them. Where fault-bounded land is relatively uplifted rather than down-faulted (as in the Rift Valley), the uplifted block is referred to as a **horst**. A down-faulted block is called a **graben**. Spencer Gulf and Gulf St Vincent in South Australia are both submerged grabens.

Faults can also occur in zones of plate convergence (subduction). The enormous stresses built up as a result of the Indo-Australian Plate moving north-east and overriding part of the Eurasian Plate near Sumatra were released extremely rapidly on Boxing Day 2004 by the creation of a 1300 kilometre-long rupture, which is estimated to have travelled at speeds of about 2.8 kilometres per second. Both horizontal (10 metres) and vertical (3–4 metres) movements occurred along the fault, resulting in severe earthquakes and the largest tsunami on record, in which wave heights of up to 30 metres were registered.

Geographical thought

Mt St Helens started forming about 40 000 to 50 000 years ago in a fault zone to the north of San Francisco. Including the 1980 eruption, nine major events have occurred since its formation. On a broader scale, the Pacific Plate is being subducted offshore beneath the North American Plate at a rate of about 40 millimetres per year. This has created earthquakes, volcanoes and tsunamis. Mt St Helens had faults before the latest eruption and rising magma increased the number of splits, forming new fault lines and creating earthquakes. As well, the magma caused the crater floor to tilt outwards, causing movement along existing fractures.

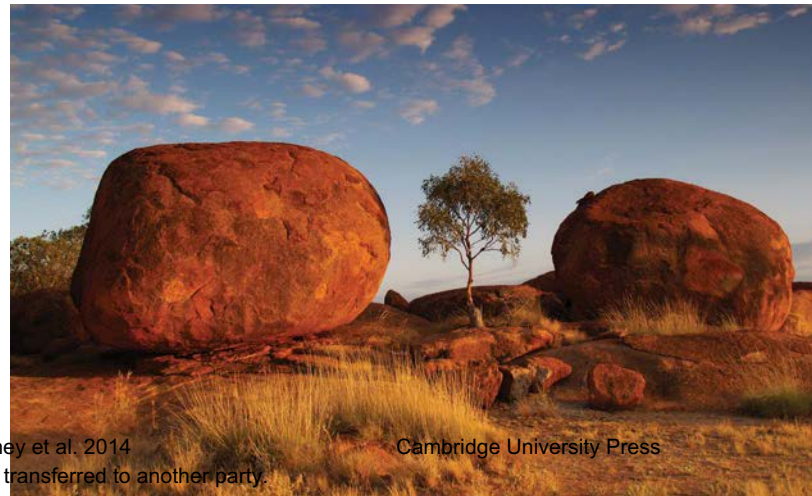
Joints

Unlike faults, other planes of fracture in rocks may have a fairly regular pattern, which is sometimes restricted to particular types of rocks. Those rocks that solidify from magma or molten material are called igneous rocks, and their cooling can be associated with specific fractures or joint patterns. In basalt, for example, columnar jointing or vertically oriented rock columns form, contrasting with rectangular jointing (vertical and horizontal fractures) in rocks like granite. Even though joints exist in many rocks at this local scale, they are still subject to compressional and tensional forces that can produce faulting on a larger scale.

Source 1.11 Columnar jointing develops in basalt as it cools: near the Giant's Causeway, Northern Ireland.



Source 1.12 Weathering along rectangular joints in granite produces large boulders: Devil's Marbles, Northern Territory.



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1.3 Volcanism

Volcanic activity occurs along collision, convergent and divergent plate boundaries both under the oceans and on landmasses, and along fault-bounded land or sea bodies. Transform plate boundaries, where plates move past each other, generally are not associated with volcanic activity. Much of the volcanism found along convergent plate boundaries is explosive, while most volcanic activity taking place along divergent boundaries involves non-explosive outpourings of lava. As many convergent plate boundaries are on or near landmasses, explosive volcanism is what people generally experience. The 'Ring of Fire' around the Pacific Ocean represents more than 1000 volcanoes that have appeared on convergent plate boundaries. Of those volcanoes that have erupted during historical time, the highest is in the Andes in northern Chile, at an elevation of nearly 7000 metres. There is evidence of submarine volcanism having taken place over the last 150 years at depths of about 5300 metres in the Mid-Atlantic Ridge (divergent plate boundary).

Geographical thought

Pumice stones were used by clothing manufacturers to produce the original stone-washed jeans.

DEVELOPING YOUR UNDERSTANDING 1.6

1 Using the internet, locate two maps showing:
   - **a** the Pacific 'Ring of Fire'
   - **b** plate movements.
2 Note the types of plate boundaries around the Ring of Fire (collision, convergent [subduction], divergent or transform).
3 Consider whether particular types of plate boundaries have caused the Ring of Fire.

Volcanic activity and landforms

Volcanic activity is often associated with other events – especially earthquakes, tsunamis and topographic changes – along with the release of enormous amounts of sulphur dioxide and clouds of ash into the atmosphere. Volcanic activity is complicated and variable, producing an array of different landforms. Only some of the numerous and sometimes overlapping volcanic types and **morphologies** are described in Source 1.13, namely flood/plateau, shield, cinder cone, composite/stratovolcano, volcanic/lava dome and caldera volcanoes. Other landforms include the formation of islands such as the Hawaiian Islands. Much volcanic activity in regions of known volcanism has occurred at various times in the past, with evidence of sequences of lava flows or ash deposits of different geological ages, and the presence of calderas that represent collapsed or exploding former volcanoes. An active volcano is thus always at least partly a constructional feature, as molten rock is extruded at the Earth's surface, but explosive emissions involving gas and water may destroy the tops of existing volcanoes.

morphology form and structure of shape of landforms

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Source 1.13 Types of volcanoes

Volcano type	Vent	Emission	Size of emission	Examples/ characteristics
Flood/plateau	Fractures	Very liquid lava, flat-lying basalt	Very widespread	Deccan Traps, India – basalt over 2 km thick covering over 500 000 km^2
Shield	Central **vent**, large, up to 7 km in size	Liquid lava – series of slow flows	Large	Mauna Loa, Hawaii – ocean floor to peak over 8500 m (4169 m above sea level)
Cinder cone	Central vent, often with crater at top	Explosive liquid lava, breaking to cinders	Small	Parícutin, Mexico – 1943, cone to 366 m, ash covered about 260 km^2, then quiet lava flows
Composite/ stratovolcano	Central vent, cone-shaped, fissures on flanks solidify as dykes	**Viscous** and **pyroclastic**; moves at up to 200 m/s; 350°C to over 1000°C	Large	Mt St Helens, United States; Mt Fuji, Japan; Mt Pinatubo, Philippines (erupted 1991, previously dormant for 600 years)
Volcanic/lava dome	Central vent, often in craters, or on flanks of composite	Very viscous, can be explosive, lava builds up near vent	Small	Mont Pelée, Martinique – pyroclastic; hot ash, gas and debris at over 150 km/hour killing about 30 000 people
Caldera	Central vent	Collapse after explosive emissions or after long erosion	Very large	Crater Lake, United States – also called a composite volcano; Mt Warning, New South Wales – erosion caldera, over 1 km deep, over 40 km wide, extinct for 20 million years

vent opening in a volcano through which molten rock, gas and water can escape

viscous with a thick consistency that allows for flow (neither completely liquid nor solid)

pyroclastic describes a superheated mixture of rock, ash, gases and water that moves rapidly downslope as a result of a volcanic eruption

In Australia, the Newer Volcanics Province includes western Victoria and the extreme south-east of South Australia. Nearly 400 small volcanoes have produced a shield area of around 50 000 square kilometres, with the most recent eruptions having taken place about 5000 years ago at Mt Schank and Mt Gambier (the location of the water-filled crater of Blue Lake) in South Australia. These two explosive eruptions in South Australia were the culmination of volcanic activity that had begun in the Tertiary period (commencing about 65 million years ago).



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Source 1.14 A water-filled caldera forming the Blue Lake, Mt Gambier, South Australia

DEVELOPING YOUR UNDERSTANDING 1.7

1 Find images showing examples of three different types of volcanoes.
2 Indicate where the volcanoes are located and when they erupted last.
3 Discuss the impacts on human populations of the volcano types investigated.

Plate tectonics and landforms at different scales

Plate tectonics and volcanism help us to understand landform differences at the continental scale, but the results of these forces are also visible at regional and local scales. At a regional scale, basalt flows from volcanoes may extend over a subcontinent, as in India; a graben may be inundated by the ocean, as in Spencer Gulf in South Australia; or a series of volcanic islands may appear, as with the Hawaiian Islands. At the smaller local scale, swampy ground and changed river directions can result from fault movements; anticlines and synclines can be recognised in railway cuttings or other exposures; and volcanic craters of varying sizes can develop. Even smaller landform features are associated with each of the local or regional scale landforms – for example, fractures can be identified in crests of anticlines. When considering the processes at work to create landforms, each scale tends to overlap with others, so it is useful to think of possible explanations at various scales.

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1.4 Rock types and landforms

inselberg an isolated steep-sided hill, often made of bare rock

Some landforms develop mainly on one rock type, like caverns in limestone. Other landforms, such as **inselbergs** (German for 'island mountains'), can occur on a variety of different rocks. Rocks and weathered rock (sediments) can be viewed as the raw material of landscape that is fashioned into different forms by weathering and erosion. We can illustrate this by taking examples from the three main groups of rocks: igneous, sedimentary and metamorphic.

Igneous rocks and landforms

Igneous rocks originate from the solidification of magma. Rocks that solidify at depth are referred to as intrusive rocks, while those formed at the surface are called extrusive rocks, but various gradations exist. When magma cools slowly at depth, most crystals grow to larger than about 1 millimetre across, and so can be seen with the naked eye. This is the case with minerals in granite. In contrast, extrusive rocks solidify from magma that has cooled quickly at the Earth's surface. Basalt, an extrusive rock, contains small crystals and often has vesicles.

Granite is more resistant to weathering and erosion than basalt because of the minerals it contains. When basalt outcrops in a wet climate, it eventually breaks down into a fertile soil. Granite, on the other hand, weathers more slowly into a gritty infertile soil due to the amount of quartz grains it contains. If relatively resistant granite is not strongly fractured by joints, it can form isolated high outcrops like Sugarloaf Mountain in Rio de Janeiro (Brazil), Wave Rock in Western Australia and the inselbergs on Eyre Peninsula in South Australia. These rock surfaces are relatively impermeable, and in Australia have been used as water collectors. Pits (gnammas) on the inselbergs often contain water after rain, and these natural supplies were used by Aboriginal people. Subsequently European settlers used some inselbergs as water-catchment areas for local dams.

Source 1.15 Wave Rock, a granite inselberg at Hyden, Western Australia: a low stone wall on top of the outcrop captures rainwater for a dam on the far edge of the granite.



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Geographical thought

The explorer Edward John Eyre, when on the dry west coast of South Australia, noted in his diary that he found:

> a few drops of water trickling down a huge granite rock abutting on the sea-shore. This was the only approximation to running water which we had found since leaving Streaky Bay, and though it hardly deserved that name, yet it imparted to me as much hope, and almost as much satisfaction, as if I had found a river.

Sedimentary rocks and landforms

sandstone a rock composed mainly of sand-sized grains (diameter of 0.2–2 mm), most often quartz grains, with the matrix between these grains being made up of clay-sized particles (under 0.05 millimetres in diameter); the rock is welded together by a cement or binder, generally siliceous (silica) or sometimes calcareous (calcite)

limestone a rock made up of calcium carbonate ('lime'), originally deposited under the ocean and formed from broken-up shells, corals, animal skeletons and other carbonate materials

shale a rock composed of mostly clay-sized particles that have been compressed

Sedimentary rocks form from sediments deposited in layers (beds), which have later been compressed into solid rock. Many inselbergs in Australia are composed of granitic rocks, but such upstanding features in otherwise fairly flat areas can form on different rock types. Uluru, for example, is composed of a particular kind of **sandstone**, which is a sedimentary rock. Other sedimentary rocks include **limestone** and **shale**. Because all sedimentary rocks are deposited in layers, it is very easy to see whether the rock has been folded or faulted. If the beds have remained nearly flat-lying, plateaus can form, like those in the Blue Mountains in New South Wales. This area has mainly horizontally bedded sandstone, apart from the Lapstone Monocline on its eastern boundary. Most plateaus have been dissected by streams, but the crests between the valleys will all have approximately the same height, as in the Blue Mountains.

More usually, sedimentary strata have been folded or tilted; in the case of Uluru, beds have been tilted nearly vertically to an angle of 85°. Along the east coast of the Adriatic Sea in the Mediterranean, limestone beds of the Dinaric Mountains have been folded and tilted, and dramatic mountain scenery with deep gorges has resulted from rivers cutting canyons through the mountains in order to reach the sea. Other landforms associated with limestone are also present: disappearing streams, deep solution hollows, sharp-edged rock where fractures are close together and numerous caves.

Contrasting with sandstone and limestone is shale, which is readily weathered and often produces subdued landscapes with gentle slopes and hills. These landforms appear in the Sydney Basin. Where steep slopes develop on shale, dissection has often been rapid and the climate is fairly dry so that weathering and erosion are slowed down.



Source 1.16 Edges of steeply dipping sandstone beds form corrugations on the surface of Uluru, Northern Territory.

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DEVELOPING YOUR UNDERSTANDING 1.8

1. Using the internet, find images of landforms developed on granite and on sedimentary rocks.
2. Indicate at least one landform that occurs only on igneous rocks, one that occurs only on sedimentary rocks, and one that develops on both igneous and sedimentary rocks.
3. Analyse whether climate seems to be the main control over which landforms develop on igneous and sedimentary rocks.

Source 1.17 Canyon of the Moraca River in the Dinaric Mountains, Montenegro. A road tunnel has been constructed through the cliff on the left.

Metamorphic rocks and landforms

Metamorphic rocks are those that begin as igneous or sedimentary rocks, and have since been subjected to extreme pressure or temperature. For example, granite can be changed into **gneiss** and shale can be transformed into the much harder rock, **slate**. Because of compressive stresses during its formation, slate splits easily along planes to produce smooth leaves or plates, allowing the plates to be used as roofing tiles in older public buildings and residences. In the United States, slate is also advertised as being ideal for billiard tables, as it provides a smooth, tough surface and, properly installed, does not require high maintenance. When limestone is severely compressed, it forms **marble**, a rock that often has attractive colouring due to impurities like iron being present. Marbles in Australia are nearly all coloured, while the Carrara quarries in Italy produce white and grey marble that is exported around the world. Carrara marble has fewer impurities and is therefore more resistant to weathering than other marbles. This is why coloured marbles are generally used for coffee tables or interior cladding in building foyers, while white marble is used for outdoor statues and monuments. In the Dinaric Mountains in Croatia, the limestone is variable in terms of the extent to which metamorphism has taken place – some areas have been subjected to extreme pressure, while others have not. Damaging earthquakes continue to occur in this region as a result of plate movements, leading to the collapse of hotels and other buildings, and the need to completely reconstruct historic parts of towns like Budva on the coast in Montenegro. Further south, earthquakes have destabilised and damaged the much older Acropolis monuments in Athens, Greece.

gneiss originally a granite-type or a sedimentary rock that has been subjected to strong pressure, which also involves high temperatures, resulting in light- and dark-coloured minerals forming bands

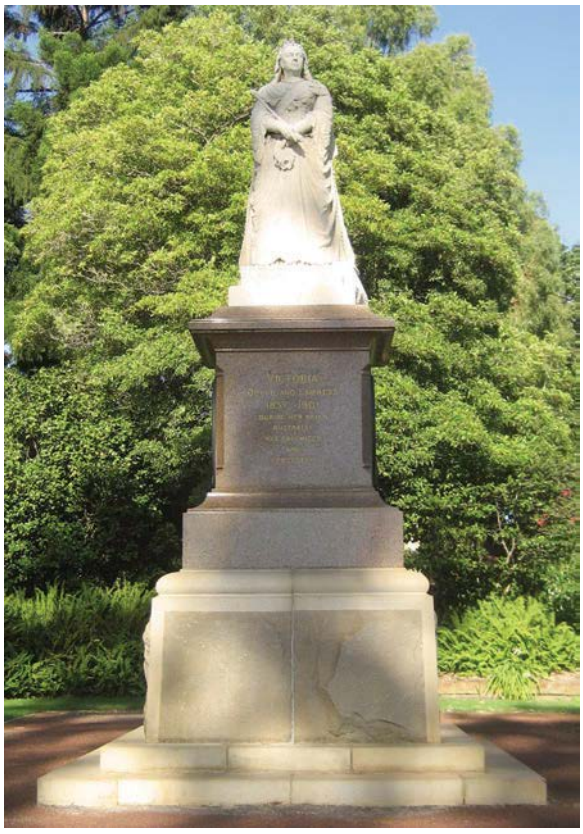
slate shale changed into a stronger rock by heat and pressure within the Earth's surface

marble limestone that has been subjected to high pressure and temperature, resulting in recrystallisation of the original calcite crystals into a dense non-banded rock

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Source 1.18 The Parthenon, originally constructed more than 2000 years ago on the Acropolis in Athens from Greek marble



Source 1.19 A Carrara marble statue of Queen Victoria in Perth, Western Australia

Geographical thought

Carrara marble has been used in important monuments and buildings around the world, including Marble Arch, London (1833); Sheikh Zayed Grand Mosque, Abu Dhabi, United Arab Emirates (2007); Akshardha, the Hindu complex in Delhi, India (2005); and the Peace Monument, Washington, DC (1878).

RESEARCH 1.1

Imagine you are a guide working for a tour operator in Australia. Select an iconic Australian landform (for example, Uluru in Australia's Red Centre) and prepare a script to present to visitors. In your script, be sure to include a discussion of the processes that produced the landform and the activities that may have shaped it in the past and are still doing so in the present.

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Reflecting and consolidating

Chapter summary

- There are many different types of landscapes, including coastal, riverine, arid, mountain and karst.
- Landforms are naturally formed features on the Earth's surface. Physical geographers attempt to explain the differences in scale, morphologies and groupings of landforms.
- The Earth's crust has broken into about nine major continental and oceanic plates, which are moving slowly at different rates and in different directions.
- Collision, divergent, convergent (subduction) and transform plate boundaries lead to different types of landforms.
- Rocks respond to compression and strain by folding and faulting, and in the process produce distinctive landforms.
- The frequency and timing of volcanic activity is unpredictable but the locations of volcanoes are associated with plate boundaries.
- Igneous, sedimentary and metamorphic rocks may produce different or similar landforms, depending on the nature of the rocks, their weathering and their erosional environment and history.



Source 1.20 Lake Cave, Margaret River, Western Australia

Short-answer questions

1 Identify the difference between two kinds of landscapes, listing examples of both.

2 Describe four different types of volcanoes.

3 Explain why different landforms develop along divergent and convergent (subduction) plate boundaries.

4 Discuss how the theory of plate tectonics developed.

5 Suggest why folds and faults develop in rocks.

Extended-response question

To what extent are landforms developed as a result of plate movements?

Discuss this question in a short report by giving examples of both large-scale and small-scale landforms, showing your understanding of the role of plate movements in landform development. What other factors may affect landform formation?

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2 Shaping landforms

Before you start

Main focus

Geomorphic processes shape the Earth's landforms and soils, and influence our use of landscape resources.

Why it's relevant today

Sustainable human use of land resources depends on knowing how landscapes and soils develop and change.

Inquiry questions

- In what ways do weathering and erosion contribute to landform development?
- How important is water in shaping landforms?
- What is the significance for humans of differences in landforms and soils?
- What are the human causes and effects of landscape degradation?

Key terms

- Chemical weathering
- Deposition
- Erosion
- Fluvial process
- Land degradation
- Pedogenic processes
- Physical (or mechanical) weathering
- Physico-chemical weathering
- Renewable resource
- Salinisation
- Sustainable

Let's begin

The Earth's surface is constantly being shaped by erosive and depositional processes. Weathering and erosion operate together – weathering produces sediment that can more readily be detached and transported by erosive forces acting on land surfaces, along coastlines and in submarine locations. Water in run-off and rivers is a major erosive force, along with water in glaciers and salt water in oceans. Weathering provides the raw materials for soil-forming processes on land surfaces. The distribution and nature of soils have important impacts on agricultural activities and productivity. Human use of soils has led to accelerated erosion, which may threaten soil as a renewable resource.

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2.1 Weathering and erosion

The Earth's surface is constantly being changed by a combination of **constructive** and **destructive forces** acting at different rates. Large-scale plate movements, tectonic uplift and volcanic eruptions contribute to new or higher areas of ground. At the same time, these surfaces are continuously being worn down by **weathering** and **erosion**, and the products of these processes accumulate as **sediments** in lower parts of continents and oceans. Both constructive and destructive forces are operating, but with different intensities and effectiveness at different times and in different places. As plate movements occur slowly over millions of years, many landforms that are visible now have to be considered as outcomes of very lengthy processes taking place over geological time. Human time frames are very short in comparison.

constructive force a force that builds new landforms or adds to those already there

destructive force a force that wears down and degrades landforms, infrastructure and property

weathering the breakdown of rocks and sediments into smaller particles or a solution

erosion the process of transferring rocks, sediment or solutions (transportation) from one place to another (deposition)

sediment fine particles of rock, including mud, sand or silt, and gravel

Weathering and erosion are closely linked, sometimes being so connected that it can be difficult to separate them. For example, the **transportation** of already-detached **quartz** grains by wind can cause these grains to then **abrade** against a rock and detach additional particles. On a windy day at the beach, sand grains will hit bare legs and do the same to any rocks exposed nearby. Loose grains on rock surfaces will then be removed and transported by the wind. If local **topography** is sloping and water erosion is active, weathered materials will be transported away from their original site and moved further downslope. Sometimes sediments will be transferred directly into **drainage networks**, but more usually sediment transport on hill slopes is a 'stop–start' operation, with temporary storage points in small **depressions** or flatter areas. Sediment that enters drainage lines following heavy rainfall will make the water **turbid**; this water becomes visible in **estuaries** and in any rivers entering the sea.

transportation the carrying of sediment from one place to another

quartz rock composed of silicon dioxide; a hard mineral that resists weathering

abrade to wear down by rubbing against something

topography the layout of the land

drainage network pattern of gullies, streams, rivers and lakes in a drainage basin that allows water to flow to the lowest point

depression a sunken place or hollow surface

turbid cloudy or muddy

estuary a body of water formed where freshwater from rivers and streams flows into the ocean, mixing with the seawater

DEVELOPING YOUR UNDERSTANDING 2.1

1. Explain how weathering and erosion alter the Earth's surface.
2. List iconic landforms and landscapes that have been affected by weathering and erosion.
3. Identify areas in your local area that have been affected by weathering and erosion.

RESEARCH 2.1

Dams, channel straightening and drainage can contribute to the degradation of riverine and wetland landscapes. Complete online research and, in a short report, describe the effects of these human activities on the quality of these landscapes.

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Weathering processes

Erosive forces act on both rocks and sediments, but sediments are more vulnerable to being transported. Weathering thus provides the largest source of raw materials that can be made available for transport by erosion. As well as preparing rocks for transport, weathering is a process that continues to act on the resulting sediments. Weathering processes may be **physical** or **chemical** in nature, or a combination of both (**physico-chemical**). In addition, biological processes act through physical and chemical mechanisms. All weathering and erosion are affected directly or indirectly by climate, and processes operate with varying efficiencies both between different climates and in different rocks or sediments. Humans contribute to rock breakdown by constructing road and rail cuttings, **open-cut** and underground mines, and quarries. Sulphur dioxide pollution also increases weathering rates of many rocks, but especially limestone and marble.

physical (or mechanical) weathering processes that break up rocks into smaller pieces without chemical change

chemical weathering changes to the composition of the rock as a result of interaction between elements in the air or water

physico-chemical weathering a combination of physical (mechanical) and chemical weathering

open-cut mining (also known as open-pit or open-cast mining) extracting rocks from the earth from an open pit

RESEARCH 2.2

Mining, quarrying and urban development are human activities that affect **landscape quality**. Select one of these types of human activity and examine its effects on landscapes by completing online research. Present your findings in the form of a PowerPoint presentation. Be sure to include photos and diagrams to illustrate your points.

landscape quality the human value placed on the condition and aesthetic appeal of a landscape

Physical weathering

Physical or mechanical weathering refers to processes that fracture or break up rocks and sediments without chemical alteration being involved. The main physical weathering processes include **sheeting fractures**, **insolation weathering**, **weathering by fire** and **abrasion**.

Sheeting fractures

Pressures causing sheeting fractures may be **compressional**, from plate movements for example, or from the enormous weight of **overburden**. For rocks like granite, which crystallise slowly at depth, the overburden may well be several kilometres thick. Erosion at the Earth's surface can gradually remove the overlying sediments or rock, allowing previously compressed rock to expand. Although we tend to think of rocks as being strong and brittle, even rocks like granite are slightly **elastic** and can expand a small amount when pressure is removed. However, this elasticity is limited and the rock will eventually fracture. The number of fractures depends on rock strength and the amount of stress in the rock. Because the **morphology** of this kind of 'decompression' sheeting fracture is determined by the direction of pressure release (overburden removal), many of the fracture planes follow the approximate shape of the topography. Fracture frequency is greater near the surface where the greatest amount of pressure release has occurred, and cracks also become more open near the **outcrop surface** than at depth.

sheeting fracture a large-, medium- or small-scale crack that develops in rocks that have been subject to pressure and that do not have other existing fractures to allow for the release of pressure

insolation weathering heating of rocks by the sun, causing thermal expansion and fracturing with heating and cooling cycles

weathering by fire flaking or slabbing off in fire

abrasion rocks or sediment moving against each other, usually when being transported by water, wind, ice or ocean waves

compressional caused by squeezing from the side

overburden material (usually rock) overlying a resource found close to the surface (often coal) which can be removed to access the resource

elastic able to expand without breaking

morphology form and structure of shape of landform

outcrop surface exposed rock surface

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Source 2.1 Sheeting on granite in Yosemite National Park, United States (scale is given by the people on the left)

cohesive holding together strongly with few fractures or weak spots

Sheeting fractures can develop in **cohesive** rocks of different types in any climate, and they have been described in many countries including Sweden, central, western and southern Australia, North America, tropical Brazil and India.

Insolation weathering

Insolation weathering was originally proposed as a mechanism for the physical breakdown of rocks in hot deserts, where daytime air temperatures can exceed 50°C. Rock is a poor conductor of heat, so rock surface temperatures can reach 80°C. Because temperatures within rocks respond slowly to daytime heating and night-time cooling, a layered pattern of rock expansion and contraction develops. Some geomorphologists believe that these temperature variations within a rock are sufficient to cause rupture in the form of fine fractures, including in temperate climates with much smaller daily temperature variations. Even if temperature changes do not directly produce rock fracturing, the overall expansion and contraction of rocks containing minerals that themselves expand at different rates are probably enough to slowly weaken the rock for other forms of weathering.

Weathering by fire

The extreme case of heat application is that of rock breakdown by fire, in which temperatures can exceed 600°C. The surfaces of cohesive rocks like granite will flake or slab off. Fire is dependent on vegetation, climate and weather conditions, so weathering by fire can occur anywhere that fire does. The combination of extreme heat and sheeting fractures in rocks has been exploited in quarrying in India, where several fires are used to split rock in granite quarries. After a blunt chisel is driven about 10 centimentres into the rock, a small fire is lit over it and maintained for several hours. Heat from the fire travels to the base of the chisel and creates fractures.

Abrasion

In streams, gravels and large stones will eventually abrade and become rounded rather than angular in shape. Wind can readily transport sand-sized particles of quartz, usually within a metre of the surface. If the particle-laden wind blows against softer rock like limestone, the rock will be undercut by this abrasive action. Glaciers drag fine sediment and boulder-sized material over rocks, creating

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glacial polish smooth and sometimes shiny rock surfaces created by debris transported under moving glaciers

abrasion grooves and smooth, **glacially polished** surfaces, even in granite. Similarly, if ocean waves carry along rocks or sediment, their powerful action can abrade rocky shores. Abrasion can also be seen at less dramatic scales – for example, flights of steps made of sandstone or marble are abraded by humans walking on them, and glass becomes frosted if left close to the ground during a sandstorm.



Source 2.2 Fire weathering of sandstone in the Blue Mountains, New South Wales. Rock flakes have fallen to the ground, exposing pale sandstone patches.

DEVELOPING YOUR UNDERSTANDING 2.2

1. Suggest why the distribution of insolation weathering is strongly affected by climate.
2. Explain why weathering by abrasion can take place in a variety of climates.
3. Assess whether greater amounts of weathering are likely to be caused by fires or by abrasion.
4. Erosion and sedimentation can be caused by various human activities. Analyse the effects produced by walkers, off-road vehicles and/or mountain bikes. How do these effects impact landscape quality? Prepare an oral presentation for your class.
5. The physical weathering processes of insolation and rock breakdown by fire both involve temperature change, but abrasion does not. Copy the graphic organiser below and fill in the blanks with climatic environments and possible locations in which to find examples of each process.

	Insolation weathering	Weathering by fire	Abrasion
Kind of climate/s where found			
Possible location to find an example			

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Physico-chemical weathering

frost shattering a process that occurs when water in cracks and crevices in rocks freezes and expands, causing the rock to shatter

salt weathering physical weathering of rock by the growth of salt crystals

In practice, physical disruption may be followed almost immediately by chemical alteration, or a chemical reaction may involve a volume change that fractures minerals or rocks. Several other processes that result in rupture of rocks or minerals involve water, so chemical alteration often accompanies physical weathering. These physico-chemical weathering processes include **frost shattering** and **salt weathering**.

Frost shattering

The process of frost shattering has two components: temperature variations and water. However, for the process to operate, the rock must be **permeable** and allow water to enter. Just having frozen water sitting on the surface of a rock will not cause it to fracture. When water freezes within a rock, it will occupy a larger volume than liquid water and create pressure. Ice is slightly plastic, but if water in a **pore space** or crack freezes first at the surface, then gradually into the space, the surface ice acts as a plug that forces within-rock ice to press against pore or crack boundaries. For water to become frozen within rock, surrounding temperatures of around –5°C are needed. Predicting the effectiveness of frost shattering by using air temperature records means that the number of frosts (that is, air temperatures of zero or less) is not a useful measure – these temperatures are not low enough to freeze water in rock. The duration of –5°C episodes is also important, so the process is complex. Geomorphologists have argued about whether the prolonged 'deep freeze' in Siberia and Antarctica is more effective in weathering than numerous freeze–thaw cycles each year, as occurs in cold temperate climates. Because frequent freeze–thaw cycles result in many applications and releases of stress, this situation is now generally thought to produce greater rock breakdown. Once water enters a rock, it will also react chemically with rock minerals.

permeable having interconnected pore spaces into which water can move

pore space tiny air space in weathered rock or sediment

Salt weathering

Salt weathering requires a salt source, water to take the salt into solution, permeable rocks, and alternating wet and dry conditions that result in solution/crystallisation cycles. When salts are present in climates where frost shattering takes place, weathering is greater than if frost shattering is acting alone. This combined effect has been noted along some shorelines in Britain. As a salt crystal will occupy less space than the same salt crystal in solution, it may seem logical that salt crystallisation is not the reason for rocks and minerals fracturing. However, salt crystals grow in one direction and do not necessarily accommodate to the shape of the pore space in which they are formed. This means the salt crystals are exerting pressure within the rock as they grow. Salts can also cause chemical alteration of minerals.

In Australia, salt weathering occurs in arid and semi-arid regions, along the coastline and in places where **saline** groundwater emerges. Arid Australia has numerous **playa** lakes, and salts build up in these zones of interior drainage. Any rocks exposed around the playas are subject to breakdown by salts. On rocky coasts, salts contribute to the development of cavernous weathering features, like those at Remarkable Rocks in South Australia, and smaller-scale **honeycombing** is common in sandstones and shales along coasts.

saline containing high in levels of salt

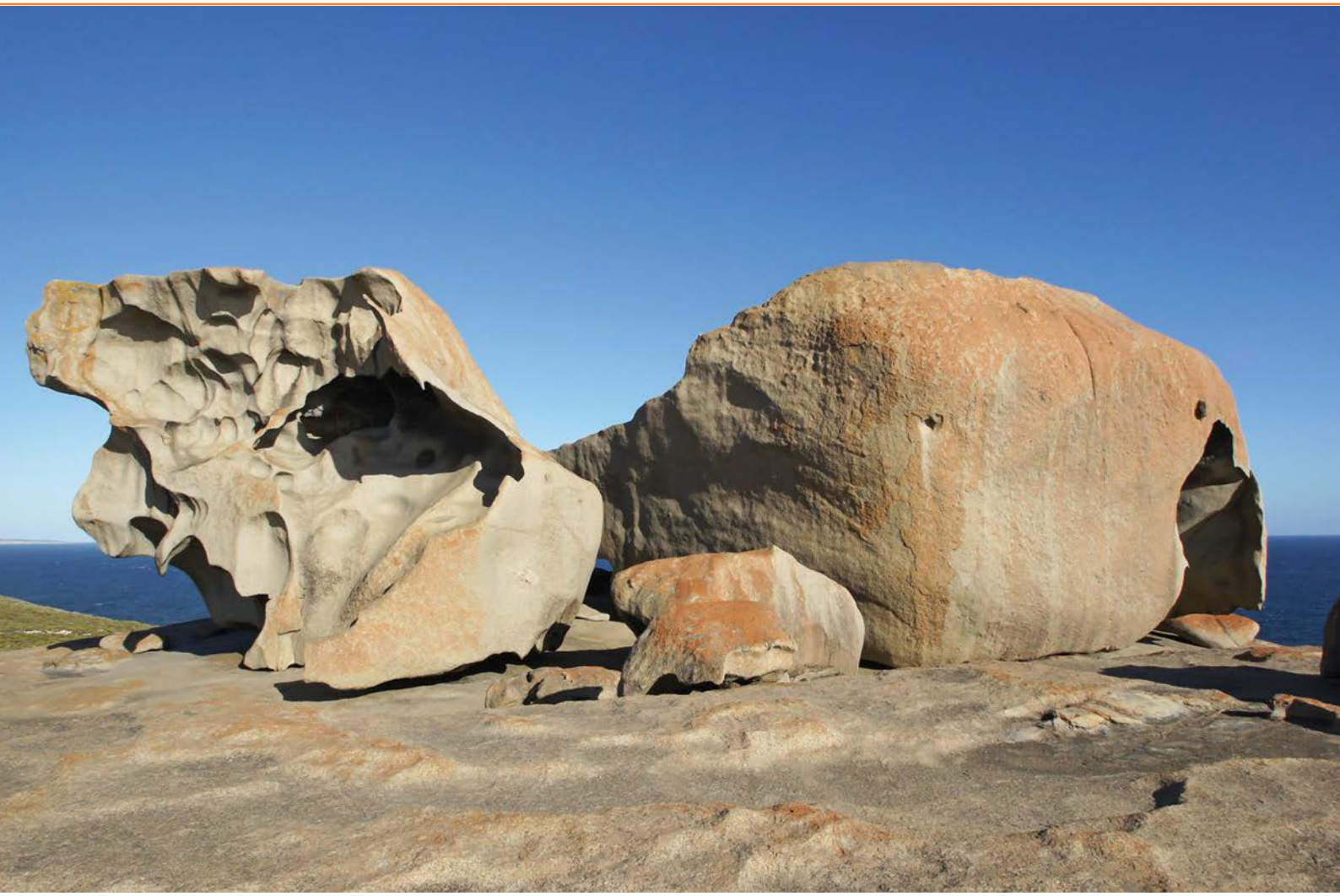
playa a low-lying area that is often dry for long periods

honeycombing a network of pits several centimetres deep that looks as if bees have made a honeycomb in rock

Geographical thought

The average maximum daily temperature remains below 0°C for 3 months each year in Moscow, Russia, where the lowest minimum temperature of –42.2°C was recorded in 1940. In Siberia, two small towns have recorded minimum temperatures of below –67°C.

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Source 2.3 Cavernously weathered granite sheets at Remarkable Rocks, Kangaroo Island, South Australia

sea wall a rock or concrete wall erected to stop the sea from eroding a land area

Wherever **sea walls** have been erected, there will be evidence of salt weathering – usually in the form of honeycombing, small-scale pitting, flaking or crumbling. So-called 'rising damp' in houses often involves destructive salts, especially in heritage buildings where damp courses are either absent or have deteriorated.

DEVELOPING YOUR UNDERSTANDING 2.3

Copy the table below and identify the requirements for frost shattering to be an effective weathering process, and salt weathering to be effective in rock breakdown.

Requirements for effective frost shattering and salt weathering

Frost shattering	Salt weathering
1	1
2	2
3	3
4	4

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Chemical weathering

Chemical weathering or decomposition processes include **solution**, **hydration**, **hydrolysis** and **chelation** (involving organisms). In all these processes, the presence of water is essential.

solution a reversible process of ions dissolving in water

hydration a reversible process of water combining with a mineral

hydrolysis an irreversible process of water combining with a mineral to form a new mineral

chelation a chemical weathering process involving removal of ions from minerals by organic compounds

Solution involves the dissolving of minerals in water – common salt (the mineral halite, composed of sodium chloride) is a simple example of this. For rocks like limestone, which are susceptible to acid weathering, rainwater is an effective weathering agent. Carbon dioxide from the atmosphere is taken up by rainwater, giving it a pH of about 5.6. In the presence of acid pollutants like sulphur dioxide, the pH of rainwater can fall below 4, sharply increasing weathering rates.

Hydration involves the combining of water with a mineral in such a way that the only change is the addition of water. A simple example is that of anhydrite (anhydrous calcium sulphate $CaSO_4$), which becomes gypsum ($CaSO_4.2H_2O$) in the presence of water. In the field, both minerals are formed by **evaporation** and, if they occur in the same profile, anhydrite will be at the surface where most evaporation takes place and gypsum at lower depths. The hydration process is reversible.

evaporation the part of the water cycle where water changes from liquid into a gas and escapes into the atmosphere

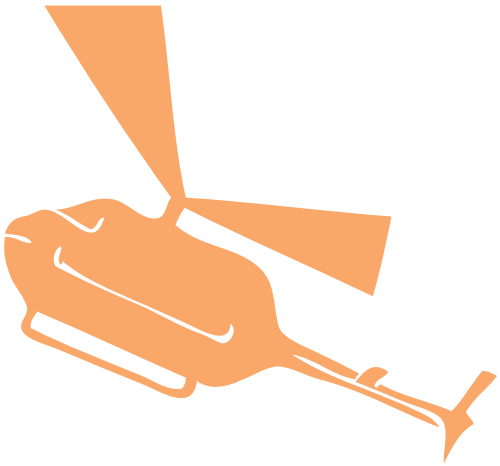
Hydrolysis also involves the addition of water to a mineral, but a new mineral is formed as the water molecule does not persist. In weathering of granites and basalts, hydrolysis is the important process that produces **clay** minerals, which have a different chemical composition from that of the 'parent' mineral. Most clay minerals are formed from weathering of light-coloured **feldspars** or dark-coloured iron-bearing minerals, and have a complex layered structure when viewed in a scanning electron microscope.

clay small mineral particles with a diameter of less than about 0.005 millimetres

feldspar a widespread group of minerals in igneous rocks, possibly making up nearly half of the Earth's crust

Unlike stone that has recently been quarried, rocks that have been exposed for some time often have **lichens** growing on them. Lichens have both mechanical and chemical effects. When lichens are physically pulled from rocks, crystals are usually detached as well. In addition, lichen acids mobilise ions from within minerals in the rock, causing weathering. This chelation process is very effective in the early stages of weathering. Because lichen weathering raised concerns about deterioration of Aboriginal rock engravings, many years ago a program of chemical lichen removal was undertaken in Western Australia. This made the engravings more visible but probably led to other weathering processes taking over. At a larger scale, vegetation like grasses, trees and shrubs uses crevices to cling to rock surfaces. Minerals in contact with root systems are chemically altered, and the growth of tree roots can physically force apart joints in rock and heave up footpaths.

lichen a flat-lying symbiotic association of algae and fungi that adheres firmly to rocks and plants





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RESEARCH 2.3



Source 2.4 Statues or buildings: (a) Taj Mahal, (b) Angkor Wat, (c) the Sphinx and (d) Mt Rushmore

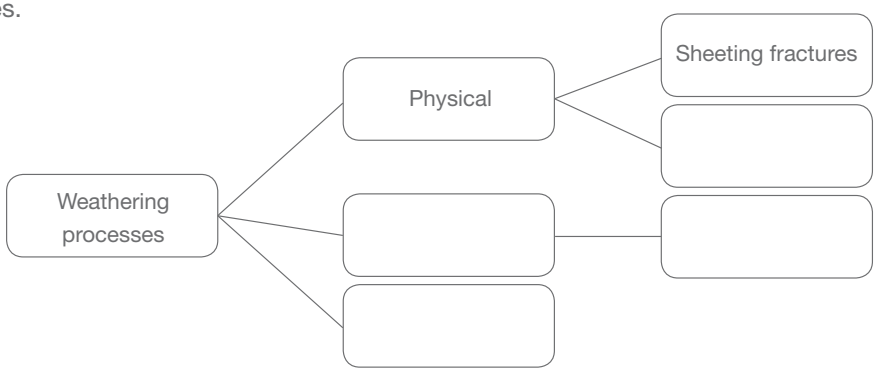
Divide the class into four groups and select one of the following statues or buildings:

- Taj Mahal
- Angkor Wat
- the Sphinx (of Giza)
- Mt Rushmore.

Answer the questions below by completing online research and present your findings in a PowerPoint presentation to the rest of the class.

1. Find out where the statue or building is located.
2. Note the type of rock that was used to make the statue or building.
3. Identify the climatic environment of the statue or building.
4. Make a list of the four statues and buildings in order of 'most weathered' to 'least weathered'.
5. Describe the kinds of weathering processes likely to be operating on each of the statues or monuments.
6. Explain why some statues or buildings are more weathered than others.

Copy the graphic organiser below and summarise what you have learned about weathering processes.



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Water and landform development

Water, as a solid or liquid, comes in three main forms: freshwater on land surfaces, salt water in oceans and frozen water in extremely cold regions. In each case, different groups of weathering and erosion processes operate and often different landforms result. On land, water contributes in many ways to weathering and erosion. It is an essential ingredient for many chemical processes that decompose rock minerals and sediment; it takes elements into solution and transports them far from their source; it can redistribute salts in groundwater; above ground, it can detach and transport sediments; it can provide the mechanism for sediments to abrade surfaces; it can saturate sediments and make them prone to mass movement and landsliding; and it contributes to the development of a multitude of landforms at different scales.

Run-off

Still or stagnant water can weather rocks and sediments, but water needs to be moving for erosion to occur. Rain falling over land surfaces may collect on vegetation if rainfall has a low intensity and duration, or infiltrate into the ground – especially if the land is dry. If rainfall is heavy, it may exceed the capacity of vegetation and the ground to trap it. In this case, water will start to flow over the land surface as **overland flow**. Because the ground is rarely perfectly smooth, small **eddies** and turbulence are created, and this increases the water's capacity to detach particles from the surface. Initially, this detachment involves irregular water movement, but then water starts to become concentrated into **rills**. Even though small and discontinuous at this stage, and not even reaching a main channel, rills represent locations where water has moved sediment downslope. They also act as pathways for subsequent water flow, gradually enlarging until they may develop into **gullies**. Gullies also may not reach the nearby main stream but their size shows the amount of sediment that has been removed from slopes. Often, a short gully will have a small **alluvial fan** at its mouth. This is a neat erosion and **deposition** system where we can see the main site of erosion (the gully) and the sediment that came from it (the fan). At much larger scales, fans in the Mojave Desert in the western United States extend for kilometres. Large boulders on these fan surfaces have been transported from the steep and mainly unvegetated catchments by intense stormwater **run-off**. Over geological time, alluvial fans may come together and later be reworked to form an extensive alluvial plain.

overland flow unchannelled run-off flowing over land

eddy water running contrary to the main current

rill a very small and shallow channel formed by running water, initially measuring less than a few centimetres long and less than 1 centimetre deep, but developing into channels up to 30 centimetres deep

gully a deep channel, usually with very steep sides, carved into sediments on sloping ground

alluvial fan water-deposited sediment that spreads out into a fan shape when viewed from above

deposition the last stage of the erosion process, when the material being moved settles on a surface

run-off water (from precipitation, glacier or snow melt, or groundwater seepage) that flows over the land and collects in rivers, lakes, seas and oceans



Source 2.5 Gully system with channel and fan in Tibet



Source 2.6 Gully at Tenterfield, New South Wales

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Rivers

Many valleys are V-shaped in cross-section, with most water flow and sediment transfer taking place in channels at the point of the V. Some channels are also V-shaped, but others – especially in drylands like the area around Broken Hill in New South Wales – have rectangular cross-sections. If clayey sediments are eroded by gullies, the channel sides are gently sloping (a 'flat' V), compared with silty and sandy sediments. These channel shape characteristics of gullies are sufficiently common that the nature of sediments can often be predicted before detailed field observations are made.

Rills and gullies act as pipelines for sediment transfer from upstream hill slopes to main channels. Sediment is often delivered to a stream, transported for some distance, then temporarily deposited. This can be seen in the fine muddy deposits in hollows within the beds of intermittently flowing channels. When the stream does flow, the interrupted journey of the sediment will recommence, and it will be transported further downstream. Large rivers may also temporarily deposit sediment within their channels, usually as a result of **meandering** or a period of relatively low flows that are unable to keep transporting all sediment delivered to the stream. Large rivers entering the sea often carry massive amounts of clay, silt and sand, and these are deposited at the river mouth in the form of a **delta**. The Mississippi, the Nile and the Ganges are all extensive river systems reaching the sea and depositing sediments on gently sloping **continental shelves**. In the case of the Nile delta, the amount of sediment has become less over time due to the sediment-trapping effect of the upstream Aswan Dam and increased erosion on the delta's coastal margin. In the Nile's flood plain reaches, the nutrient-rich sediment it carries acts as a natural fertiliser, which is spread over agricultural land when the river floods each year.

meandering forming a series of wide curves and loops

delta a fan-shaped deposit of river sediments found at the mouth of a river

continental shelf gentle slope offshore from most continents to about 180 metres, where there is a sharp drop to the floor of the ocean

When rivers overflow their banks, they can deposit sediment near the channel. Over time, these deposits may become continuous for long distances and gradually increase in height. These **levee** bank deposits are often augmented by sandbagging in flood-prone locations in the hope of preventing floodwaters from reaching adjacent settlements or farmlands. Often the areas near rivers attract

levee a sediment embankment bordering a channel

Geographical thought

The Huang He (Yellow) River in northern China is more than 5000 kilometres long and carries enormous amounts of sediment – mainly silt from the **loess** regions upstream. Over a prolonged period, levee banks have built up naturally and the level of the stream bed has also risen due to sediment being deposited. The high-water level of the river currently flows at a height of between 9 and 11 metres above the surrounding plain, a situation that causes massive flooding when the levees are breached.

Due to the large population living near the river, major flooding and high tides may have killed more than 3.5 million people in 1931, and about 1 million in 1887. Flooding is a particular problem because of low to negligible riverbed slopes – for the last few hundred kilometres of its journey, the Huang He descends only 5 centimetres per kilometres. Because of the river's large sediment load, the delta at its mouth grew by more than 19 kilometres in the century up to 1970 and covers more than 5000 square kilometres. Upstream, dam construction has now led to 'sediment starvation' and the delta is actively being eroded on its seaward margins.

loess extensive deposits of silty sediments, probably windblown, which develop almost vertical slopes when eroded by water

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Source 2.7 The Huang He, called the Yellow River due to the colour of the sediment that it carries

alluvial deposit sediment deposited by rivers

flood plain low-lying ground that is subject to flooding from a nearby river

terrace a 'platform' of fairly flat land, often a former flood plain that has become stranded by later down-cutting by the river

humans not only because of water supplies and navigation but also because of the presence of fertile soils, which have developed from **alluvial deposits** on **flood plains** or **terraces**. It is often difficult to determine in the field whether a feature is a flood plain (flooded often or intermittently) or a terrace (not flooded for a long time).

Rivers are agents of both deposition and erosion. The depositional features of fans, deltas, flood plains and levee banks are offset by the erosional features of gorges, waterfalls and V-shaped valleys. Most large-scale depositional features occur in the downstream or low-gradient reaches of rivers, while major erosional features tend to be concentrated in the upper reaches. At a smaller scale, river meanders are prominent in middle and lower river reaches, but they are not static entities, exhibiting both erosional and depositional features. The meandering process involves deposition of sediment on the inner sides of curves and erosion on the outer edges, and this takes place continuously unless flow patterns change. Although occurring only during extreme flows, floodwaters can temporarily 'straighten' the river's path by cutting across the necks of meanders to create **ox-bow lakes** or **billabongs**. As a result of this, the locations of individual meanders change over time. If a meandering river is flowing over land that is being uplifted, the existing meanders may become **entrenched** and their pattern may persist for hundreds of thousands of years. The Grand Canyon in the United States is an example of this.

ox-bow lake (billabong) an old looped river meander that has been cut off from the present channel

entrenched meanders those meanders eroded deeply into bedrock and thus unlikely to change their pattern over time

Gorges and waterfalls are also linked to the kinds of rocks in the landscape. Gorges will form when river **downcutting** is vigorous and continues for a long time. As sediments are not as cohesive as rocks, they generally do not provide the deep and steep side-slopes generally associated with gorges. Often gorges are eroded along fault lines or other lines

downcutting downward erosion of a river through its bed

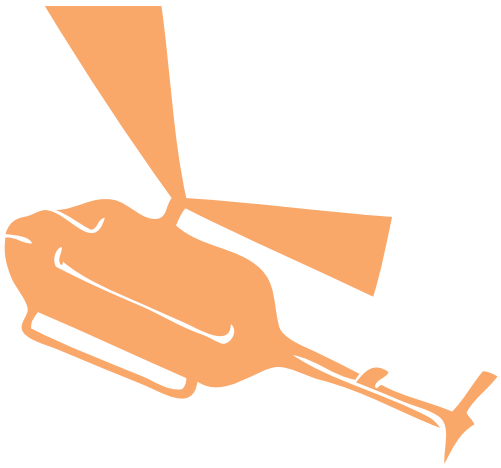
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Source 2.8 An entrenched meander, the Grand Canyon, United States



Source 2.9 Wallaman Falls, Queensland, one of the highest waterfalls in Australia



dyke a thin vertical intrusions into other rock types

of weakness like **dykes**, as occurs at Katherine Gorge in the Northern Territory. This gorge is cut into horizontally bedded sandstone.

Waterfalls can be spectacular landforms, like Niagara Falls in North America or the Victoria Falls in Africa. Less well known are the numerous waterfalls around the continental margins of Australia. Waterfalls are located where land surface elevations abruptly change – for example, at the edge of a plateau or where resistant rocks have prevented gradual downcutting of a riverbed. If relatively resistant rocks are horizontally bedded, streams flowing over the edge of eroded sections will create waterfalls. Rock barriers within the riverbed allow for the formation of rapids and both features attract tourists. Waterfalls often have a deep plunge pool at their base, and this turbulent water undercuts even stronger rocks above it, causing rock collapse. This is evident at Niagara Falls, where erosion of softer rocks at the waterfall's base leads to collapse of the flat-lying beds at the top of the waterfall. This process has resulted in average upstream waterfall migration of up to 1.5 metres each year.

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DEVELOPING YOUR UNDERSTANDING 2.4

Copy and complete the table below by answering the following questions.

1. Select two large rivers, one in Australia and one in another country.
2. Using the information in your table, make two lists of depositional landforms: (a) those associated with both rivers; and (b) those present on only one of the rivers.
3. Make two lists of erosional landforms: (a) those associated with both rivers; and (b) those present on only one of the rivers.

	River in Australia (name)	River in another country (name)
Rainfall distribution across the catchment (Heavier in some parts than others? The same everywhere? Approximate amounts?)		
Depositional landforms present 1 2 3		
Erosional landforms present 1 2 3		

Groundwater

When water infiltrates the Earth's surface in sufficient quantities, it moves down to a zone of saturation, the upper limit of which is termed the water table. Groundwater moves more slowly than overland flow, as groundwater can only circulate through small interconnected pore spaces within rock or sediment, but it can still contribute to the formation of landforms. In limestone terrain, **bedding** and **joint planes** allow surface water to enter and take **calcite** into solution, thereby widening any existing weaknesses or fractures. Over time, this may lead to the development of underground streams, which emerge either as springs or as fully fledged rivers fed by underground water. Freshwater springs appear in the ocean off the coast of Montenegro in the Adriatic Sea, and offshore from Yucatán in the Gulf of Mexico.

bedding plane the surface between layers of deposited materials or sandstone that make up sedimentary rocks

joint plane a vertical, horizontal or angled pattern of cracks in rocks

calcite the main mineral in limestone and marble, composed of calcium carbonate

Limestone regions and those with soluble rocks like gypsum have often developed distinctive **karst** topography due to the action of underground water. On the surface, small-scale features like **karren** are common. At a slightly larger scale, various other features appear: sinkholes, disappearing streams and springs. More extensive landforms, like limestone pavements, karst or flat-bottomed valleys and tropical-region **tower karst**, also occur. When dense, compacted limestone is uplifted, gorges can be cut through the rock. Because surface water tends to disappear quickly into limestone terrain through bedding planes and joints, and then enlarge them, limestone regions are also characterised by the development of extensive cave systems.

karst a limestone region where underground water is the main cause of distinctive landforms

karren small grooves or furrows in rock (usually limestone) formed by running water

tower karst towers or pinnacles remaining after limestone has been weathered in tropical regions

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Geographical thought

A buried sinkhole in gypsum was discovered recently in Spain after two apartment blocks comprising 362 flats subsided suddenly. The buildings had to be demolished, with financial losses exceeding A$22 million.

Groundwater also affects landforms in non-limestone terrain. In arid and semi-arid Australia, some of the larger salt lakes like Lake Eyre and Lake Frome have very flat surfaces when dry, and have been used for world speed attempts for two-wheeled and rocket-propelled vehicles.



Source 2.10 A karst valley or polje, part of the Zeta River valley in Montenegro



Source 2.11 Racing on the salt lake surface at Lake Gairdner, South Australia

artesian water underground water that flows freely when bores intersect the sediments in which it is found

livestock farm animals

sub-artesian referring to underground water that has to be pumped to the surface

Groundwater or **artesian water** is important in the drier parts of Australia, where the often brackish water can be drunk by **livestock**. When artesian water is over-utilised, such as in the Great Artesian Basin where some water is up to a million years old, water flow may become **sub-artesian**. Elsewhere in Australia, safe drinking water for humans is found in sandy sediments in Perth, Western Australia and near Newcastle, New South Wales.

Geographical thought

The maximum recommended salt level in drinking water for humans is 1500 milligrams per litre, with good-quality water having under 500 milligrams per litre. Beef cattle can tolerate up to around 5000 milligrams per litre and adult sheep about 10000 milligrams per litre. Seawater has a **salinity** of 35000 milligrams per litre.

salinity the salt content of water

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DEVELOPING YOUR UNDERSTANDING 2.5

1 List two landforms developed in limestone by groundwater, and two developed in non-limestone areas.
2 Explain why groundwater is so important to landform development in limestone terrain.
3 In what ways do humans make use of groundwater?

Glacial landforms

glacier a huge mass of ice slowly flowing over a landmass

hanging valley a tributary valley whose floor lies at a height well above that of the main valley; the junction may be marked by a waterfall

striate gouge

erratic boulder carried in glaciers and then left behind when ice melts

cirque an armchair-shaped semicircular hollow with a steep back wall and downslope lip found in glaciated areas

Pleistocene a geological epoch characterised by the formation of widespread glaciers between 10 000 and 2 million years ago

periglacial referring to an area, often near glaciers, where water freezes and melts every year

permafrost permanently frozen ground

solifluction slow soil flow caused by freeze–thaw activity in saturated surface sediments in periglacial areas

Glaciers are frozen 'rivers' of ice that produce landforms distinct from those sculpted by water. Instead of V-shaped valleys, glaciers fashion U-shaped valleys, which may have tributary **hanging valley** glaciers. Because tributary glaciers are smaller, they enter the main valley near the top of the glacier ice and are then left stranded when ice melts. The bulldozing action of glaciers pushes sediment and rocks down-valley or along each side of the glacier and, because of this debris and the weight of the ice, the glacier polishes and **striates** rock surfaces over which it moves. On melting, any rock and sediment it carries is deposited; **erratics** are left stranded far from their source. Glaciated landscapes have sharp ridges, often with **cirques** eroding back towards the summit. Only parts of Tasmania and small areas of south-eastern Australia were affected by the most recent glacial period during the **Pleistocene**. On a global scale, cold areas where surface zones are seasonally or intermittently frozen are referred to as **periglacial** regions. Here, **permafrost** often occurs at depth, and processes of **solifluction** take place at the surface.

Ice sheets or ice caps remain in the Arctic and Antarctic today, but these ice sheets were much more extensive during the Pleistocene. Nearly half of North America and much of Europe were covered by ice. This left extensive areas of exposed bedrock in northern Canada, where ice pushed sediments out of its path. In the United States, glacier retreat left sediments metres deep over large areas. In many previously glaciated regions, ice retreat has allowed **fluvial processes** to rework glacial sediments and partly reshape valleys. Some glaciated valleys now have waterfalls cascading from hanging valleys and rivers incising V-shaped channels in the bottom of U-shaped valleys.

fluvial process a process associated with rivers and streams

Source 2.12 A hanging valley in Milford Sound, New Zealand



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Source 2.13 The edge of the ice sheet, Antarctica

Geographical thought

Warming temperatures in the Arctic have started to melt permafrost, which covers nearly a quarter of the Northern Hemisphere landmasses. When it melts, permafrost releases large amounts of carbon dioxide and methane. Estimates indicate that melting permafrost will release as much carbon dioxide as 40% of the emissions from human sources between now and 2100.

When glaciers melt and ice caps retreat, glacially sculpted features remain in the landscape. Cirques may now hold lakes, and areas of glacial polish may remain. Glacial striations on bedrock can persist when buried for millions of years.

Landforms of varying sizes can persist over thousands or millions of years, if weathering and erosion have not been too severe since their formation and the landform itself is resistant. Some examples include large rivers with their waterfalls, gorges and entrenched meanders; cave systems in limestone terrain; groundwater-controlled playa bed morphology; and certain glacial landforms. Where major climatic change has taken place over

Geographical thought

Following the Japan earthquake and tsunami in 2011, scientists used satellite imagery to follow the breaking off of huge icebergs from the Antarctic ice shelf. This shelf section of ice-bound Antarctica had extended out over the ocean and already had some weaker points, so was vulnerable to changes in sea conditions. By the time the tsunami swell travelled for 18 hours over the 13 000 kilometres from Japan to Antarctica, it probably only had a height of about 30 centimetres. However, in order to reach Antarctica the wave had hit various islands and its movement became chaotic, making it much more damaging than its 30 centimetre height would suggest. The 80 metre thick shelf ice was directly in the path of these erratic ocean movements, causing about 150 square kilometres of new icebergs to be broken off.

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Miocene a geological epoch characterised by the development of grasslands and grazing mammals

geological time, erosion-resistant landforms can persist in places like arid Australia. During the **Miocene**, which ended about 5 million years ago, the climate in central Australia was wetter and warmer, allowing the development of hard, silica-rich deposits, which have partly survived to the present day.

DEVELOPING YOUR UNDERSTANDING 2.6

1 Copy and summarise in the following table the characteristics of: (a) glaciated landscapes; and (b) landscapes eroded by rivers.

Characteristic	Glaciated landscapes	Landscapes eroded by rivers
Valley shape (in cross-section)		
Steepness and shape of hilltops/ridges		
Erosional feature/s on hill slopes		
Tributary junctions (**accordant** or **discordant**)		
Depositional features in valleys? (yes/no)		

2 Suggest how we can recognise that a landscape has been glaciated in the past when there are no glaciers present now.

3 Explain why some landform features occur only in glaciated landscapes and are not present in landscapes eroded only by rivers.

accordant being in agreement or harmony (e.g. the same height)

discordant lacking agreement or harmony (e.g. at different heights, as occurs with hanging valleys)

Coastal landforms

Landforms along the coast are formed by the same general processes that operate elsewhere, except that here the water involved is saline, and the water body is sufficiently large to generate additional internal movements (tides and currents) that impact on the land–ocean interface. As with all water bodies of any size or salinity, strong winds can cause waves to develop. During storms, ocean waves can impact with great force on rocky coastlines and beaches, leading to cliff retreat and beach erosion. The less frequent but highly destructive waves (tsunamis) caused by earthquakes transport large quantities of sediments and debris far inland, and so have both an erosive and a depositional action.

Tides

Tides are caused mainly by the gravitational pull of the moon and secondarily by the sun. High tides occur when the moon and sun are aligned, and the largest tides during the year are recorded when the Earth is closest to the sun. At any one place there are usually two high tides and two low tides daily, with variations in tide height relating to new and full moon phases. Knowledge of tides is important for commercial and recreational fishers, for navigating ships in near-coastal waters, for constructing bridges or roads at safe heights and for estimating the distribution of pollutants in estuaries.

The shoreline

Weathering processes along the shoreline are the same as those operating on any land surface, with the exceptions that salt weathering is very pronounced and effective, and cliffs can be destabilised by the force of waves trapping air in fractures. This **hydraulic action** can loosen blocks of sandstone

hydraulic action the process of waves compressing air within gaps in the rock, and this air being explosively released when the waves retreat

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or other jointed rocks, which then tumble to the cliff base. Once detached, the rock and the intact cliff behind and above it can be abraded by gravel and sand caught up in the waves. Wave action is also turbulent, causing sand grains and pebbles to hit each other, leading to fracturing for some and rounding for others. This same process of abrasion and wearing down of transported debris operates within stream channels. In addition, the ocean can be viewed as a saline solution, which accelerates some chemical and physico-chemical weathering – especially in the **intertidal** and **spray zones**.

intertidal zone the area at the edge of a body of water (such as the ocean) that is exposed at low tide and is under water at high tide

spray zone the area above the high tide line that is regularly splashed, but not submerged, by ocean water

For most people, the coast means the beach. Beaches can be composed of quartz sands, calcareous sands (broken pieces of shells), volcanic (black) sands or boulders (as at Anna Bay in New South Wales and in places along the Pilbara coastline in Western Australia). Bays are formed by rocky headlands marking the ends of beaches, and some beaches are many kilometres long – for example, the seaward side of the Coorong in South Australia, Ninety Mile Beach in Victoria and Cox's Bazar, which is a 125 kilometre long sandy beach in Bangladesh. The material making up beaches comes from a combination of weathering of rocks along the coastline, wave action transferring sediments from the continental shelf to the beach, and rivers depositing their load in the ocean. Sand or other sediment can be moved along a coastline by ocean currents (**longshore drift**) and be shifted from one end of a beach to the other, or pile up behind obstacles like **groynes** or islands. When sand accumulates downdrift of islands or headlands, **spits** are formed. Erosion of sand from beaches occurs during stormy periods, and these sands often remain for some time on the continental shelf offshore. However, where beaches are important for tourism, as on the Gold Coast in Queensland, authorities will undertake beach nourishment programs that involve moving sand from elsewhere to add to the sand-depleted beach, rather than waiting for natural processes to return sand to the beach.

longshore drift the movement of sediment, usually sand, shingle or mud, along a coastline driven by the direction of the prevailing wind

groyne a low barrier built from the beach into the sea, intended to reduce beach erosion

spit a narrow, low-lying line of sand developed naturally by longshore drift and extending from the land into the sea

Many beaches have one or more dunes on the landward side. Initially, the sand was transported and deposited by waves, but once a dune is formed, most erosion or reworking is done by wind. Older dunes are often fixed by vegetation, while others become destabilised by fire or human activities (roads or pathways) or have remained naturally unvegetated. Any loss of vegetation exposes the sand to potential movement, as sand is vulnerable to erosion by wind and run-off. Along the New South Wales coastline and in the south-east of South Australia, two or more shoreline dunes are separated from each other by **swales**, which may include swampy ground. Multiple dunes usually have very different ages.

swale low-lying land between two sand dunes

Along some coastlines, mud or mangrove flats replace sandy beaches. Mud can dominate where the continental shelf is wide and shallow, as in many parts of northern Australia. Mangrove-dominated coasts also appear in relatively sheltered and warmer environments, including in the headwaters of Spencer Gulf in South Australia, and in many areas in New South Wales and northern Australia.

DEVELOPING YOUR UNDERSTANDING 2.7

1 List two warm ocean currents and two cold ocean currents.
2 Explain why some ocean currents are warm and others cold.
3 Discuss the role of ocean currents in distributing sand and sediment along shorelines.

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Coastlines may have cliffs, rock exposures and rocky shore platforms. In the Sydney region in New South Wales, horizontally bedded sandstone forms cliffed headlands in which weaker, often shaley beds are undercut, allowing the upper beds to overhang and eventually collapse into the sea. Other coastlines are fixed by exposures of tough rocks, as at Granite Island in South Australia and along the Pilbara coast in Western Australia. Some cliffed coastlines have **shore platforms**, which extend from the cliff out to sea for many metres. A notable example is Long Reef in Sydney, where low tide exposes 100 metres of an irregular rock surface, which becomes submerged at high tide. On the cliffed landward edge of the platform, rocks at the base have been undercut to form a **notch**. Many platforms are intertidal and were thought to relate to sea-level changes. Whatever the ultimate cause, weathering on platform surfaces is continuing by a combination of **sub-aerial processes** (especially salt weathering and hydrolysis), wave processes (abrasion and removal of pre-weathered material exposing new surfaces for weathering) and scraping and burrowing organisms like **chitons** and other **molluscs**.

shore platform a fairly smooth, gently sloping rock surface lying between high and low tide

notch an indent at the base of a cliff caused by wave erosion

sub-aerial process a process occurring on the Earth's surface

Rocks will always eventually weather, and in so doing may produce interesting morphologies. Along the Victorian coastline, for example, erosion of horizontally bedded limestone has produced a group of **sea stacks** up to 45 metres high called the Twelve Apostles. The stacks were isolated from the nearby 70 metre high cliffs as a result of erosion, which formed arches; their tops then collapsed to leave the stacks. Stacks are more exposed to weathering and erosion than cliffs due to their smaller size and exposure on all sides, so only seven of the original 12 stacks are still standing. Tourists are often attracted to another feature of rocky coastlines: **blowholes**. These can develop where rocks have been weathered and eroded to create a vertical 'pipe' or opening.

chiton a type of hard-shelled mollusc, which moves slowly by strongly clinging to intertidal rock surfaces

mollusc one of a diverse group of invertebrate organisms

sea stack a pillar-shaped remnant of land that has been eroded by the sea

blowhole a gap or hole in rock through which seawater is intermittently ejected

Source 2.14 The Twelve Apostles in Victoria



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DEVELOPING YOUR UNDERSTANDING 2.8

Choose two places on the coast in Australia, one in northern Australia and one in southern Australia.

1 Describe the coastal landforms in each area.
2 Identify any differences in landforms between the two areas.
3 Explain why coastal landforms may not all be the same in northern and southern Australia.
4 Discuss the ways in which humans have affected coastal landforms in the chosen locations.

2.2 Geomorphic processes and soil development

A key outcome of land-based weathering is the sediment produced, in which soils can form. Some researchers have long argued that civilisations rise and fall as a result of various economic, social and climatic factors – but that in all cases of social collapse there is also evidence of over-exploitation of the soil. This suggests that soil quality is an important part of a successful and long-lasting civilisation. David R. Montgomery, Professor of Earth and Space Sciences at the University of Washington in Seattle, believes that 'many factors may contribute to ending a civilisation, but an adequate supply of fertile soil is necessary to sustain one'. This idea now forms part of the concern about global food security. After considering the nature of soils and their quality, and human management and mismanagement of soils, you will be in a better position to decide whether or not soils do matter.

Soils are the layered mixture of materials that occur on the surface of the Earth, and have developed their characteristics as a result of **pedogenic processes**. In practice, it is sometimes difficult to distinguish between layers of sediment and **soil horizons**, as soils develop in sediments deposited by wind or water as well as in weathered rock. The three main components of soil are mineral particles, organic matter and air spaces. Any interconnected air spaces allow for water to move through the soil, taking with it any mineral or organic material carried in solution or **suspension**. Because of the complex relationships between soil components, it takes time for horizons to develop within soils. Differences between soils are the result of variations in the **parent material**, climate, topography, biological characteristics (vegetation and organisms) and the length of time for which soil-forming processes have been operating.

pedogenic processes soil-forming processes

soil horizon a soil layer with different physical and chemical properties from other layers

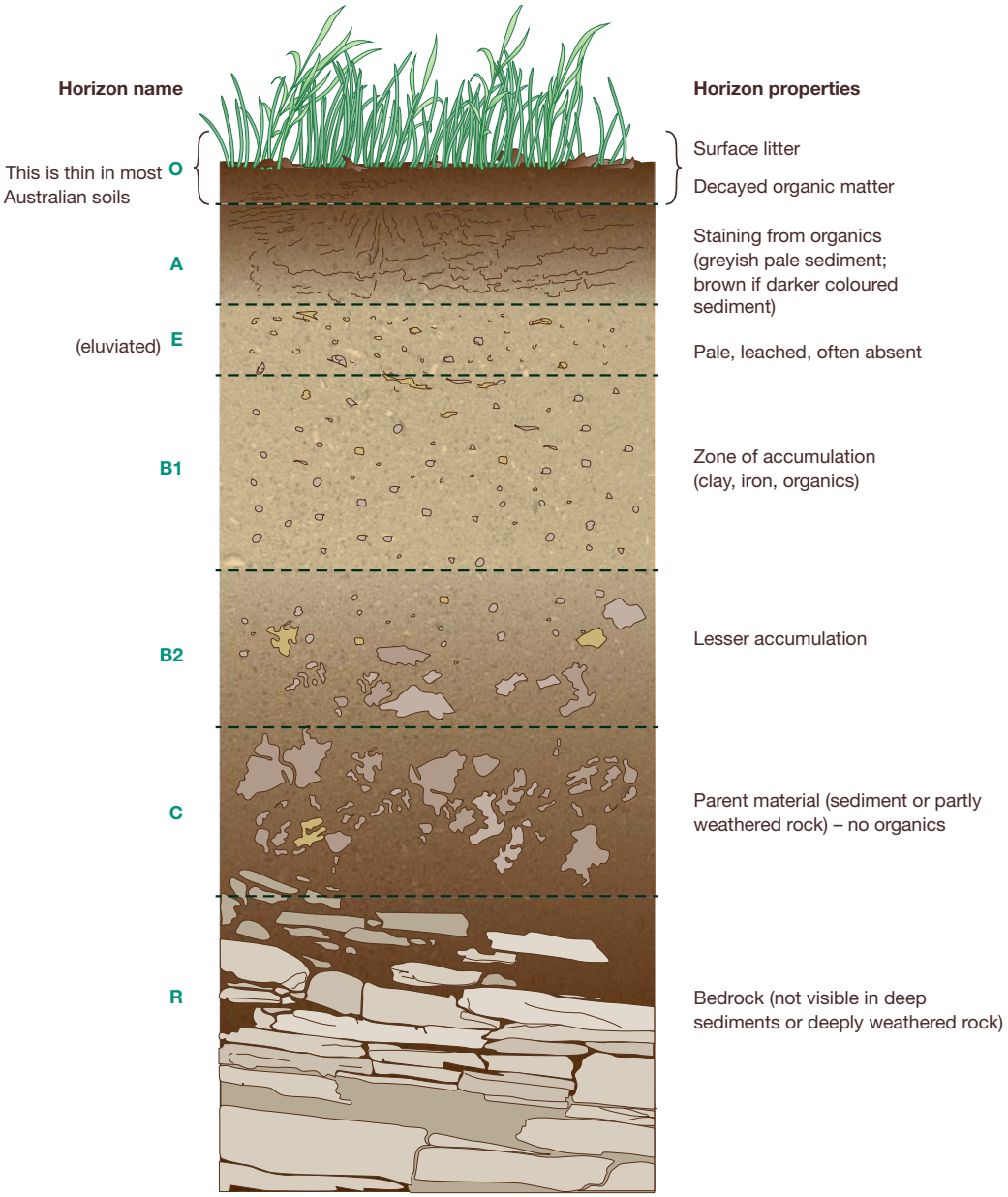
suspension being dispersed through water

parent material original material

DEVELOPING YOUR UNDERSTANDING 2.9

1 Suggest the ways in which soil is different from a pile of sediment tipped off a dump-truck.
2 Explain why soil is important to humans.
3 Evaluate whether soil mismanagement could eventually lead to a civilisation's collapse (including our own civilisation).

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Source 2.15 Soil horizons

Soil formation

Agricultural land is often described in terms of soil quality – for example, people speak about 'rich alluvial soils' or 'poor sandy soils'. What makes some soils fertile and desirable for agricultural production, and others to be avoided where possible? Part of the answer lies in the ways in which soils form, especially the nature of the material in which they have developed (the parent material), environmental conditions (climate and biological life associated with it), the local landforms (topography) and how long pedogenic processes have been operating (age or time).

Once the soil-forming factors operate on sediments, several changes start taking place: some materials are added (additions), some are removed (losses), some are transformed (changed from one state to another) and others are translocated (moved within the sediment, either vertically or horizontally). Common additions to soils are **ions** in rainwater, plant litter or extra sediments deposited on the soil surface by dust storms, volcanoes, rivers or overland flow. Losses involve erosion of **topsoil** and movement of **soluble**

ion an atom formed by the loss or gain of one or more electrons

topsoil surface soil, usually in the A horizon

soluble able to be dissolved

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elements to greater depths as a result of leaching. Important transformations include the weathering of rock to form clay minerals, the decomposition of plant litter into organic matter that contributes to soil fertility and the change in state of iron that is associated with drainage conditions. Although hydrated iron (which is yellow) can be inherited from a parent rock, poorly drained soils will have yellowish lower horizons, while well-drained soils nearby have iron minerals of a reddish colour. Translocations refer to movement of materials mainly in suspension or solution from one part of the soil profile to another. In arid regions, the net movement of solutions may be upward due to capillary action, but most transfers in other climates take place in a downward direction. Clays can be translocated within sandy soils, with their large pore spaces, but not within a heavy-textured clay soil. Other translocated materials include soluble salts (sodium chloride), lime (calcium carbonate) and iron. Organisms such as ants, earthworms and termites mix the soil with their burrowing, and may transfer soil particles from one horizon to another. Ant mounds often have a different colour from the surrounding ground, so you can see the nature of the subsoil without having to dig down.

Geographical thought

Termites build their mounds by moving fine subsoil sediments to the surface. As mounds can only be built in places where weathered sediments mask the bedrock, CSIRO researchers are currently investigating the use of termite mounds to save drilling costs for gold exploration.

Source 2.16 Termite mounds in Kakadu National Park, Northern Territory



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Describing soils

Soils vary from place to place, but there are also similarities between some soils in different regions and continents. Because of this combination of local differences and broader-scale similarities, soil scientists have devised numerous soil-classification systems. These classifications all attempt in various ways to describe both differences and similarities between soils. In Australia, the Great Soil Group classification was followed by Northcote's Factual Key (or Principal Profile Form) for recognition of Australian soils, and currently the Australian Soil Classification includes a consideration of characteristic Australian landscapes before describing representative soils from the 14 soil orders. At the continental scale, the most widespread soil orders are tenosols (slightly developed soils), kandosols (strongly weathered earths with fairly uniform texture), calcarosols (those dominated by carbonate), vertosols (cracking clays), rudosols (minimally developed soils) and sodosols (alkaline and sodic soils with texture-contrast profiles). Many of the orders contain a wide variety of soils with different textures and profile development. However, these names allow **pedologists** to use terms that have meaning internationally, as they describe particular characteristics that are deemed to dominate in specific groups of soils. The distribution of different soil types has special importance for agriculture, as well as home gardens and management of recreation spaces.

pedologist a scientist who studies soils

2.3 Distribution of soils and agricultural activities

In Australia, the continent-wide distribution of agricultural activities is strongly influenced by rainfall. Early settlement was clustered around safe harbours, a freshwater supply and soils capable of producing food crops. Although Sydney's initial settlement was on its harbour, farming activity soon moved to Parramatta, utilising the Parramatta River for transport and the alluvial flats for growing crops. This pattern of making first use of soils that were inherently more fertile occurred in all settlements. In the drier areas, livestock were grazed – not because the soils were particularly infertile, but because there was insufficient rainfall to sustain crops. Later, the use of **irrigation** allowed development of major agricultural districts in the drier parts of the Murray–Darling basin. Growth in agricultural production, where it can be undertaken, has relied increasingly on technological change, including:

irrigation watering of crops

- advances in fertilisers and trace elements and their application
- the invention of large machinery to undertake extensive cropping
- the development of transport networks to move agricultural products from farms to markets
- the breeding of new strains of livestock and crops to raise productivity and extend activities into otherwise marginal areas for particular enterprises
- the development of chemicals for weed control and preventing disease in livestock and crops.

These technical advances mean that much is possible – but often at a cost, either in terms of agricultural inputs (immediate cost of production issues) or environmental impacts (long-term decline in productivity). In both of these aspects, soil is a major player.

Soil quality

Soil quality is important in affecting plant growth, whether for food and fibre crops or for pastures grazed by livestock. If soils are not naturally fertile, soil amendments can be made, but such actions carry a financial cost. From the early 1900s, most farmers in the wheat-growing areas of Australia have applied superphosphate fertiliser to obtain satisfactory yields, as many soils are deficient in available phosphorus. In the South Australian **Mallee** region, wheat yields were low before superphosphate and trace elements became available, and farmers were advised to spend their spare time cultivating their sandy, phosphorus-deficient soils

Mallee the agricultural district where mallee vegetation was cleared for cropping

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to increase yields. The problem was not a lack of cultivation, but nutrient-poor soils being over-cultivated (and producing dust storms instead of wheat). In recent years, concentrated ammonium sulphate fertilisers have reduced fertiliser transport costs; these fertilisers have the additional advantage of containing up to 20% nitrogen along with zinc as a trace element.

DEVELOPING YOUR UNDERSTANDING 2.10

1. List three technological changes that have contributed to increased agricultural productivity in commercial agriculture.
2. Explain how these technological changes may lead humans to think that any activity can be undertaken anywhere, on any kind of soil.
3. Using the *Atlas of Australian Resources* maps, assess whether soil quality affects the distribution of agricultural activities in Australia. The Atlas can be accessed by searching online for 'Atlas of Australian Resources third series'. All maps and commentaries are listed separately there under separate URLs (agriculture, soils and land use, vegetation, climate, geology, etc) and each has to be accessed individually.

2.4 Accelerated soil erosion

The Earth's surface is always exposed to the forces of erosion, which can be viewed as the long-term rate of removal, transport and deposition of sediment and rock. This rate of erosion may be affected by catastrophic events like earthquakes, tsunamis and volcanoes, or prolonged events like glaciations or water erosion. As these sources of action on the Earth's surface are part of natural systems, even erosion that increases sharply after such events is sometimes referred to as 'natural erosion' to distinguish it from accelerated erosion, which is caused by human activities. Accelerated erosion is accompanied by a range of soil changes, or **land degradation**, involving a loss of fertility and its consequent effects on ecosystems. These affect relatively unaltered 'natural' or 'wilderness' areas, as well as deliberately modified agro-systems like cropping and grazing. Impacts on soils include loss of organic matter, decline in structural condition, acidification following vegetation removal and fertiliser application, development of acid sulphate soils following vegetation clearance, salinisation, and removal of topsoil and nutrients by water and wind erosion. Indirect adverse effects of soil erosion include infilling of reservoirs with sediment.

land degradation destruction of vegetation, soil, landforms and landscapes by human activity

Land degradation by erosion

Land degradation caused by erosion has important implications for agricultural production. Plant nutrients and organic matter present in topsoil are removed along with mineral soil when water or wind erosion transports sediment. Fertiliser application rates have to be increased to compensate for this nutrient loss. In the process of water erosion, gullies create barriers for vehicle and machinery movements on farms, as well as reducing the effective productive area. With wind erosion, dust storms in Australia have transported fine sediment as far as the snow-covered mountains of New Zealand and beyond into the Pacific Ocean. Local problems from dust and sand storms include burial of fences, sand drift across roads and railway lines, interruptions to aircraft movements, respiratory difficulties for humans and sand accumulations on the sides of buildings or other barriers.

Apart from affecting the nutrient status of soils, water and wind erosion can remove topsoil and

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Source 2.17 Partly sediment-filled Umberumberka Dam, New South Wales during drought. The dam supplies Broken Hill with water. (The person by the lower right-hand corner of the dam provides scale.)

heavy-textured subsoil a clayey B horizon

conservationists people who work to protect the natural environment

expose **heavy-textured subsoils** at the surface. Plant growth then becomes severely restricted due to the compact nature of the surface soil: root development becomes limited, water infiltration is reduced, the proportion of bare ground increases, the amount of plant litter returned to the soil is minimal, and water and wind erosion become worse. Much accelerated erosion has been triggered by vegetation loss, which reduces protection for the surface soil. In New South Wales, soil **conservationists** suggest a minimum vegetation cover of 70% to prevent major erosion. Soil erosion following the introduction of European agriculture is common in Australia, North America, South Africa and New Zealand, and overuse of lands surrounding the Mediterranean basin has had the same result.

arroyo dry creek or stream bed; gully

Arroyo development in semi-arid areas of the south-western United States became severe after heavy grazing by cattle coincided with an increase in storm intensity. In New Zealand, the introduction of sheep to steep pasture lands produced sharp increases in **landsliding** after heavy rains.

landsliding downslope movement of saturated soil and sediment by gravity

Salinisation

Salinisation is a major issue in Australia, affecting soils and water supplies. Part of our difficulty in addressing the salinity problem is that the natural amount of salt in our environment is high, and any disturbance to water in the soil will produce changes in salt distribution. Naturally saline areas are widespread around the low-lying parts of the coastline, and in arid and semi-arid areas. Following clearance of deep-rooted perennial native vegetation and its replacement

salinisation the build-up of salts at or near the soil surface, either by natural processes such as evaporation or by land clearing

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with shallow-rooted crops and pastures in semi-arid and humid zones, the amount of rainfall percolating through to the groundwater increased. The level of the water table then rose. Where the water table intersected or came within about 1 metre of the land surface, salt accumulated at the land surface as a result of **capillary movement** and evaporation. This was a slow process, and emerged as a problem about 30 to 40 years after vegetation clearance in the wheat belt areas of Western Australia. Although some small salt patches were present prior to the introduction of wheat growing in Western Australia, as well as South Australia, New South Wales and Victoria, these few patches enlarged and were joined by numerous new outbreaks. Wheat is not a salt-tolerant crop, and many salt patches are so saline that no vegetation grows, so these areas have become small, unproductive 'salt deserts'. In irrigation districts, the water table has risen following major additions of water (irrigation), leading to waterlogging and salinisation at the surface, and the presence of a 'groundwater mound' beneath irrigated land. Various drainage, pumping and salt-removal techniques have been applied to keep irrigated land productive.

capillary movement water movement, mainly upward and horizontal, in permeable materials (soil, sediment, rock, cement or bricks)

Supplies of freshwater are adversely affected by rising saline groundwater, either directly in terms of **base flow** within channels or from irrigation districts, or indirectly from groundwater moving slowly towards valleys. Many farm dams and small watercourses in wheat-growing areas in southern Australia have become increasingly saline, but the major issue relates to the Murray River. Because South Australia relies on the Murray for irrigation and freshwater supplies, salinity monitoring has been in place for many years. This shows that every day approximately 1000 tonnes of salt are carried by the river where it flows past the town of Morgan. This is a doubling of the estimated salt load that existed before irrigation and river regulation by **locks**. In South Australia, the main source of salt in the Murray is groundwater, followed by irrigation both upstream and within the state, and lastly vegetation clearance. The lag between commencement of irrigation and an increase in salt load is around 20 years, which is shorter than generally estimated for vegetation-clearance effects.

base flow the low flow period in streams when water is not derived from run-off but from groundwater and slow lateral sub-surface movement

lock barrier in the form of large steel gates constructed to control the flow of water and allow boats to travel both upstream and downstream

Various attempts have been made to reduce salinity impacts, including interception schemes for irrigation districts in New South Wales, Victoria and South Australia. In the wheat belt, measures have included tree planting in salt-affected



Source 2.18 Dryland salinity on grazing land near Singleton, New South Wales



Source 2.19 Dryland salinity on a wheat farm, South Australia

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catchments, contour banks to divert water from directly entering small watercourses, contour ripping of salt patches, planting saltbush (*Atriplex* species) and other salt-tolerant plants on salt patches, and fencing off salt-affected areas from livestock. Responses to tree planting have been slow, as would be expected from the original lag time for salt to emerge. In addition, the proportion of a catchment that should be planted in order to remedy salt-affected areas is often too high to be economic for farmers – so severely reduced production in an area would be due to salt if nothing were done, and due to tree-planting if complete remedial action were taken. In practice, farmers often fence off the area and plant trees just inside this boundary, a measure that may prevent the patch from enlarging and possibly reduce its size over the long term.

DEVELOPING YOUR UNDERSTANDING 2.11

Using the internet, find a map showing the distribution of some saline lands within Australia. Describe where areas of salinisation occur.

1 Explain why salinisation accelerates wind and water erosion.

2 Reflect on why salinisation has adverse effects on humans.

2.5 Soil: a renewable resource?

A consideration of accelerated erosion suggests that soils will have to form quickly if they are going to keep up with recent losses. In the 1970s and 1980s, many resource economists considered that soil was a **renewable resource** but the time frames are important. Soil formation in humid Australia is estimated at 1–3 millimetres over 100 years, which describes its replacement rate. On basalt flows in north Queensland, dating of flat-lying layers of lava of different ages gave a weathering rate for soil formation of 1 millimetre per 3000 years. In river alluvium, a soil with a strong clay subsoil horizon (chromosol) can develop over a period of 20000 to 30000 years. Generally, soil formation is faster in pre-weathered sediment than in rock, although soils can form rapidly on volcanic ash.

renewable resource a resource that can be replenished in a relatively short amount of time through reproduction or other biophysical processes

Soil replacement rates

Before grappling with the problem of what is a tolerable level of soil erosion, it is worth looking more closely at soil formation and erosion rates. The replacement rate of 1–3 millimetres per 100 years noted above represents an average rate of 0.4 tonnes per hectare per year (t.ha.yr) of new soil. Untrained observers can generally recognise that erosion is happening when the average rate is 30 t.ha.yr (or a loss of 230 millimetres per 100 years). The *State of the Environment* report for Australia in 2011 noted: 'Current rates of soil erosion by water across much of Australia now exceed soil formation rates by a factor of at least several hundred and, in some areas, several thousand.' Advice on how to reduce erosion starts at a soil loss rate of 2 t.ha.yr in the Soiloss program, an Australian adaptation of the Revised Universal Soil Loss Equation (RUSLE), developed in the United States. In that country, where many soils have developed in deep glacial deposits, the acceptable range of erosion is 5–12 t.ha.yr. Because of local variations in soil-forming factors and agricultural practices, these numbers are generalisations. However, estimated losses of hundreds to thousands of times the replacement rate are not **sustainable** for long periods.

sustainable healthy and functional in the long term

Can the current imbalance between soil formation and erosion be switched back in favour of soil growth? Soil conservation activities on farming properties are more common now than

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they were in the past, and significant efforts have been made by some farmers to turn things around. This involves well-known methods like infilling gullies, constructing roll-over contour banks and grassed waterways, controlling grazing pressures and reducing the number of cultivations (the 'no tillage' system). A less well-known method is Natural Sequence Farming, which aims to raise biodiversity, store water naturally in the soil instead of in dams, and increase land productivity. It involves reducing run-off by increasing infiltration and dispersing flow in existing channels, and increasing soil surface cover by using vegetation and plant litter.

Even though most humans would probably agree that soil-conservation measures increase productivity, practical difficulties remain. All conservation measures attract a short-term cost, either directly for earthworks or reduced stocking rates, or indirectly for decreased crop production while measures are being installed. Many improvements also take some time to show benefits, and short-term financial pressures on farmers may become too great for them to become involved. Others may decide that the results do not justify action on their part, thus allowing individual responses to play a significant role. Another factor influencing management responses is the existing level of soil degradation – if a prolonged period of heavy investment is needed for soil to be rehabilitated to reasonable productivity levels, interest in undertaking sustainable practices will be limited. In places where soil deterioration has not been so severe, conservation may be more attractive.

Australians have fewer financial pressures than many humans in the world, and the climate change debate has directed their attention to time frames longer than 1 year. This has provided encouragement for the establishment of biodiversity corridors in partnership with governments. In relation to soils specifically, most soil-conservation sections within government departments have been disbanded through reorganisations and, in the absence of a huge dust storm reaching capital cities or accelerated erosion reducing farm production to a level where food prices increase, soil erosion is only of passing interest to many urban dwellers who form the main voting public.

So, is soil a renewable resource? The answer may be that, under many current usage conditions, soil degradation will continue, threatening sustainability. Technically, soil is a renewable resource, but only if we want it to be and work towards that aim. What is your opinion?



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Reflecting and consolidating

Chapter summary

- Landforms are created by weathering, erosion, transportation and deposition.
- Weathering processes may be mainly physical, physico-chemical or chemical, or a combination of these.
- Weathering processes are affected by rock types and climatic environments.
- Weathering, depositional and erosional processes are strongly influenced by water, in the form of run-off, groundwater, glaciers and oceans.
- Different landforms and soils affect the nature and distribution of human activities.
- Soil characteristics are determined by the interplay between the soil-forming factors of parent material, climate, relief, organisms and time.
- Soils develop in weathered materials by the processes of losses, additions, transfers and transformations.
- Soil quality affects agricultural productivity and the costs of food and fibre production.
- Accelerated erosion caused by human activities has led to land degradation, involving physical and chemical changes to soils.
- Human causes and effects of landscape degradation can be on a small scale, such as erosion and sedimentation produced by walkers, or on a large scale, such as built elements.
- Current rates of erosion in many areas are much faster than the slow rates of soil replacement.

Short-answer questions

1 Identify the main differences between physical and chemical weathering.

2 Describe landforms found on rocky coasts and on sandy or muddy coastlines.

3 Explain why human populations are attracted to living in flood-prone areas near rivers, using an example from Australia and another country.

4 Suggest the factors that make soils differ from one place to another.

5 Reflect on how accelerated erosion affects humans.

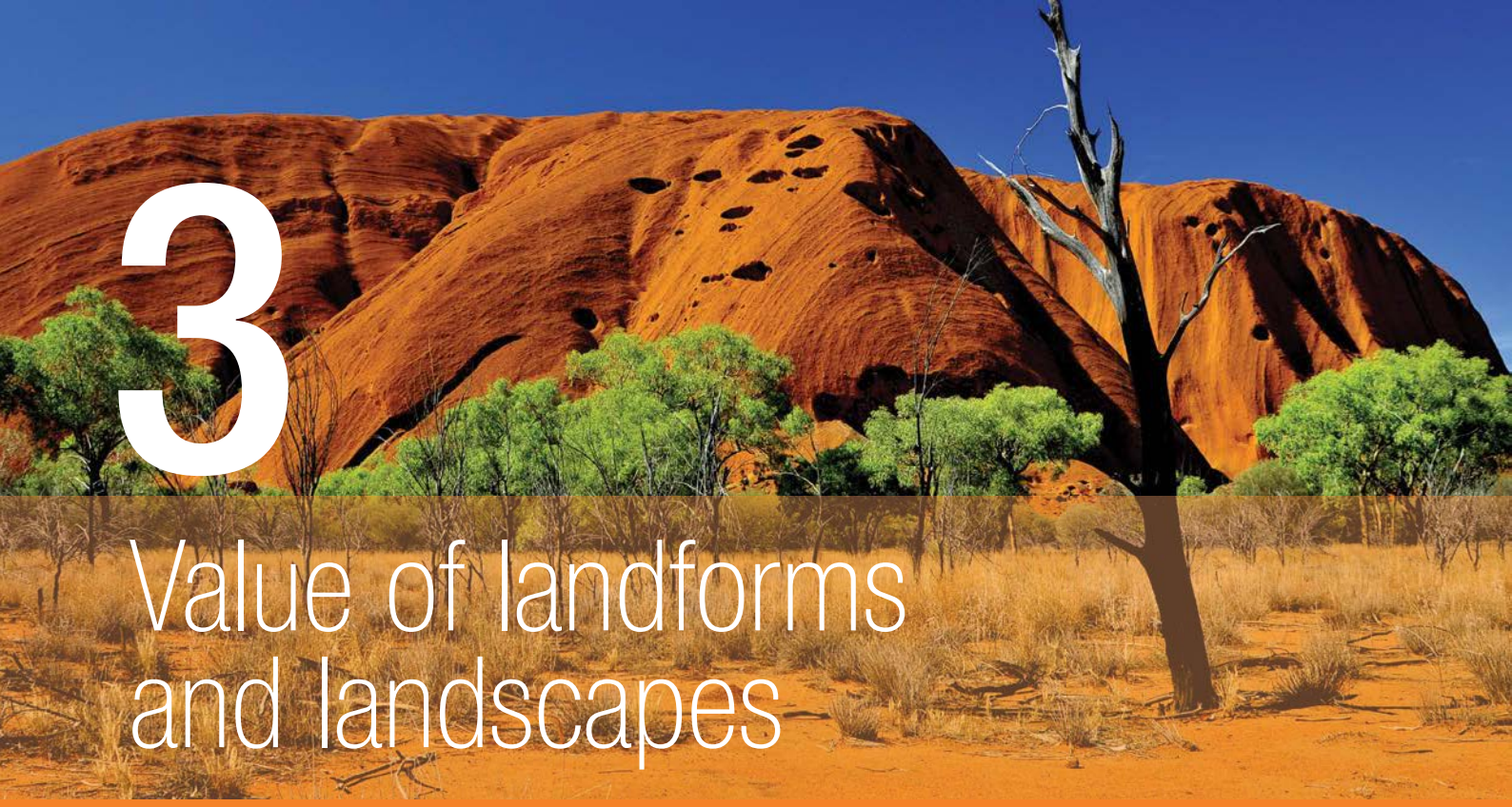
Extended-response question

What geomorphic processes lead to the development of different landforms in arid and humid landscapes?

Explore this question in a short essay, giving examples from Australia and another country to show your understanding of the influence of climate on landform development. Be sure to address whether the impact of human activities in accelerating erosion outweighs the importance of climate in landform development and change.



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3 Value of landforms and landscapes

Before you start

Main focus

There a number of ways in which landscapes and landforms are valued by individuals, groups and organisations in society.

Why it's relevant to us

It is important for us to investigate these different values, as they play a significant role in music, poetry, film, art, identity and tourism.

Inquiry questions

- What are the different values of landscapes and landforms for people?
- How do landscapes and landforms inspire the arts and shape identities?
- What is the role of landscapes and landforms in tourism?
- What are the meanings associated with landscapes and landforms by Aboriginal and Torres Strait Islander peoples?

Key terms

- Aesthetic value
- Biodiversity
- Cultural value
- Dreaming
- Flow-on effect

Let's begin

Musicians sing about landscapes, poets describe landscapes, film directors use landscapes and artists paint landscapes. Not only are landscapes and landforms valued for their ability to inspire the arts, but they also shape identities and support tourism industries. For example, Uluru is an iconic tourist attraction located in Australia's Red Centre landscape in the Northern Territory. This landform is a source of identity, and holds spiritual value for the traditional Aboriginal people of the area, the Anangu people.

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3.1 Landscapes and landforms in the arts

aesthetic value value placed on something due to its beauty

cultural value the emphasis placed on something for its importance and place in society, such as the inclusion of water in rituals, heritage and the Dreaming

place an area that has a specific meaning or purpose

identity the way you see yourself and the way others perceive you

global scale a view that includes the entire Earth or a large part of it

People have always placed, and continue to place, **aesthetic**, **cultural** and spiritual value on landscapes and landforms. Landscapes inspire musicians, poets, artists and film directors. When people listen to a song, read a poem, admire a painting or watch a film, it evokes feelings, memories and associations. It can connect them to their sense of **place** and shape their **identity**.

Landscapes and landforms in music

Music can conjure up images of landscapes and landforms at local and **global scales**. 'From a Distance' was a song by Bette Midler in the early 1990s. One interpretation of the meaning of the song is the idea that, if we look at the Earth as astronauts do from space, we don't see the imperfections. Check out the version of the song on YouTube, available at www.cambridge.edu.au/hass8weblinks.

Landscapes and landforms in poetry

Australian poet Dorothea Mackellar wrote of her passion for Australia in the poem 'My Country'. Here the focus has shifted from a global scale to a **national scale**. Similar images are brought to mind by the song 'Home Among the Gum Trees', written by Wally Johnson and Bob Brown. Both the poem and the song evoke images of Australia. You can find a link to the lyrics of the song at www.cambridge.edu.au/hass8weblinks.

national scale the point of view that focuses on an area the size of a nation

Source 3.1 The Earth from a distance



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Landscapes and landforms in film

From the arid and dusty earth of the American Deep South to the dizzying snow-capped peaks of the Himalayas, landscapes and landforms have always played a crucial role in films. The film industry spends millions of dollars each year searching for the right location to shoot movies, whether it is a secluded, remote part of the planet or a bustling metropolitan city. These chosen locations not only allow the perfect setting and backdrop to the story, but ideally they also become a part of the narrative and help develop important aspects of the film, such as characters and storylines.

Geographical thought

The 2009 film *Avatar* was set on a distant moon called Pandora, a lush, green jungle inhabited by the Na'vi people. The director, James Cameron, began creating Pandora in 2006, and found inspiration in crafting this vast and mysterious moon from landforms such as the Huangshan mountain range in China.

DEVELOPING YOUR UNDERSTANDING 3.1

1. Can you think of other songs or poems that refer to landscapes and/or landforms? List them.
2. Construct your own song or poem about interactions with landscapes and/or landforms.
3. List films you can think of in which landscapes and landforms have played a crucial role.
4. Select one film and describe the landscapes and landforms that appear in it.
5. Discuss how the landscapes and landforms can play an important part in a film's storyline.

Landscapes and landforms in art

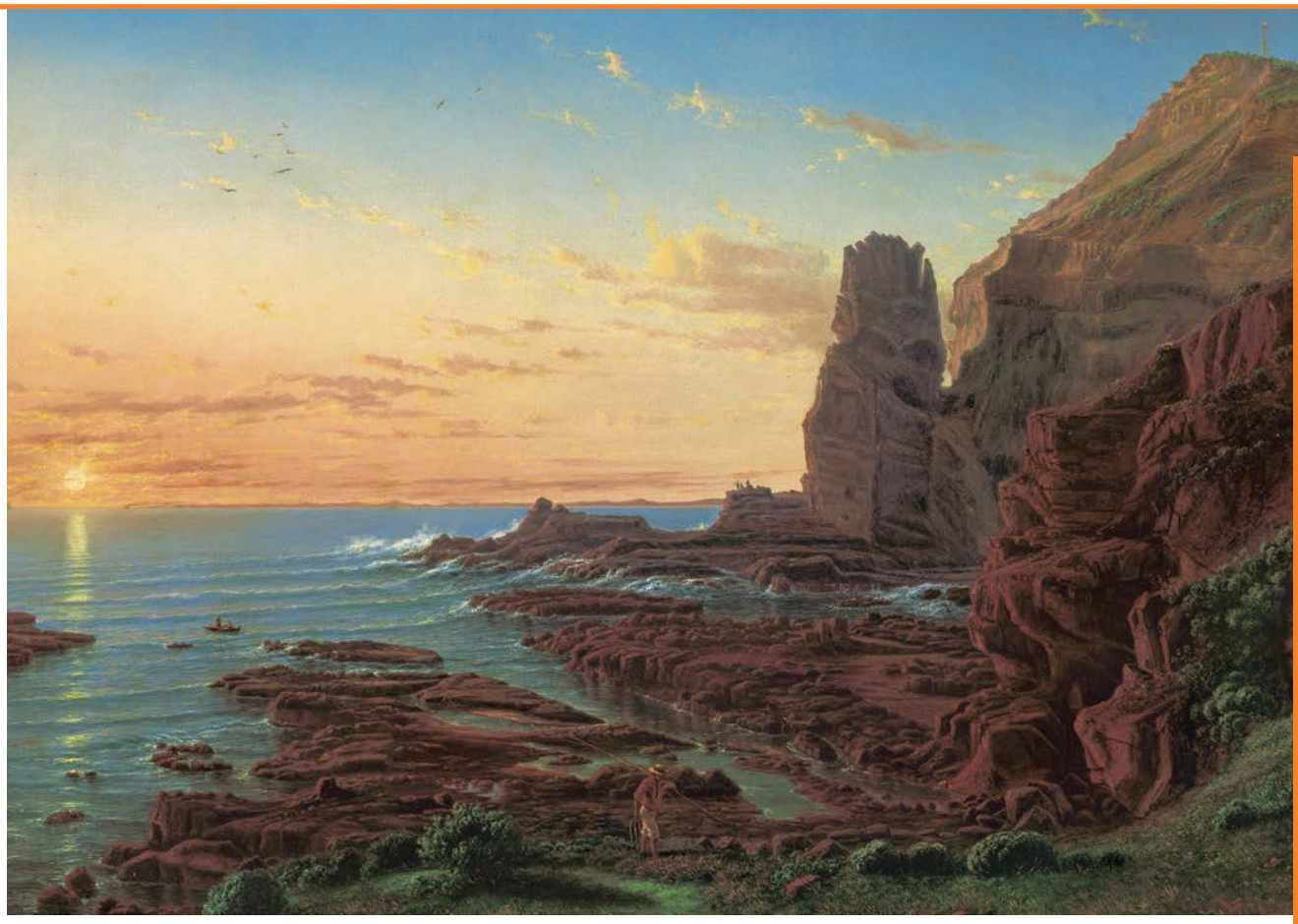
local scale the point of view that focuses on the local area

landform a natrually formed feature on the Earth's surface, having a characteristic shape or form

Paintings of landscapes and landforms usually reflect the **local scale**, as they are a smaller scale than imagined in the music and poetry discussed in this chapter. Source 3.2 shows in great detail the coastal landscape of part of the Sunshine Coast, north of Brisbane. The major elements of the landscape are clearly evident – the **landforms**, the vegetation, the wave action and the weather.



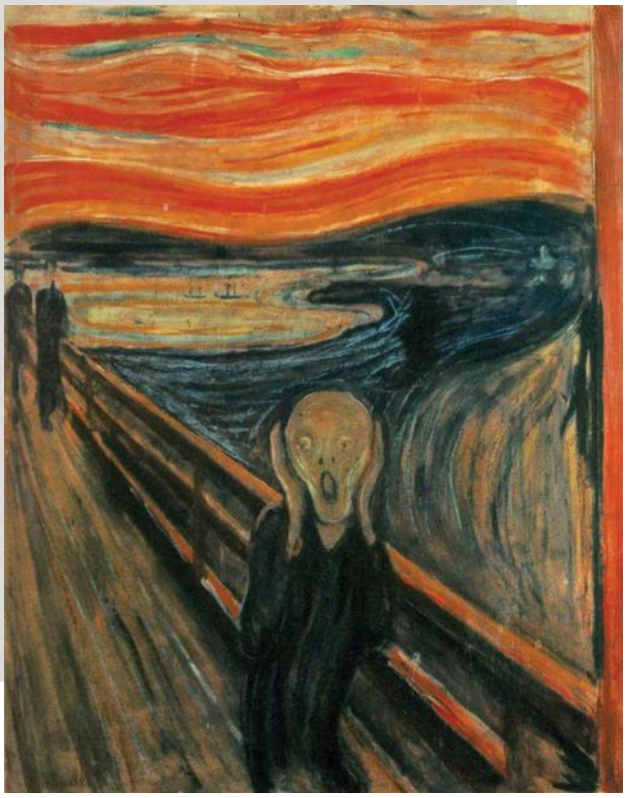
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Source 3.2 *Seascape Point Cartwright* by Ken Wenzel shows the coastal landscape of the Sunshine Coast.

Geographical thought

Source 3.3 might not usually be regarded as a landscape painting except that the original title of the painting was *The Scream of Nature*. Interpretations of *The Scream* – or *The Scream of Nature* (*Der Schrei der Natur*), as Edvard Munch entitled the painting in 1893 – have focused on the depiction of the person in the painting. But could Munch have placed the person in a landscape that reflected the skies seen over northern Europe following the 1883 eruption of Krakatoa? Certainly the spectacular evening skies that occurred over Europe following the eruption were the subject of the work of many artists, including William Ashcroft who painted the skies for 3 years following the eruption.



Source 3.3 *The Scream* – related to a volcanic eruption or not? Did Munch use the evening skies associated with the eruption of Krakatoa for his iconic painting?

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Landscapes and landforms in Aboriginal and Torres Strait Islander peoples' art

Art is a significant and sacred part of Aboriginal and Torres Strait Islander culture. Much Aboriginal and Torres Strait Islander art conveys spiritual meaning, and many of these artworks are inspired by the stories from the **Dreaming**. This type of art shows a deep understanding of and connection to the land, with a heavy focus on the origin of landforms and landscapes. Often, specific features of landscapes and landmarks are represented in forms showing a spiritual and symbolic interpretation, using the legends and stories from the Dreaming.

Dreaming a central concept in Aboriginal culture that explains how the world works through creation stories

The most popular formats of Aboriginal and Torres Strait Islander artworks vary from dot painting, to rock painting and cave painting, to bark painting. Dot paintings usually represent an aerial view of the land below, and can be equated to a map, showing all the vast amounts of desert beneath. Artists use natural sediments mined from ochre pits to draw and paint, and use colours like red to represent the earth and white to represent the sky. Not only do Aboriginal and Torres Strait Islander artists draw upon the influence of the landscape and their surroundings, but they also use them as the main tools by which to create their art.

Early Aboriginal artists such as Albert Namatjira were heavily influenced by the European style of art. However, despite this influence, Namatjira's art still focuses on Australian landscapes and landforms.



Source 3.4 One of the pioneers of Aboriginal art was Albert Namatjira, who used the Australian landscape as inspiration for his artwork. This image shows one of his paintings, *Ghost Gum, Mt Sonder*, represented on an Australian stamp.

3.2 Landscapes and landforms as sources of identity

Landscapes and landforms not only represent the geographical makeup of a land, but also create a feeling of uniqueness when it comes to its inhabitants. A country such as Australia has a very strong sense of identity regarding its landscapes and landforms.

Australia is personified in many ways by the media, and more recently by famous personalities like Steve Irwin, who invited the rest of the world to witness the different environments and beauty that Australia has to offer. From the desert landscape to the coast and the vastness of the Great Barrier Reef, Australia is represented as an exotic paradise, comprising all types of terrain. This in turn creates the representation of Australians as resilient and adventurous, with a deep connection to the land and all it has to offer. This idea of a deep connection to the land can be seen in Aboriginal and Torres Strait Islander culture. Aboriginal Dreaming stories and legends of the Torres Strait explore the creation of people, animals and the land. Aboriginal and Torres Strait Islander peoples believe they are born out of the earth, the mountains and the sky, and therefore will always have a strong connection to it. This connection to the land has remained the central focus of Aboriginal and Torres Strait Islander cultures to this day.

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DEVELOPING YOUR UNDERSTANDING 3.2

1 Define the term 'identity'.
2 Explain how landscapes and landforms shape identities.
3 Reflect on why landscapes and landforms are important in shaping the identities of Aboriginal and Torres Strait Islander peoples.

3.3 Meanings associated with landscapes and landforms by Aboriginal and Torres Strait Islander peoples

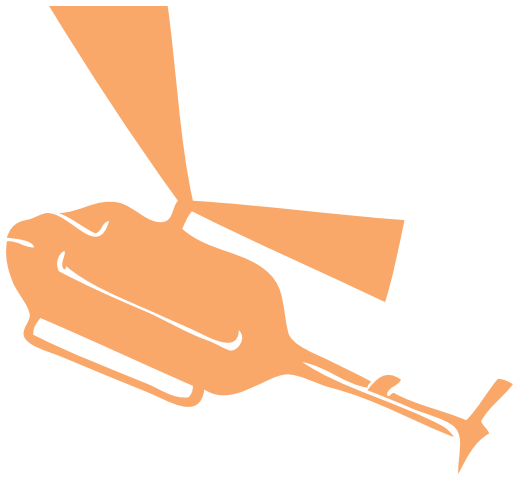
> There is another dimension that invests land with meanings and significance – which transforms land and environment into landscape, and into 'country'. That other dimension is culture. Culture is what enables us to conceive of land and environment in terms that are different to conventional European notions. To us Indigenous peoples all landscapes are cultural … In fact, 'landscape' and 'environment' are human constructs – they are terms that are inherently shaped by the ways in which humans perceive, or think about the world around them.

Source 3.5 Quotation from Mick Dodson (1995)

Aboriginal and Torres Strait Islander peoples have cared for country on this island continent and on the islands for tens of thousands of years, and still tell cultural stories about its creation. They have evolved durable ways of living that have sustained them for countless generations.

The statement by Aboriginal scholar Mick Dodson in Source 3.5 highlights that 'nature' and 'culture' are not separate. Aboriginal and Torres Strait Islander peoples have lived in, walked over, managed and celebrated Australian landscapes and landforms for many years. These landscapes and landforms are in fact **anthropogenic**. There is no empty space and no wilderness. Rather, all landscapes and landforms are particular places with particular cultural meanings. These meanings are often reflected in place names and stories. In this way, landscape, landform, creation or Dreaming stories and place names are interconnected for Aboriginal and Torres Strait Islander peoples. For example, the south-west of Western Australia is the traditional country of the Nyungar people. Their word *manjar* means a place where a fair or trade occurs; where families of people gather for kinship and in-law making; where mothers, fathers and old people get together; and where young men and women who have 'come of age' meet future husbands and wives. There are several places, like Manjimup, Manjaree and Mandurah, whose names show their importance in Nyungar culture.

anthropogenic human-made



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DEVELOPING YOUR UNDERSTANDING 3.3

What place names near you are Aboriginal and Torres Strait Islander words? Who are the traditional owners and what is their language? Investigate the possible meanings of these place names. Research online for lists of words that can help you in your quest. Copy the graphic organiser on the right and record your discoveries. An example is shown for 'Manjaree'.



Geographical thought

The Kari-oca Declaration asserts that ancestral and current family ties connect Aboriginal and Torres Strait Islander peoples to lands for which they are responsible. These cultural and ancestral connections have been the basis for land rights struggles. They also underpin struggles for self-determination, or the right of Aboriginal and Torres Strait Islander peoples to govern themselves and their lands.

We, the Indigenous peoples, walk to the future in the footprints of our ancestors. From the smallest to the largest living being, from the four directions, from the air, the land and the mountains. The creator has placed us the Indigenous peoples upon our Mother the Earth. The footprints of our ancestors are permanently etched upon the lands of our peoples. We, the Indigenous peoples, maintain our inherent rights to self-determination. We have always had the right to decide our own forms of government, to use our own laws, to raise and educate our children, to our own cultural identity without interference. We continue to maintain our rights as peoples despite centuries of deprivation, assimilation and genocide. We maintain our inalienable rights to our lands and territories, to all our resources – above and below – and to our waters. We assert our ongoing responsibility to pass these on to the future generations. We cannot be removed from our lands. We, the Indigenous peoples, are connected by the circle of life to our lands and environments. We, the Indigenous peoples, walk to the future in the footprints of our ancestors.

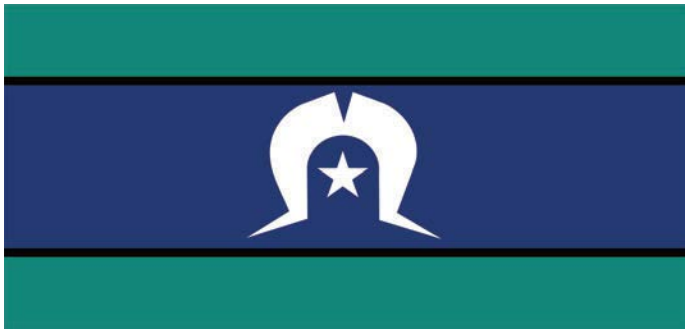
Source 3.6 The Kari-oca Declaration, signed at Kari-oca, Brazil on 30 May 1992

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The symbolic meaning of the Torres Strait Islander flag

An understanding of the land is an important part of Torres Strait Islander culture and beliefs. This deep connection to the land and landforms is depicted in the Torres Strait Islander flag (see Source 3.7), which symbolises the relationship between the land, the sea and the people with a message of harmony and peace. The green panels at the top and bottom of the flag represent the lush green land, the blue represents the sea that surrounds the land, the thin black stripes and white **dhari** represent the people. Underneath the dhari is a white five-pointed star, which represents peace and unity among the five-island groups. This star is also used by Torres Strait Islander peoples for navigation.

dhari a type of headdress



Source 3.7 The Torres Strait Islander flag

DEVELOPING YOUR UNDERSTANDING 3.4

1. Explain how the Torres Strait Islander flag reflects its people and their connection to landscapes and landforms.
2. Investigate why the star shown on the flag is representative of the types of navigation tools used by Torres Strait Islander peoples.
3. Suggest what aspects of the flag show that Torres Strait Islanders are a seafaring people. What is the importance of this to their culture and way of life?

3.4 The role of landscapes and landforms in tourism

The tourism industry employs thousands of people worldwide who depend on the regular arrival of tourists. Not every town is a tourist destination, but few towns are without either a billboard or a tourist centre identifying the attractions of their town.

Geographical thought

In the 12 months to March 2013, 6.2 million visitors came to Australia.



Source 3.8 Kimba's claim to fame – 'halfway across Australia'

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Kimba and Wudinna, South Australia

Kimba's claim to fame as a tourist destination is that it is halfway across Australia. Why do places need a 'claim to fame' or to advertise a particular feature? The answer is simple: when tourists stop, they spend money. This means that people providing goods and services are employed and supporting their families. This is a **flow-on effect** of tourism.

flow-on effect another change that will follow if a change is made

The town of Wudinna in South Australia has a tourist information park adjacent to the highway. In it is located a series of panels about the interesting landforms in the surrounding area. If the town did not have this, tourists might not stop. The panels indicate an interesting geological history of the area, which has resulted in a current landscape that features some intriguing formations.



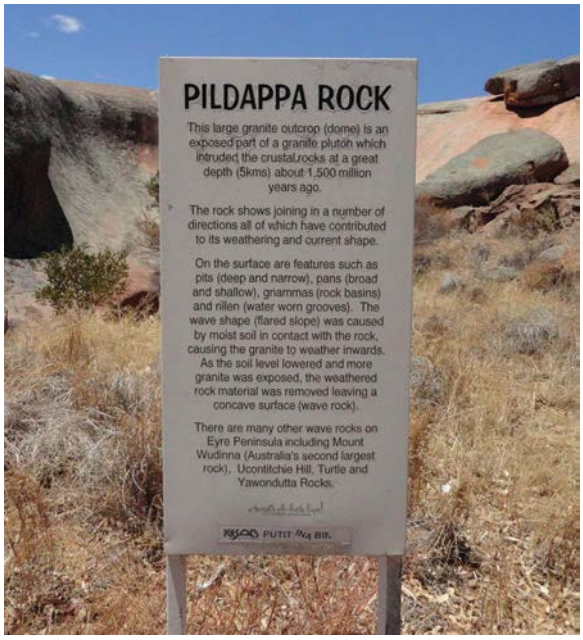
Source 3.9 Pildappa Rock from the connecting road

Geographical thought

Pildappa Rock is a granite outcrop. Granite is a volcanic rock formed underground. To be exposed on the surface, millions of years of weathering and erosion will have taken place to reduce the land surface to this level. But Pildappa Rock is no ordinary lump of granite exposed on the Earth's surface. The images on this page show you what a remarkable natural feature Pildappa Rock is.



Source 3.10 Pildappa Rock is a typical 'wave' rock formation.



Source 3.11 Information about Pildappa Rock

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Uluru, Northern Territory

Uluru is one of Australia's most iconic tourist attractions, recognised all around the world. It is a large sandstone monolith that is 348 metres high and has a circumference of 9.4 kilometres. In 1983, Prime Minister Bob Hawke announced the federal government's intention to hand ownership of Uluru back to its traditional owners, the Anangu people. However, the agreement required the traditional owners to lease the park to the Australian National Parks and Wildlife Service for a period of 99 years.

The park is recognised by UNESCO as a World Heritage Area for both its natural and its cultural values. An average of around 39 000 people visit Uluru annually, providing a large economic boost to the Anangu people. This tourism also allows them to educate visitors and demonstrate their traditional customs, beliefs and traditions. This has been facilitated by the construction of a cultural centre, where tourists can come to learn about the traditional law of the Anangu people and the foundation of Anangu culture.

Geographical thought

The Australia Tourism Commission introduced a campaign in the mid-1980s to promote Australia as the perfect holiday destination. Starring Paul Hogan, the 'Come and say G'day' campaign was riding on the success of the Australian film *Crocodile Dundee*, which also starred Hogan. The movie was received extremely well in the United States, and catapulted Hogan to stardom. The 'Come and say G'day' marketing initiative used a different approach by showing the accessibility of Australia to the rest of the world. Images of golden sands, impeccable beaches and a lazy attitude to life transformed Australia into an attractive vacation destination, rather than a strange, distant land with a seemingly treacherous terrain and wildlife. This campaign, which showed the 'gentler' side of the Australian landscape, promoted an awareness of an exotic and fascinating place, but also developed a sense of familiarity that appealed to all tourists.

RESEARCH 3.1

Where are Australia's major tourist landscape and landform destinations?

1. Have your classmates list what they believe are Australia's top 10 tourist landscape and landform destinations.
2. Use these lists to make a top 10 list for your class.
3. Conduct an internet search of Australia's top 10 tourist landscape and landform destinations. Did your list match the internet search list?
4. Discuss why the two may be different.

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Grand Canyon, United States

The Grand Canyon National Park attracts about 4 million tourists per year, and is one of the most visited tourist attractions in the United States. The park, established in 1919, is now part of the UNESCO World Heritage List and makes just under US$5 million per year through tourism, which has a huge impact on the economies of the state of Arizona and the United States generally. Tourist activities such as hiking and helicopter rides are among the popular activities the park offers to the public.

RESEARCH 3.2

Divide your class into groups and select one of the following national parks:

- Yellowstone
- Grand Canyon
- Everglades
- Uluru
- Wet Tropics
- Great Barrier Reef.

Identify the positive and negative effects tourists have had on these parks. Present your findings to the class as a PowerPoint presentation.

Why leave Australia?

With so much to see and do in Australia, it is a wonder that anyone would want to travel overseas for a holiday. Australia has the Gold and Sunshine Coasts, the Great Barrier Reef, the rainforests, the Blue Mountains, the Twelve Apostles, Bondi, Uluru, Darwin, Sydney and many other attractions. However, despite these attractions, Australians are holidaying abroad in increasing numbers. So what are Australians looking for overseas?

Different landscapes: the glaciers of the South Island of New Zealand attract tourists, as do the rice terraces of Bali.



Source 3.12 Fox Glacier, New Zealand



Source 3.13 Rice terraces near Ubud, Bali

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Adventure: Australia's highest mountain does not represent a challenge for those who are interested in climbing, and climbing isn't the only route to adventure. More and more people are setting their sights on Antarctica as a tourist destination. Managing tourism in Antarctica has become a source of concern internationally.



Source 3.14 Tourists at the Argentinean base in Antarctica



Source 3.15 Accepting the Antarctic challenge of being immersed up to the neck in the waters of the crater of Deception Island volcano off the coast of Antarctica, where the water temperature is 3°C

Danger: for some, the idea of climbing a mountain peak provides a sense of adventure, just as careering through a white water stretch of a river on a rubber raft provides a sense of adventure for others. Both of these have a sense of danger attached, and danger can attract tourists. There are two easily locations accessible from eastern Australia where a tourist may feel a sense of danger. One is Mt Yasur on the island of Tanna in Vanuatu; the other is Anak Krakatau in Indonesia. Both are active volcanoes. Mt Yasur erupts on a regular basis about every 20 minutes. Anak Krakatau is less predictable, and may be far more violent when it erupts.



Source 3.16 View from the rim of Mt Yasur as eruption of ash and lava occurs



Source 3.17 Ash columns quickly being dispersed above Anak Krakatau

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History: those who want to connect with history have a wealth of places to visit, including Borobudur temple in Java, Angkor Wat temple in Cambodia, the pyramids in Egypt and Machu Picchu in South America.



Source 3.18 Angkor Wat, Cambodia



Source 3.19 The Great Pyramid of Giza, Egypt



Source 3.20 Elephants leaving a waterhole, Africa

Biodiversity: whale watching and bird watching are popular tourist activities in Australia, as is experiencing a rainforest ecosystem. However, to see the annual migration of the wildebeest, the majesty of a herd of elephants crossing the savanna or just the savanna itself, it is necessary to go to Africa. Zoos can create some semblance of the original habitat, but can never provide the real-life and real-time experience of being there.

biodiversity the variety of life forms and the interaction between them in a given area

The culture of another country: this can include learning about different foods, clothing, customs, religion or language. Many of these cultural features actually deter Australians from going to some places. Even toilets in other countries can be a major challenge, especially as people grow older. How do you use a 'bidet' found in many cities of French origin or, as an elderly person, cope with the 'squat' toilets common throughout south-east Asia?

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Reflecting and consolidating

Chapter summary

- Different people place different values on landscapes and landforms, including aesthetic, cultural and spiritual values.
- Landscapes and landforms play a significant role in the arts (art, music, poetry, film and literature) and shaping identities.
- Aboriginal and Torres Strait Islander peoples place multi-layered meanings (material, cultural and spiritual) on landscapes and landforms.
- Iconic landscapes and landforms, such as Uluru and the Grand Canyon, attract tourists from all over the world.

Short-answer questions

1 Describe the difference between aesthetic, cultural and spiritual values in relation to landscapes and landforms.

2 Discuss how landscapes and landforms influence the arts.

3 Suggest why the land is so important to Aboriginal and Torres Strait Islander traditions and culture.

4 Explain the role of landscapes and landforms in the tourism industry.

5 Analyse how the 'flow-on effect' of tourism impacts the local economy.

Extended-response question

Landscapes and landforms help to evoke a feeling of identity for their inhabitants. Different landscapes help shape people's identity and create a sense of belonging. Reflect on the different landscapes and landforms Australia and the world have to offer, and explain how they have formed the identities of local populations.

Source 3.21 Horse Shoe Bend, Arizona, United States



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4 Managing landscapes

Before you start

Main focus

It is important for the future of landscapes that we sustain biodiversity to meet the economic, ecological, socio-cultural and spiritual needs of humanity. There are different views about the value and protection of environments, including those of Aboriginal and Torres Strait Islander peoples.

Why it's relevant today

Modern lifestyles place many pressures on our landscapes, which can reduce their integrity and their capacity to support human society. We need to find ways of being that will support and promote sustainability.

Inquiry questions

- What are the different views about the value and protection of particular environments?
- How are landscapes threatened by human activities?
- What is the contribution of Aboriginal and Torres Strait Islander knowledge to the use and management of landforms and landscapes?
- What is being done to protect significant landscapes?

Key terms

- Climate change
- Rehabilitate
- Ribbon development
- Scientific consensus
- Stewardship
- Sustainability

Let's begin

Landscapes have changed dramatically over the course of history as a result of climate change and human activity. Aboriginal and Torres Strait Islander peoples learned to adapt to these changes, and also created some changes themselves. Since European settlement, however, human pressures and now climate change have become more intense. Our insights can help us achieve more sustainable lifestyles, and these can help to protect cultural landscapes and society.

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4.1 Different views about the value of environments

Australia is the world's largest island and smallest continent. It features a range of different landscapes, all used for different purposes and possessing different values. The landscape varies from cosmopolitan cities to dry deserts, and from rich rainforests to long coastlines.

Australia is quite different from the rest of the world. Many Australian views and values come from a European heritage. However, Aboriginal and Torres Strait Islander peoples celebrate values based on of the land itself.

The typical calendar in Australia, featuring summer, autumn, winter and spring, was imported from the Northern Hemisphere. It does not always fit very well with the weather we actually experience in many parts of Australia. Traditionally, Aboriginal people travelled around the country according to the seasons in their own landscapes. The seasons were defined not by calendar months, but by weather, such as the onset of the rains or winds coming from a certain direction, the availability of food and the need for social gatherings. For example, they might spend the warmer months on the coast and at coastal wetlands, fishing and collecting fruits, and the cooler months in the hinterland, sheltering from the storms and hunting for forest animals.

Australians have many different worldviews and these affect how we see a landscape. To one Australian, a landscape may be full of spiritual and aesthetic values, while to another it may be a space for recreation and tourism. These different views depend on your background, your connection to the landscape, your lifestyle and your views of culture and the environment. The view of a particular environment possessed by a particular group will commonly be linked to their ideas about environmental sustainability. These worldviews can conflict with, relate to or complement one another.

Source 4.1 Deserts are important national landscapes.



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Commodity

commodity a product that can be bought and sold

economic value a dollar amount placed on an asset to show how much it is worth

A **commodity** view of the environment suggests that land can be owned and traded freely, and that such trade puts property to its greatest use. A commodity view is expressed through buying and selling land for financial reasons, where the focus is on properties for the purposes of investment. It promotes **economic values**.

Productivity

productivity the total economic output compared with the input of resources

The **productivity** view of the environment is about putting environmental resources to use for the betterment of society and to enable profit to be generated by industry. The concept of productivity treats the environment as a standing stock of resources to be owned and used through technology. This view underpins the role of farming, fishing and mining in the economy. Like the commodity view, it promotes economic values.

Spiritual

A spiritual view of the environment evokes awe, humility and wonder. It suggests a deep personal connection to the environment; a sense of place and a feeling of responsibility towards it. It supports cultural and sometimes ecological values.

Ecological

biodiversity the variety of life forms and the interaction between them in a given area

An ecological view of the environment places value on the **biodiversity** of genetic makeup, species and ecosystems, and on ecological processes and natural cycles. An ecological view is often expressed by conservation biologists and ecologists. It is usually scientific in basis, and therefore does not normally involve a spiritual, cultural or human dimension. The ecological view is an important rationale for the protection of nature in special nature reserves. It supports ecological values.

Community

A community view emphasises public access to the environment and the right of everyone to enjoy it freely for social interaction and recreation. In this view, the community has a shared sense of belonging and ownership. It also maintains that the public should behave properly in relation to the environment, according to social norms of the day such as respecting the environment by not littering, and not interfering with others' enjoyment of the environment. A community view supports social values.

Landscape

The landscape view of the environment usually involves a **holistic** understanding of the visible features of an area of land, including physical landforms such as mountains, rivers and oceans; living elements such as vegetation; human elements such as heritage, buildings and land use; and the weather. Landscapes are often valued for their visual appeal to people, and they often have strong cultural elements. The landscape view supports a range of values.

holism a belief that complex environmental processes need to be understood as a whole, rather than seen simply as a collection of individual parts

Overlapping and conflicting views

The different views discussed above can overlap; for example, a landscape view and an ecological view have many elements in common, but differ in the emphasis placed on human activity and culture. Social conflict can occur when different views in society are in tension with each other. For example, in relation to mining, we often see conflicts between Aboriginal and Torres Strait Islander peoples' rights and productivity, ecological and other views. Miners usually want to extract mineral resources for maximum productive value and profit. Conservationists usually want to protect the ecological values of the same area. Some **traditional owners** may want to protect their traditional cultural values in an area, while others in the same area may want to embrace mining

traditional owner an Aboriginal or Torres Strait Islander person recognised as having primary spiritual responsibility for the land

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for its promise of job and wealth creation. Often, social, cultural or ecological values are traded off to create economic benefits.

Sustainability view

sustainability wise use of resources so they are available indefinitely into the future; society, environment and economy must all be considered carefully

From a **sustainability** viewpoint, we seek to combine rather than trade off ecological, cultural, social and economic values. This entails creating technologies and livelihoods for people that also protect the environment, strengthen society and respect cultures.

The role of the whole community is very important in sustainability for several reasons. Involving the community in environmental management can bring in creative strategies and decisions that reflect the values and interests of the community, sometimes including spirituality. Sustainability is most likely to be achieved when the community has sound ecological knowledge and a strong sense of place and belonging. In working towards sustainability, community discussions about people's worldviews on the environment can help to develop a shared understanding of all values and how to combine them.

When we can successfully combine ecological, cultural, social and economic values, we are beginning to tread lightly on the Earth and move towards sustainability. For example, rather than locating industrial development, nature conservation, social activity and cultural heritage at different points on the landscape, we could make these activities more compatible so they could support each other and exist together in the landscape. Here are some examples of ways in which we are starting to do this:

rehabilitate to restore an ecosystem to health through, for example, tree planting

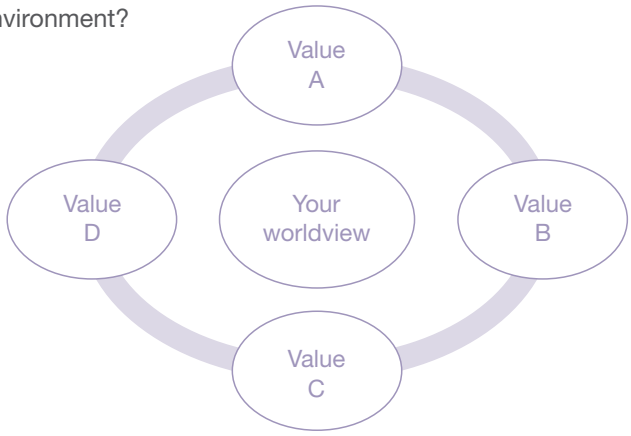
infrastructure structures and services needed for society to operate properly, such as transport, water supply, health services, education systems, waste disposal systems and telecommunications

- Miners can **rehabilitate** a mine site to restore its ecological value, and can also provide recreational **infrastructure** like a swimming pool for the local community.
- Farmers can plant a variety of native trees as windbreaks on their farms. The windbreaks can provide for plant and animal diversity, and also increase the productivity of the farm by protecting the pasture and the livestock. The trees can also add visual appeal to the landscape.
- National parks can be managed jointly by a government conservation agency and traditional owners to support both ecological conservation and Aboriginal and Torres Strait Islander peoples' **empowerment** and cultural values. Renewable energy and passive solar design can be used for the park facilities. Tourism can develop as a result of the joint management practice. Community education and the local economy can then also be enhanced.

empowerment the ability to make decisions, access resources and create change

DEVELOPING YOUR UNDERSTANDING 4.1

What do you value most about your environment? Copy the graphic organiser and summarise your main values. What do you conclude that your view may be? Write it down in the central circle.



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4.2 Coastal landscapes and the threat of human activities

Australians are famous for their love of the outdoors and appreciation of the landscapes the country has to offer, particularly their passion for the coast. The interaction of sea, sky and land at the coast provides a powerful sense of place and identity for many Australians. Unfortunately, in many places our love creates pressure on the coast. **Climate change** is now recognised as an additional human impact that is likely to have serious implications for the coast in the coming decades.

climate change a long-term trend in the Earth's weather patterns, including a change in average weather conditions (such as increased atmospheric temperature) and/or in the distribution of weather around the average conditions (for example, more extreme weather events)

The ocean is the basis of life on Earth. It drives our weather systems. It is the nursery in the food chain. It provides us with plant and animal foods, pharmaceutical products and transport. It produces oxygen and absorbs carbon dioxide. The coast, where the ocean meets the sea, can also provide people with a beautiful place to live, work and play.

Australia has one of the longest and most ecologically diverse coastlines of any nation in the world. It has a long geological history. It has been shaped by many climates, and by the currents, waves and tides of our oceans. Our coastline has a wide variety of ecological habitats and important biodiversity.

In southern Australia, strong wave action has carved large cliff faces along the Great Ocean Road and along the Nullarbor coast. Massive deposits of marine sand have created extensive beaches and dunes, and often close off the mouths of estuaries such as the Coorong, where the Murray River meets the sea. Off the coast, the temperate rocky reefs support kelp forests up to 30 metres high, with unique species and extensive fisheries.

Source 4.2 Beachgoers on a summer's day, South Beach, Western Australia



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Source 4.3 Pelicans fishing at the Goolwa Barrage, near the mouth of the Murray River, South Australia. The main purpose of the barrage is to maintain the freshness of the river by keeping out seawater.

estuary a body of water formed where freshwater from rivers and streams flows into the ocean, mixing with the seawater

Where large rivers reach the coast, we find landforms such as delta systems, coastal lagoons, tidal **estuaries** and large bays such as Sydney Harbour. The coasts are also fed by many smaller streams and creeks.

Australia has thousands of sandy beaches, from the highly popular Bondi Beach in Sydney to the long stretches of remote beach in Western Australia. Our coast also has a diversity of islands, including large sand islands such as Fraser Island in Queensland, small coral rubble **cays** on the Great Barrier Reef, the windswept Recherche archipelago of ancient granite domes near Esperance in Western Australia, and limestone outcrops like Rottnest Island off Perth.

cay a small, low island on a coral reef formed of sand and/or coral pieces

Geographical thought

Australia's coastal biodiversity includes over 4000 fish species and about 43 different species of whales, porpoises and dolphins. The coasts and oceans support 100 seabird species, 76 of which breed and may spend their whole lives in the Australian region. Some 1100 species of seaweed also grow along our coast. Around 80–90% of species in our southern seas occur nowhere else in the world. Australian waters are home to 39 of the 68 mangrove species that occur worldwide, six of the seven species of marine turtles and 34 of the world's 60 seagrass species. However, this biodiversity is under pressure: 58 native marine species are listed as threatened.

Uses of the coast and their pressures

Australia's oceans and coasts are dynamic and unpredictable, yet provide many values and amenities. The uses of the coast discussed below bring great benefits to many people, but also place many harmful pressures on the environment. These can also harm people. The challenge of caring for our coasts and creating sustainability is to resolve the tension between our desire for a healthy environment in which we can play and reconnect with nature and our need for services, and residential and economic activity.

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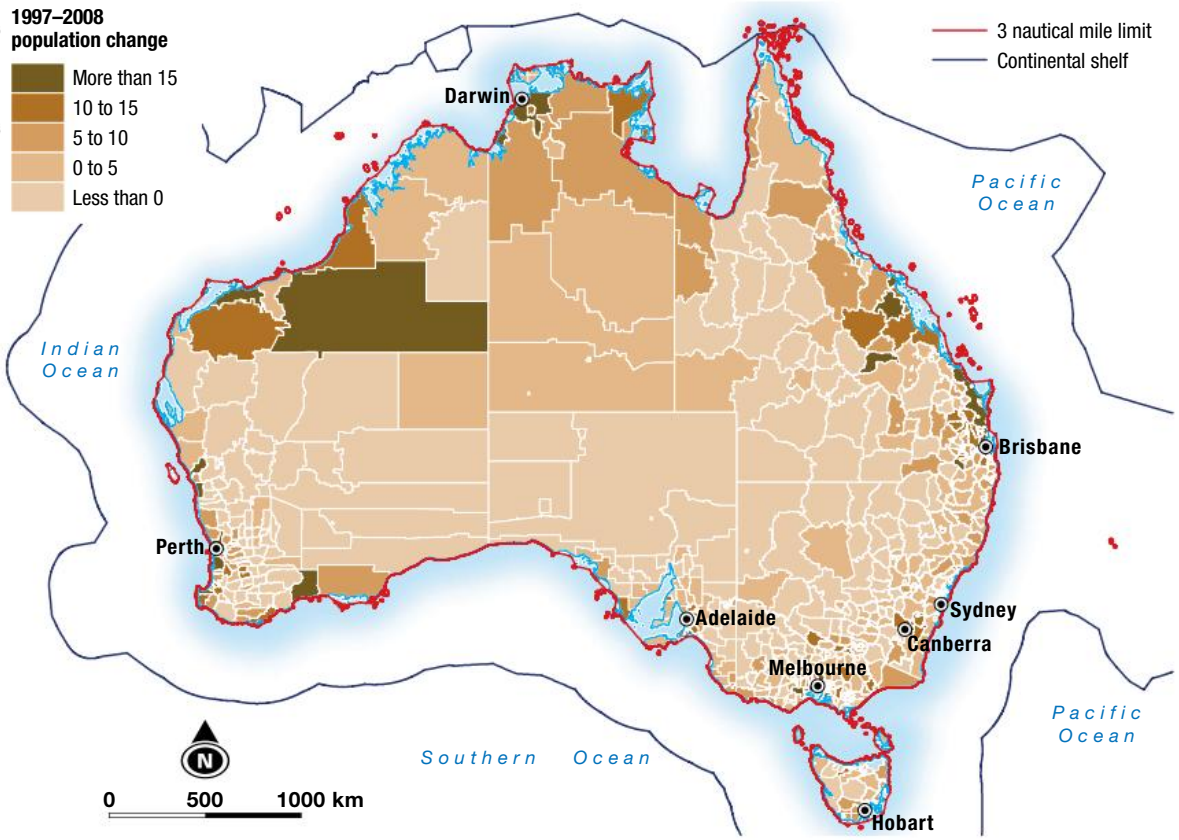
ribbon development the spread of urban areas along transport routes, such as main roads, bus routes and railway lines

Building and development

Since European settlement, urban development on the coast has grown alongside port and supply infrastructure. As the human population has increased, **ribbon development** has occurred along the coast. Over 90% of Australia's population now lives on the coast, predominantly in capital cities or southern regional coastal towns.



Source 4.4 Apartment buildings on Sydney Harbour's coastline



Source 4.5 Recent percentage changes of population in Australia – note the increases in coastal areas. (Source: CSIRO)

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Recreation and tourism

Tourism has become a major industry in Australia over recent decades, especially in the marine and coastal environment. The Great Barrier Reef, Sydney's beaches, the Gold Coast, Phillip Island and Sea World are all highly popular destinations. Most international visitors rate beautiful scenery, vastness, cleanness, natural wonders and wildlife, and good beaches as reasons for visiting Australia. Tourism development often encroaches on land in its natural state, and creates a complex set of demands on coastal resources. Recreational fishing, surfing, scuba diving and sailing are features of many Australians' lives.



Source 4.6 Recreational fishers, Shark Bay, Western Australia



Source 4.7 Longboarder, South Cottesloe, Western Australia

Pressures on the coast due to recreation and tourism include:

- tourism and recreation facilities expanding on to natural environments and destroying them
- incorrect boat anchoring causing destruction of corals and seagrass beds
- waste disposal from boats causing a reduction in water quality
- trampling and off-road vehicles causing destruction of coastal vegetation and dune structures
- treated and untreated sewage from island resorts causing local pollution
- tourism and recreation activities destroying the very basis of their existence in Australia: a clean, beautiful natural environment
- mass tourism affecting local communities and cultures, with or without bringing financial benefits
- recreational fishing heavily reducing numbers of popular target species.

Source 4.8 Scuba diving in the Great Barrier Reef is a popular tourist attraction, but it comes at a cost to the environment.



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Aquaculture

Global production in aquaculture has been expanding. Molluscs and seaweeds are the main organisms farmed in seawater; however, marine finfish and crustaceans – for example, salmon and prawns – tend to be the more valuable species. In Australia, oysters, both edible and pearl, form the main part of mariculture, with salmon, trout, abalone, marine finfish and giant clam production expanding quickly. They are usually grown on the coast and can have impacts on coastal ecology and use.

Pressures on the coast resulting from aquaculture, especially sea-cage mariculture, can include:

- **discharge** of untreated wastes from cages or pens
- mass escapes from sea cages
- diseases and parasites, which can spread to wild populations the use of toxic chemicals
- habitat damage through **siltation** and altered currents
- visual effects.

discharge release

siltation the process of sand or earth being carried by running water and forming sediments in marine areas or water reservoirs

Fish feed is also a major consideration with finfish farming. Wild fish such as sardines are made into meal to feed farmed fish. This practice depletes the numbers of wild fish. From a social point of view, the need for high-quality protein to feed fish means that commercial fish farming tends to produce expensive products for the wealthy at the expense of cheap protein for poor people.

Agriculture

The high-rainfall coastal region of Australia includes much of the east coast, Tasmania and south-west Western Australia. This region features fertile flood plains, so it is highly productive for agriculture in many places. It also contains Australia's largest cities, and in these areas agriculture often competes for space with urban development. The **wheat-belt zone** lies largely between the coast and the dry interior, but it is also connected to the coast by waterways. The **pastoral zone** stretches throughout inland Australia across all states and territories; cattle and sheep are grazed at very low densities in this zone, and crops are not usually sown. The pastoral zone reaches the coast in the north, and even inland pastoral country is connected to the coast via waterways, so its sphere of influence can be large. The key point in terms of coastal impacts is that much of our agricultural land – even the hinterland – is connected to the coast by water.

wheat-belt zone the agricultural area where wheat is grown

pastoral zone inland areas of Australia where the climate is too dry to sow pasture or crops but livestock can be grazed on native vegetation

The pressures on the **coastal zone** from agriculture include:

- the loss of coastal habitat and biodiversity due to land clearing
- pollutants in the form of fertilisers, pesticides and pathogenic organisms from animal manures carried down waterways to the sea
- nitrogen and phosphorus reaching estuaries and coastal waterways, causing **eutrophication**; this leads to algal blooms, 'cappuccino scum', anoxic and hypoxic events, and fish and shellfish kills
- specific toxins poisoning marine organisms
- soil erosion in catchments generating high loads of fine suspended sediments, which can smother organisms on the coast.

coastal zone the zone where the sea and the land meet

eutrophication a process whereby excess nutrients run off the land into lakes and rivers, causing unhealthy levels of plant growth

The effects of agriculture on coastal waterways highlight the interconnected nature of catchments: actions taken by farmers several hundred kilometres inland can impact on coastal health. Declining water quality is a big threat to the ecosystem of the Great Barrier Reef, which is exposed to increased levels of sediments, nutrients and pesticides. These result in mangrove **die-back** and increased amounts of algae on coral reefs close to shore.

die-back a condition in a plant where the shoots or branches die from the tip

Commercial fishing

Australia's commercial fisheries include prawns, rock lobster, abalone, scallops, oysters, finfish (including tuna, jack mackerel, pilchards, barramundi and snapper) and pearls. The value of Australia's fishing industry is around $800 million, of which around $700 million is in exports – mainly prawns, rock lobster and abalone – to

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Japan and the United States. Production in many fisheries has been declining from over-exploitation, despite developments in fisheries science and management. There has also been a trend towards larger companies, with some smaller fishers having to leave the industry.

Pressures on the coast resulting from commercial fishing include:

- widespread depletion of fishing stocks
  - local **extinctions** of species
  - wasted by-catch
  - dolphins caught in tuna and other nets
- social disruption in fishers' lifestyles due to depleted stocks and changing regulations.

extinction disappearance of a species



Source 4.9 Rock lobster pots, Abrolhos Islands, Western Australia

Coastal industries

Industries may locate themselves near the coast for ease of access to transport, for easy discharge and disposal of waste or because – like shipbuilding and ports – they are necessarily associated with the sea and the coast. The same is true of sandmining: many mineral sandmining operations are often near the coast because the minerals accumulate in the troughs of ancient dune systems.

A very high proportion of Australia's exports are transported by ship (241 million tonnes), although only around 4% (by weight) are exported by Australian ship. Around 23 million tonnes of



Source 4.10 Locations of ports in Australia and offshore oil and gas wells

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goods are imported. A further 45 million tonnes of goods are carried around Australia by ship. Ports and waterfronts are obviously important links in the import and export transportation. Ports have extensive storage facilities, and their location and contents often cause community concern.

Most of Australia's reserves of oil and gas are offshore. Bass Strait and Western Australia's North-West Shelf are the most significant. The offshore engineering industry that supports petroleum production is economically significant.

Pressures on the coast resulting from coastal industries include:

- land clearing, seabed reclamation and vegetation loss during construction and expansion of industry
- loss of sand to mining
- discharges of various substances, the worst of them including lead, copper, cadmium, mercury and zinc from industrial sources
- **ballast water** introducing foreign species such as Northern Pacific starfish, and **exotic** and toxic algae
- oil spills – the greatest threats from spills are during transportation from remote areas; in tropical areas, fields like Jabiru and the North-West Shelf are also vulnerable to cyclones, making accidents more likely
- visual effects.

ballast water water held in tanks and cargo holds of ships to increase stability and manoeuvrability while under way

exotic not native to an area, usually introduced from another ecosystem or country

RESEARCH 4.1

1 Choose one of the coastal uses discussed above: building and development; recreation and tourism; aquaculture; agriculture; commercial fishing; or coastal industries.
2 Identify and explain the benefits created by the use, and also the environmental pressures created by that use.
3 Present your findings as a poster with photographs and diagrams.

Climate change implications for the coast

In our atmosphere, concentrations of greenhouse gases such as carbon dioxide, methane and nitrous oxide are increasing due to human activities. For example, burning coal produces carbon dioxide. These greenhouse gases are causing our climate to warm and are creating more extreme events such as fires, storms and floods. New records have recently been set for serious bushfires, rainfall and floods. Climate change is also affecting the coast, and will damage coastal land values.

Ocean warming

Much of the heat accumulated in the Earth's system over the last 50 years has been taken up by the ocean. Ocean warming tends to be highest in coastal areas of poor circulation. The rate at which the oceans are warming is slower than for the atmosphere because of the greater thermal mass of the ocean. Sea surface temperatures may rise by as much as 2°C along the south coast of Australia and 2.5°C elsewhere by the end of the century. The decade ending in 2010 was the warmest on record for sea surface temperatures near Australia.

Atmospheric and oceanic warming will alter the abundance and distribution of coastal and marine life, as species respond to their changing environments. Some Australian species and ecosystems are already responding to warming. We are already seeing the decline of giant kelp forests off eastern Tasmania, coral bleaching, dwindling numbers of rock lobster larvae and local extinctions of abalone populations in Western Australia, and southward migration of tropical and temperate species. These trends are set to continue, and we will see further southward movements of tropical and sub-tropical species with local extinctions of coastal species in sub-tropical and temperate areas.

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Sea-level rise

Increasing global temperatures are melting the ice in glaciers and the polar ice caps, and causing thermal expansion of the oceans. Both of these effects contribute to sea-level rise. Sea levels around Australia rose approximately 17 centimetres between 1842 and 2002. According to the most recent **scientific consensus**, sea levels will rise between 0.5 and 1 metres by 2100 if we do not mitigate carbon dioxide emissions. We will see faster rates of change from the middle of the century onwards. However, there is a lot of regional variation in sea levels.

scientific consensus the agreed view of scientists about a particular topic, such as climate change

Sea level rise will eventually cause permanent inundation of many urban and regional coastal areas. Significant losses and degradation of coastal ecosystems, public beaches, infrastructure, housing, land tenure, and commercial and recreational opportunities are anticipated. Coastal erosion and increased storm surges will force human settlement to retreat from the coast well before permanent inundation occurs.



Source 4.11 A king tide in Queensland

Storm surges

As sea levels rise, a small storm surge will travel as far up onto land as a large storm surge does now. Coastal communities will therefore experience an increasing number of storm-related high tides as a result of climate change.

In addition, the intensity of cyclones in tropical regions is likely to increase as a result of climate change. A recent example in Queensland is the impact of Cyclone Yasi on the coast around Cardwell, where there was massive destruction of property and ecosystems. Cyclones are also likely to travel further south.

The impacts of storm surges include more severe and frequent flooding, damage to sea defences, and coastal erosion. These events may cause loss of life and significant damage to coastal ecosystems and infrastructure.

Changes to ocean currents

Ocean currents are changing in response to global warming. Two of Australia's major ocean currents, the East Australian Current and the Leeuwin Current, influence the distribution of marine and coastal flora and fauna. These currents bring warm water to temperate **latitudes**, creating the conditions for tropical flora and fauna to flourish in southern Australian waters. The East Australian Current flows southward from the Coral Sea into the Tasman Sea. Long-term observations show that the East Australian Current has strengthened and extended further southward over the last 60 years.

latitude imaginary lines measured in degrees north and south of the equator

Detrimental impacts are anticipated for cold temperate species and important fisheries such as abalone and rock lobster. The Leeuwin Current flows southward along the Western Australian coast, then eastward across the Great Australian Bight to the west of Tasmania. Changes to the



Source 4.12 Coastal erosion at South Beach, Western Australia after a winter storm

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Leeuwin Current are altering Western Australian coastal and marine ecosystems and fisheries.

Ocean acidification

Oceans absorb around a quarter of global carbon dioxide emissions. Increasing carbon dioxide levels in the atmosphere are also changing the chemistry of the oceans. Carbon dioxide dissolves in seawater, which causes it to become more acidic. The average acidity of seawater has increased by 30% since the beginning of the Industrial Revolution, and is projected to increase by 150% by 2050.

Ocean acidification decreases the amount of carbonate, which is a critical building block for the shells and skeletons of marine animals. These shells and skeletons will become thinner and weaker, making the animals more vulnerable.

Catchment flooding

Changing frequencies and severities of rain-bearing storms and cyclones have serious implications for dam design and flood prevention and management in coastal areas.

Following years of El Niño-related drought, parts of the east coast of Australia experienced flooding during an intense La Niña period in early 2011. As a result of this dramatic flooding of Brisbane, the design and management of the Wivenhoe Dam on the Brisbane River was examined closely.

In south-east Queensland, the effects of more frequent heavy rainfall, storm surge and high tides will be made worse by sea-level rise.

Groundwater changes

Groundwater, found in underground **aquifers**, is an important source of freshwater for consumption, irrigation and ecosystem health. As sea levels rise, aquifers may become contaminated by seawater. When coastal aquifers are contaminated by seawater by as little as 5%, they can no longer be used for drinking water, irrigation, parks and gardens, or for sustaining ecosystems.

aquifer a layer of soil or rock that contains groundwater



Source 4.13 Map of oceans and seas of Australia, and major currents (Source: CSIRO)

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DEVELOPING YOUR UNDERSTANDING 4.2

Copy the table below and summarise four types of climate change effects and what they will mean for people and the environment.

Type of climate change impact on the coast	What it will mean to social or environmental values

Implications for sustainable coastal and marine management

We can summarise the above issues in sustainable coastal and marine management as follows:

- loss of productive rural land to urban and semi-urban development
- increased pressure for the use of coastal recreational resources
- loss and degradation of habitats and environmental resources through development and overuse
- liquid and solid waste management, particularly in fragile coastal environments
- heavier demands on coastal resources such as fish stocks, prime development locations and quarry materials
- increased management costs for local and state governments
- gradual and incremental degradation of coastal environments – beaches, dune systems, wetlands, tree-covered areas, cliffs and headlands, estuaries and waterways



Source 4.14 Overfishing is a serious issue that has dramatic effects on the ocean.

- competition with other activities – for example, tourism and mariculture – for access to coastal resources
- loss of coastal values due to the many impacts of climate change on the coast.

DEVELOPING YOUR UNDERSTANDING 4.3

1. Identify and list the nearest coast to you.
2. Describe the main human activities that occur there.
3. Analyse the impacts of these activities.

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4.3 Aboriginal and Torres Strait Islander knowledge about use and management of landscapes

Geographical thought

The Australian landscape has probably been more strongly influenced by climate change than by Aboriginal and Torres Strait Islander peoples' land use over their 60000+ years of occupation of this land. There have been four major advances of glacier ice during the last 70000 years. The coldest part of the last ice age was between 20000 and 22000 years ago, and only lasted a few thousand years. During the last ice age, the climate was much colder and drier, and the coastline was tens of kilometres seaward of its current position. Some landforms that are now islands were at that time connected to the mainland. Indigenous people occupied many of these islands.

Aboriginal and Torres Strait Islander peoples have experienced and managed land in very different ways from non-Indigenous Australians. Groups and clans also vary in their cultural practices, so there is no single Aboriginal and Torres Strait Islander perspective on the land. However, there are some common features in how Aboriginal and Torres Strait Islander peoples view landscape:

- Landscapes and culture are inseparable; the term '**country**' expresses this idea of a fully cultural landscape.
- Land, sea, waterways and sky are interconnected.
- Cultural stories describe features of country, and some place names and sacred sites reflect these stories.
- Clan identity is closely related to country.
- Clans use resources for **subsistence**, culture and exchange.

country the Aborginal concept of place, which takes in all aspects of the environment, including life

subsistence collection or production of food for oneself and one's family, but not for sale

totem an object representing an animal or plant that is of special significance to a particular group or family

Clans traditionally managed their estates through cultural ceremonies such as song and dance, and many do so to this day. They restricted access to the landscapes according to season, status of clan member, **totem** and presence of sacred sites. Dreaming stories also affect management practices. For instance, Nyungars in the south-west of Western Australia do not push beached whales out to sea, as they are viewed as bringing human spirits ashore.

Indigenous peoples of various cultures farmed or managed ecosystems to various extents. Aboriginal people of Australia and the Australian landscape evolved together as a result of management practices such as **tradional burning**. In some cases, burning was done on a large scale; in other cases, a 'mosaic' landscape of small

traditional burning the ritual practice of setting fire to areas of bushland for environmental purposes and to attract wildlife to the new growth



Source 4.15 Traditional burning in the Red Centre, Australia

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patches was produced through strategic small-scale burning. Burning off is traditionally done by people who have a detailed knowledge of the country, of where and how to light fires, and of the likely movement of the winds. It is a very specialist skill that has been used for many generations. The act of burning managed landscapes benefited travel, hunting, communication and horticulture. It also resulted in the development of a unique growth process of vegetation that provided food and habitats to people and animals.

Geographical thought

Life would have been very hard for Aboriginal people living in the southern parts of Australia during the last ice age, because, for example, temperatures in Canberra would have been around 9°C colder than they are now. Terrestrial, coastal and marine ecosystems were certainly very different, as they were adapted to colder conditions.

DEVELOPING YOUR UNDERSTANDING 4.4

1 Discuss whether Aboriginal and Torres Strait Islander land management is traditionally done by individuals or groups.
2 Evaluate the advantages of this approach. What challenges could there be in this approach?
3 Explain what Aboriginal and Torres Strait Islander peoples mean by the term 'country'.

self-determination freedom to live as one chooses

freehold a form of land ownership, where land is inherited or held for life

Current land use by Indigenous groups in Australia varies. Many believe that **self-determination** and secure title (whether **freehold** or native) over land are important aspects of their cultural sustainability. Current uses of Aboriginal and Torres Strait Islander land include tourism, foraging and hunting, herding of animals, horticulture, national parks (with various degrees of joint control) and residential land.

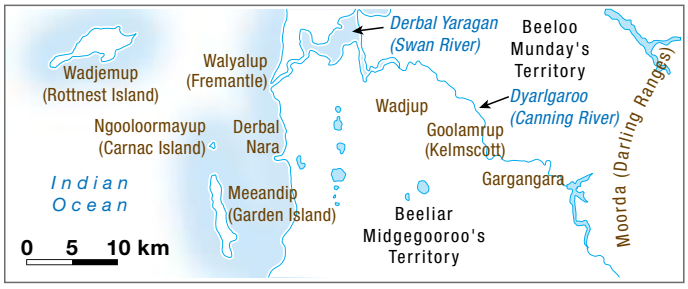
Exciting partnership projects for land management are also starting to appear. One of these is a project operated by the North Australian Indigenous Land and Sea Management Alliance (NAILSMA), which aims to have traditional owners across the top of Australia manage the northern marine turtle and dugong populations, including hunting them for subsistence purposes. Although the project has been very successful, there have been public concerns about Aboriginal and Torres Strait Islander peoples' management of animals that results in the hunting of species that are rare or iconic. However, it is worth noting that it was not Aboriginal and Torres Strait Islander peoples' practices that endangered these marine species in the first place and, overall, Indigenous coastal **stewardship** is more likely to benefit than endanger such species.

stewardship the responsible planning and management of resources



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Protecting landforms of significance to Aboriginal and Torres Strait Islander peoples



Source 4.16 Map showing Nyungar names for key places within Whadjuk country (after Neville Green)

Along the coast of Perth in Western Australia is Derbal Nara, the Nyungar people's name for the area of Cockburn Sound. 'Derbal Nara' means 'estuary of salmon'. It includes the water of Derbal Nara, the islands of Derbal Nara – Wadjemup (Rottnest Island), Ngooloormayaup (Carnac Island) and Meeandip (Garden Island) – the dunes and coastal plains, and the freshwater lakes and waterways.

Nyungar oral histories recount how these islands were once connected to the mainland, during the last ice age when sea levels were much lower (see Source 4.17).

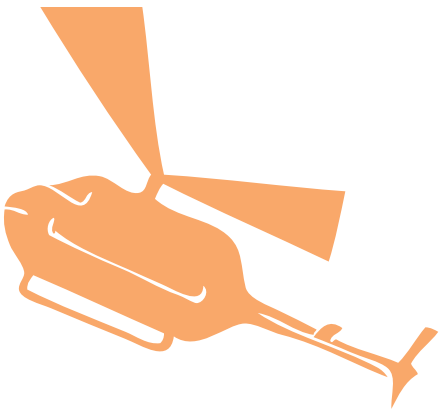
> My grandmother used to live along the river right down there and she reckon they [the ancients] used to walk right out to Rottnest Island; that it was all sandbanks way back. And they used to walk across there and because Rottnest Island is a hill and it stood out when there was no water there … those olden days, things were a lot different.

Source 4.17 Traditional owner and Nyungar Elder Dorothy Winmar narrates one story that was told to her.

When sea levels rose as the last ice age ended some 12000 to 7000 years ago, the islands became separated from the mainland by sea.

> The Walyalup (Fremantle) Dreaming story tells of Yondock, an ancestral crocodile that travelled down from the north, causing floods and disturbances, creating Wadjemup (Rottnest Island), Ngooloormayaup (Carnac Island) and Derbal Nara (Cockburn Sound), and flooding the Derbal Yaragan (Swan River) with saltwater. The Waagle or Rainbow Serpent, guardian of the freshwater, smells the salt and travels down Derbal Yaragan to see what's happening. With advice from Woorriji (a lizard) from the Waagle cave in North Fremantle and strength gained from a freshwater spring at the East Street Jetty, he fights the crocodile, bites off his tail and places the tail across the mouth of the river to prevent saltwater coming upstream. The tail is secured with hair from the armpits of the Waagle on the southern side of the river, and with toenails from the crocodile on the north side of the river. The rest of the crocodile's body remains as Meeandip (Garden Island) and dingoes watch from Cantonment Hill to make sure the spirit of the crocodile is not reunited with its tail. The rock bar at the mouth of the river was a crossing place for Aboriginal men. In the 1890s, with CY O'Connor's plans to create the Fremantle Harbour, the rock bar was blasted to make a deepwater port. Part of the tail remains and is visible from the Maritime Museum.

Source 4.18 Traditional owner Trevor Walley tells how Derbal Nara was formed through a fight between the Waagle and the Spirit Crocodile.



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Source 4.19 The island known as Meeandip looks like a crocodile.

Some Nyungar recognise the above story as describing the rising of the sea levels at the end of the last ice age. These accounts show that Aboriginal and Torres Strait Islander peoples' stories are still relevant to today's communities. By understanding and protecting landforms of significance to Aboriginal and Torres Strait Islander peoples, we preserve the whole cultural significance and history of an area. We can understand the connection between country, Dreaming stories and place names as a holistic cultural account. Stories like the one above also help to record and link human experience to dramatic changes in geography and climate over the long haul of our history.

Preserving values of a landscape

Traditional owners, local governments and academics have worked together on a project that aims to record the Whadjuk Nyungar history of Derbal Nara (or Cockburn Sound). The project makes a major contribution to the representation of Nyungar coastal and marine values. The city project partners have created a resource available online to educate others about the Aboriginal history of the area. It describes creation stories, the features of the land, and trade and exchange. To view the complete resource, visit www.cambridge.edu.au/hass8weblinks.



Source 4.20 Derbal Nara, or Cockburn Sound

RESEARCH 4.2

Using online resources, research one of the Nyungar Dreamtime narratives and prepare a presentation on it for the rest of your class. Identify any impacts the story has on the cultural and environmental practices of the Nyungar people. Suggest any ideas that might be applied to current conservation efforts in the Nyungar region or beyond.

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Reflecting and consolidating

Chapter summary

- Aboriginal and Torres Strait Islander societies traditionally understand the environment as a cultural landscape or 'country', to which nature and culture are integral; they care for country accordingly.
- Modern lifestyles place many pressures on the environment, which can reduce its health and its capacity to support us.
- Our views or belief systems influence how lightly we tread on the landscape.
- Some 90% of the population of Australia lives in coastal areas. This has caused a number of environmental challenges in these areas.
- The impacts of climate change on coastal areas will be severe, and will require a concerted effort by governments and individuals to avoid its most harmful effects.
- Sustainability requires a long-term, inclusive and flexible mind-set in order to confront future challenges.

Short-answer questions

1 Suggest how the different seasons affect the way we live.

2 Describe four different views and the values they support.

3 Outline an example of how sustainability can be enhanced in the landscape.

4 Discuss the pressures that humans currently place on our coasts.

5 Identify the stakeholders that need to come together to create a coastal sustainability strategy.

Extended-response question

Evaluate what you think is meant by the phrase 'treading lightly on our landscape'. Identify and explain ways in which we can tread more lightly on our landscape.



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5 Landscape hazards

Before you start

Main focus

Most of the world's population live in an area where one or more types of natural hazard are likely to occur. People learn to live with these hazards.

Why it's relevant today

We need to be able to identify the hazards likely to affect us where we live, work and holiday, and know how to react if a hazard turns into a disaster.

Inquiry questions

- What are geomorphological hazards?
- What are the natural causes of geomorphological hazards?
- To what extent have human alterations to the environment contributed to the occurrences of geomorphological hazards?
- How should people prepare for a particular hazard?

Key terms

- Avalanche
- Bushfire
- Cyclone
- Drought
- Earthquake
- Flood
- Hazard
- Landslide
- Natural disaster
- Storm surge
- Tsunami
- Volcanic eruption

Let's begin

Most Australians live in an area where the prospect of drought, bushfire or cyclone is possible. Few Australians are aware that they also live in areas where earthquakes, tsunamis and storm surges may occur. Geomorphological hazards are common around the world, due to natural causes and even human alteration of environments. Responding to hazards and working towards prevention are difficult but necessary practices, especially for people living in an area that is prone to geomorphological hazards.

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5.1 Natural causes and spatial distribution of geomorphological hazards

geomorphology the study of landscapes and landforms, and the processes that have made them the way they are

hazard a known feature of an area that may cause loss of life, injury and/or property damage

natural disaster the occurrence of a natural event that adversely affects the environment and people in the area

flood the flow of water through an area that normally is dry, such as when a river breaks its banks

hydrological hazard a natural hazard, such as a flood, whereby water may cause loss of life, injuries and/or property damage

Geomorphology refers to the study of landscapes and the processes that have made them the way they are. A geomorphological **hazard** is a danger that occurs as a result of changes to a landform, affecting the stability of the site and resulting in devastating effects on the area and those living there. These **natural disasters** include floods, earthquakes, volcanic eruptions, landslides and tsunamis.

Floods

Floods can be considered **hydrological hazards**, but they are also geomorphological, as they cause a large amount of destruction and erosion to landscapes and carry large amounts of sediment. The main causes of flooding are overflowing rivers and other bodies of water, melting snow and heavy rainfall. **Cyclones** can also be a cause, as they draw in moisture from the surrounding ocean. Most of this moisture is dumped along the coast, where flooding may quickly occur in coastal river systems; however, if the path of the cyclone continues inland, it is likely to bring enough moisture from the ocean to create widespread flooding to inland areas.

cyclone an atmospheric system characterised by the rapid inward circulation of air masses about a low-pressure centre, usually accompanied by stormy, often destructive weather

Geographical thought

Floodwaters contain a variety of dangers beyond drowning. They can hide debris and dead animals, and contain bacteria and sewage that can make a person ill or cause injury (or both). Victims of floods are encouraged to not swim in floodwaters due to those dangers.

Source 5.1 An aerial view of the Brisbane River flood in 2011



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DEVELOPING YOUR UNDERSTANDING 5.1

1 Contrast and compare geomorphological and hydrological hazards.
2 Explain why floods can be both geomorphological and hydrological hazards.
3 Summarise the process of how cyclones can cause floods.

Earthquakes

tectonic plate a layer of the Earth's crust that moves and floats

earthquake a result of the Earth's tectonic plates moving against each other

The outer layer of the Earth is broken up into **tectonic plates**. When these plates move in a way that is stressful to the Earth's layers, rocks are broken and caused to move, resulting in an **earthquake**. Earthquakes commonly occur on the boundaries of the plates: one plate will be forced under another, causing the geomorphological hazard.

Plates can also grind past each other, causing major uplift when movement occurs – for example, the Southern Alps of New Zealand.

The movement of earthquakes can trigger a **landslide** or an **avalanche**. An earthquake can also trigger a **volcanic eruption**, which in turn can trigger an avalanche or a landslide, depending on the location where it occurs.

Storm surges and tsunamis

People living along the coast are particularly vulnerable to storm surges. This is because waves are created by wind. The stronger the

landslide the failure or collapse of a slope, resulting in the movement of debris downslope under the influence of gravity

avalanche the failure or collapse of a snow-covered slope, resulting in the movement of snow and debris downslope

volcanic eruption the process of lava (originally magma from the Earth's core) spilling from fissues or vents in the Earth's crust

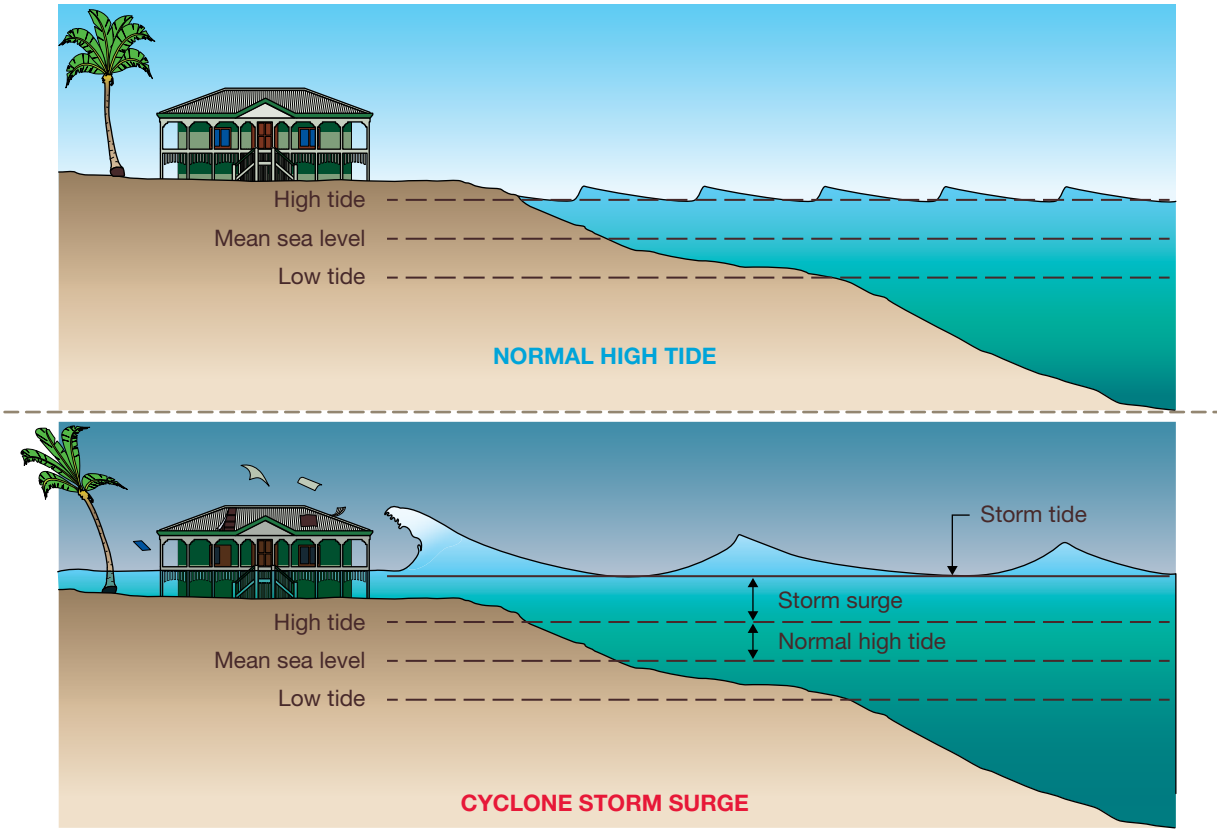
Source 5.2 Damage from the Christchurch, New Zealand earthquake in 2011



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wind, the larger the wave. Cyclones often occur out in the ocean and have very strong winds, creating very large waves. Waves like these erode beaches, causing damage to private and public property. The winds associated with cyclones push the surface of the water up to such a degree that the normal levels of a high tide are exceeded. This creates a much higher tide, which is known as a **storm surge**. Some areas along the coast have significant differences between low tide and high tide, and storm surges are particularly destructive to these areas, as the high tide can make the storm surge even more aggressive. Storm surges have been known to wipe out infrastructure and take lives.

storm surge an increase in the height of coastal waters as a result of onshore winds, usually associated with a cyclone



Source 5.3 The difference between a normal high tide and a storm surge

tsunami a series of ocean waves with enormous destructive potential, usually created by an undersea earthquake

Storm surges are destructive, but not as destructive as **tsunamis**. Unlike regular sea waves, tsunamis have an extremely long wavelength. Generally, they resemble a rising tide and consist of a series of wave periods. Tsunamis are a result of the displacement of a large volume of water, usually caused by earthquakes, volcanic eruptions or landslides. The smashing force of the walls of water has a destructive effect on both the land and infrastructure. After the waves have covered the land, the area is flooded and the water begins to drain back out, carrying debris and people with it.



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Source 5.4 The aftermath of the 2004 Indian Ocean tsunami off the coast of Sumatra

RESEARCH 5.1

Using the internet, research the 2004 Indian Ocean tsunami. Select one of the countries affected by the tsunami:

- Indonesia
- Sri Lanka
- India
- Thailand
- the Maldives.

Construct a timeline of events for your chosen country that summarises what happened during the tsunami and how the area was damaged.

Droughts

drought an extended period of time when there is an absence of sufficient amounts of water

precipitation water that falls from clouds and may be in the form of rain, hail, snow or sleet

Droughts dry out areas and can cause famine, diminished crop growth, death of animals and livestock, loss of habitats and mass migration. The absence of sufficient amounts of rain (**precipitation**) creates a dry and damaged landscape.

In some years, Australia has either too much rainfall or too little. Climate records have been used to show how serious this problem can be. The issue is how variable Australia's rainfall totals can be from one year to the next. Source 5.5 shows a recent scenario.

The graph in Source 5.6 shows an interesting picture. Up until about 1970, the fluctuations of the 3-year mean were no more than 100 millimetres. Since then, the fluctuations have been more extreme, reaching almost 200 millimetres. This graph is very general, as it covers the whole of the Australian continent. Australia is such a large continent that, while some areas may

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be experiencing drought, other areas may be experiencing excess rainfall.

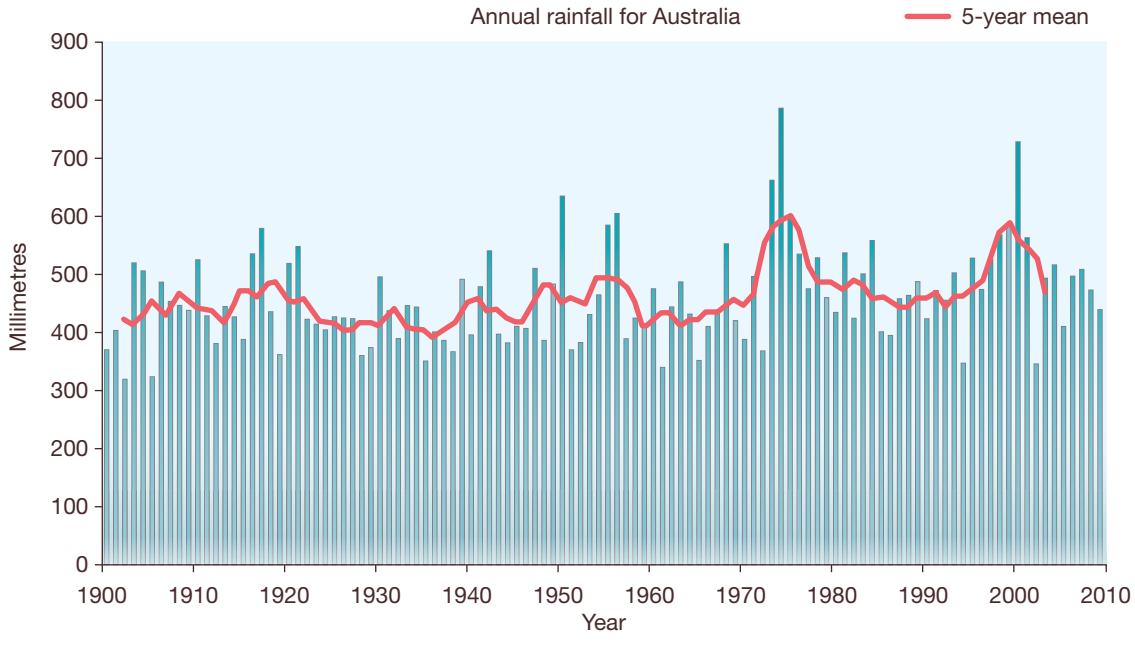
variability refers to differences – in this case, the different measured amounts of rainfall

Another way to explain the situation is to examine a map showing rainfall **variability** Australia-wide. Source 5.7, on the next page, shows the situation based on information from 1900 to 2003.

One final source to examine on rainfall variability, Source 5.8 (next page) shows the rainfall variability for Australia in 2008.

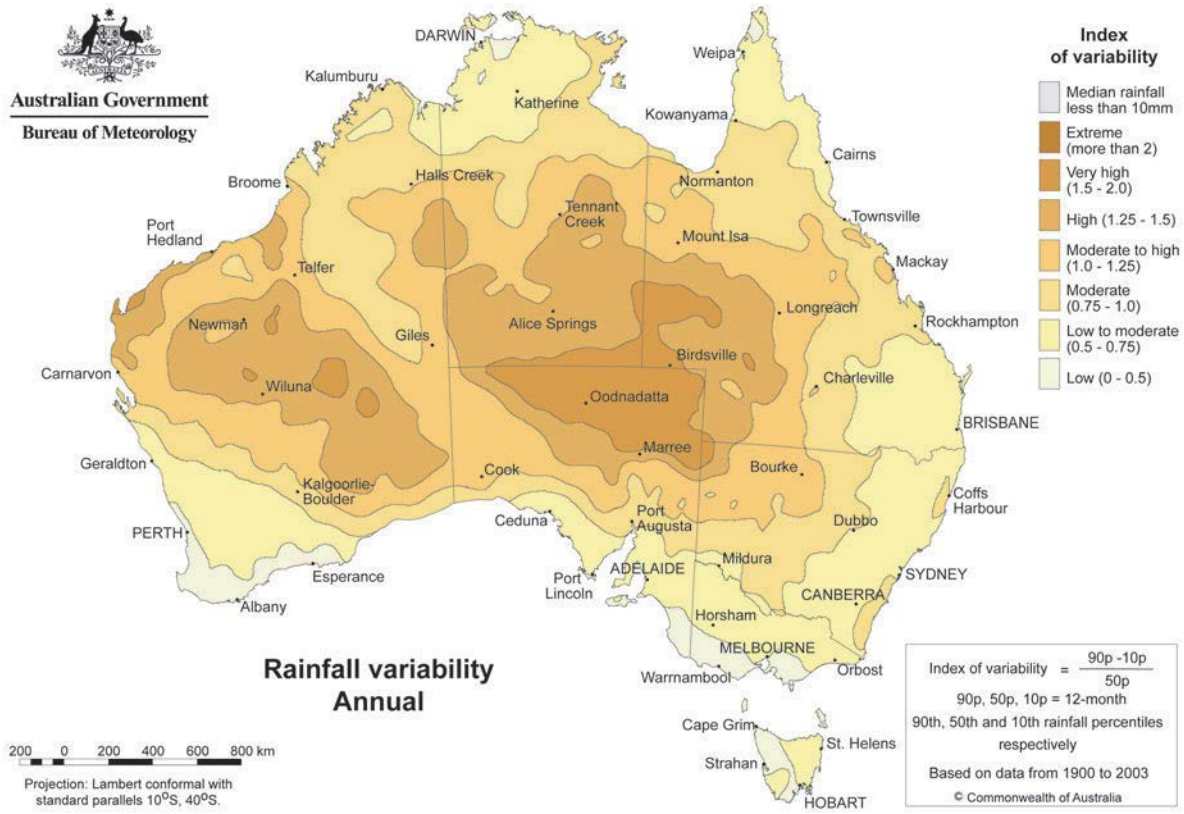


Source 5.5 Brisbane floods, January 2011

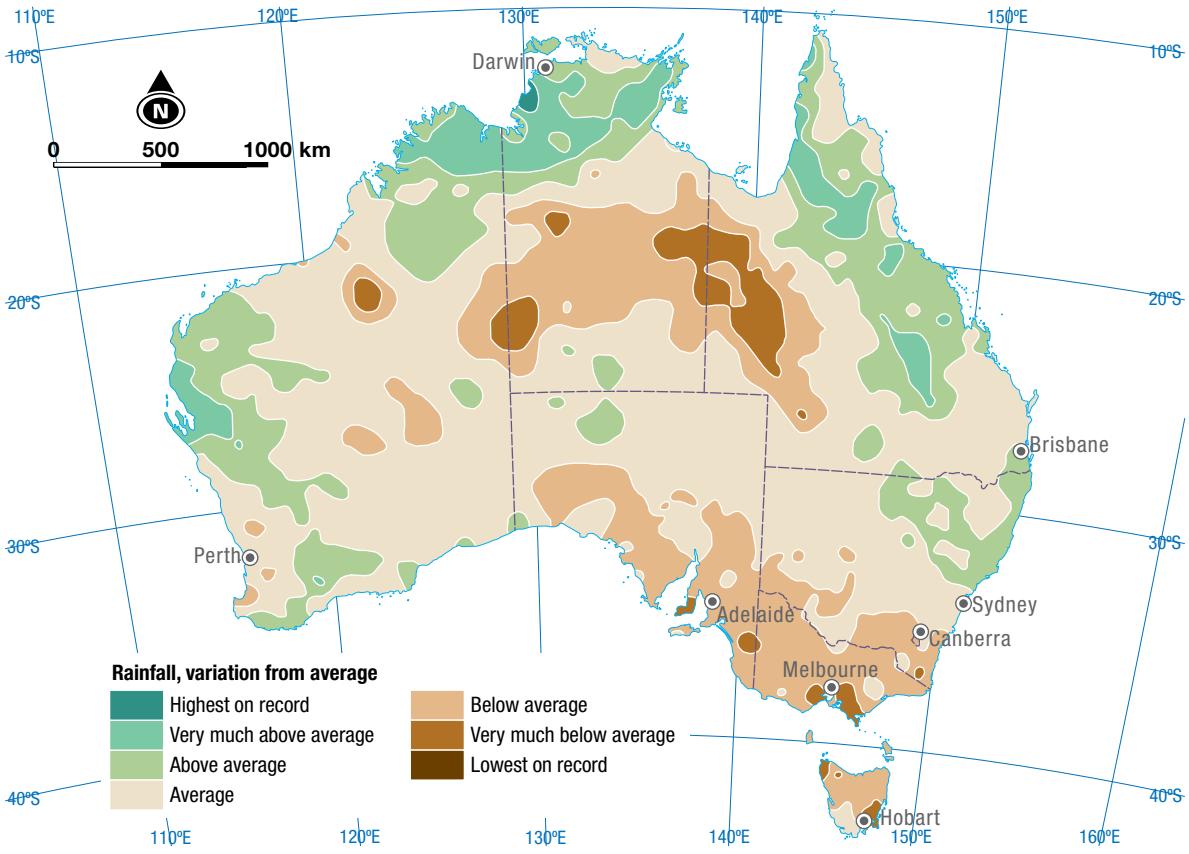


Source 5.6 Annual rainfall in Australia

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Source 5.7 Rainfall variability based on 1900–2003 data



Source 5.8 Variation from historic rainfall totals in 2008

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5.2 Human alteration of environments

Geomorphological hazards are both a natural occurrence and a devastating consequence of the changes in our landforms. However, landforms are not changed solely by natural causes; human alterations have increased the risk of geomorphological hazards around the world.

Landslides often result from natural factors such as floods, earthquakes or storm surges, but clearing vegetation, over-steepening the base of a slope for development and allowing water to penetrate sub-surface layers can encourage the change to the landscape that will cause a landslide. Avalanches often result from natural factors such as earthquakes or heavy snowfall or rainfall, but can also be caused by human recreational activities such as skiing or snowboarding.

In 2005, a flood brought on by glaciers melting caught loose sediment and caused over €555 million of damage to Austria. This flooding was believed to have been caused by rising temperatures in the Alps. This temperature rise – almost twice the global average – is believed to be the result of human-induced global warming.

Droughts are often caused by unwise agricultural practices and deforestation affecting the amount of water vapour in the atmosphere and leading to increased desertification.

Demand for resources as the population increases puts a large amount of unnatural strain on landscapes around the world. Landforms already change naturally, but as humans progress they also change the land. Mining, pollution, deforestation, agriculture, modern technology and war are just some of the human activities that cause alterations to the land and bring on geomorphological hazards. Yet we still continue to carry out these alterations, despite knowing the cost. Some areas have seen the risks increase more than others, and people still continue to live and work in these areas. The effects of these hazards go further than changes to the environment: they can also affect where people live, levels of poverty, infrastructure and lifestyles.

5.3 The effects of geomorphological hazards

There is no doubt that geomorphological hazards have a strong effect on our landscapes. Land erodes and shifts, and the amount of vegetation can increase or decrease after a hazard has hit a certain area. These hazards also have effects on social, cultural and economic factors. Think of the areas around Melbourne, Sydney and Brisbane, which are quite congested. Houses are built densely in and around the main cities and lining the coast. However, if you explore Australia further you can see some of its nine official deserts, where you will not see any houses for long stretches. People do live in and near these deserts, but they do so very differently from those who live in the coastal areas of Australia.



Source 5.9 A solar home with its own rainwater catchment system, built to adapt to the Australian desert

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Houses are often bigger and less expensive in the drier states and territories of Australia. They are likely to be a long distance away from any shops and facilities. These areas are very vulnerable to drought and increasing desertification. This means that agriculture in the area suffers greatly, and that soil erosion and loss of vegetation are common. Rural Australia is important to the economy, and declining productivity there has a stressful impact on all Australia.

Source 5.10 Comparing the impacts of geomorphological hazards

Developed countries	Developing countries
Suffer higher short-term economic losses	Cause setbacks to long-term economic and social development of the country
Have mechanisms in place to avoid or reduce loss of life – for example, early warning systems and building regulations to ensure development in high-risk areas is designed to withstand forces	Lack of resources for early warning systems; unplanned squatter developments are not designed to withstand natural forces
Have immediate emergency and medical relief infrastructure available, which reduces casualties	Inflict massive casualties due to lack of relief infrastructure and resources
Insurance against property and infrastructure losses	Forced to divert funds from development programs to emergency relief and recovery

RESEARCH 5.2

Select one of the areas below to research:

- Albany in Western Australia
- Oodnadatta in South Australia
- Darwin in the Northern Territory
- Mackay in Queensland.

Put yourself in the position of someone living in your chosen place. Using the internet for research, answer the following questions:

1. How reliable is the rainfall in each of these places?
2. What other places experience similar rainfall variability?
3. What agriculture is popular in the area?
4. Is this area more vulnerable to floods or droughts?
5. How would drought affect people living in this location? Present your findings in a short report.

The congested areas of Australia are also vulnerable to geomorphological hazards, and the people in these areas are influenced by their effects. In Queensland, the warm climate and varied weather allow for an increased vulnerability to flooding. With many houses built on flood plains, flood-proof homes have been around since the 1840s. These houses are built higher and of strong materials that can withstand floodwaters. This idea of a stilt house is popular in Asian countries like Vietnam and Cambodia, as protection against flooding and to prevent vermin entering the home. However, these areas are developing countries, without the resources and funds to protect them further.

Poverty can result from hazards, and also means increased vulnerability. People living in poverty are often not warned of the hazards approaching, as they are marginalised socially, politically and geographically. They lack the resources to help them to prepare for, predict and minimise the risks.

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Source 5.11 Stilt houses in Cambodia

Why do people continue to live there?

Why do people continue to live in areas of poverty where the risk of a hazard is high? Why do people build houses on flood plains or live in the desert? The answers to these questions are interesting:

- People may come to the area because of the employment opportunities available in the rebuilding operation. They will stay as they settle into the area. For example, people move to rural Western Australia for the mining industry and remain there for the rest of their lives.
- They will stay because of their economic and other ties to the area – mortgages, employment and family ties.
- They will stay because they believe 'that was the big one', and nothing like it will occur for another 50 or 100 years.
- They may come to the area without knowing its natural hazard history.
- The economic situation may prevent them from moving. In developing countries, the home a family has may be the only one they can afford, so they will remain there.

DEVELOPING YOUR UNDERSTANDING 5.2

1 Summarise how rural Australia is influenced by its landscapes.
2 Describe the features of a flood-proof house.
3 Explain why developing countries are more vulnerable to hazards.
4 Suggest how you could make your house less vulnerable to hazards in your local area.

5.4 Minimising the harmful effects

As we can see in rural Australia, the flood plains of Brisbane and developing countries around the world, the choices of how homes are built, how people live their lives and the nature of their economy are influenced by geomorphological hazards. A lot can be done to prevent these hazards from causing extensive damage. The ability to predict hazards and the time to take safety measures are important in minimising harmful effects.

Predicting drought

Because Australia does not have a long history of climate records, as some parts of the world do, it has been difficult to accurately predict a drought event. It is all too evident from the drying landscape and dying animals when Australia is in a drought period. Australian **climatologists** owe much to the

climatologist a person who studies the climate of an area (long-term changes in the weather)

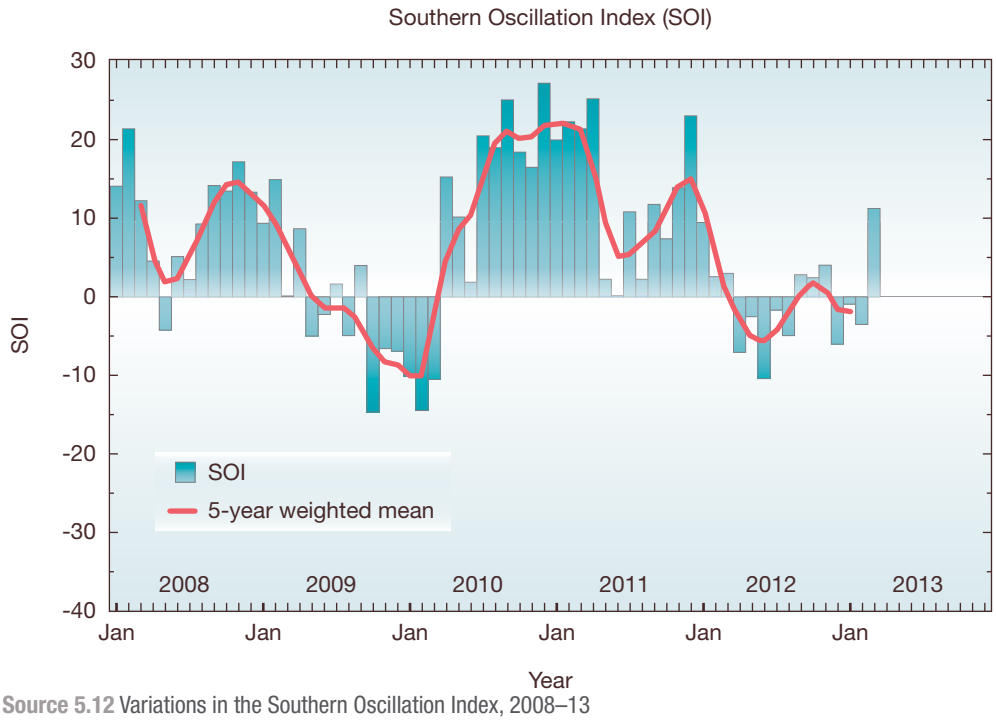
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work of Sir Gilbert Thomas Walker, who worked in India studying the variations in the monsoons that have such a major impact on life in that region. In the course of his mathematical studies, he noticed that there were periodic changes in air pressure between the Indian and Pacific Oceans, and that these were related to changes in temperature and pressure in the same areas. What is now known as the **Southern Oscillation Index (SOI)** is the result of his early work.

Southern Oscillation Index (SOI) a figure calculated on the air pressure differences between Tahiti and Darwin

The SOI varies from positive to negative. A positive reading in Australia means good weather conditions and a very positive reading means that there may be too much rainfall. A negative reading – especially less than –8.0 – is a prediction of drought (see Source 5.12).

Wheat farmers place a great deal of weight on the reliability of the SOI, but it is only a figure that provides an indication of what might happen in the coming months. People in drought-affected areas will be hopeful that the figure is returning to the positive side of the line.



Source 5.12 Variations in the Southern Oscillation Index, 2008–13

DEVELOPING YOUR UNDERSTANDING 5.3

Bushfires are a frequent summer hazard across Australia in the drier months.

1 Examine posters and advertising on how to protect a property in bushfire season.

2 Create a poster that warns of the signs of bushfire hazards in your local area.

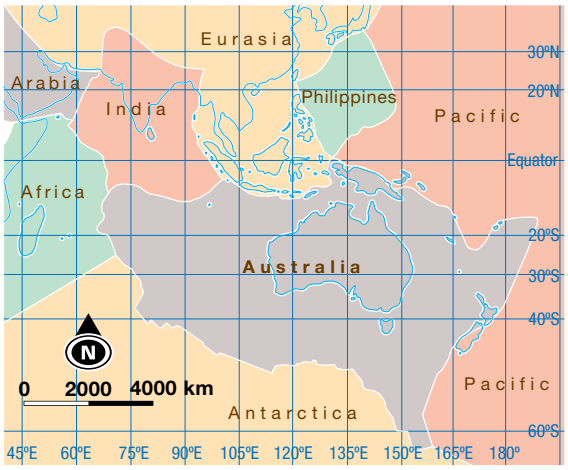
bushfire an uncontrolled fire that destroys the environment and property but can be necessary for the regeneration of plant species

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Earthquake potential

State and local governments across Australia prepare for natural hazards, but very few would be preparing for earthquakes. This is simply because earthquakes are more likely to occur along plate boundaries. As Source 5.13 shows, the Australian continent is a long way from any plate boundaries.

Japan, however, is an earthquake-prone country. Because of this, new infrastructure is built to be flexible and tall. When an earthquake occurs, Japan's buildings, rather than break and crumble, sway and move with the earthquake.



Source 5.13 The boundaries of Australia's continental plate are far from the Australian mainland.



Source 5.14 Layers of ash and cinders show evidence of multiple eruptions at Tower Hill volcano (western Victoria), which last erupted around 25 000 years ago.



Source 5.15 The Skytree Tower of Japan, said to be earthquake-proof

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Source 5.16 Blue Lake at Mt Gambier, South Australia – its last eruption was 4500 years ago

Potential for volcanic activity

There would not be a single state or local government authority designing hazard management plans for volcanic activity anywhere on the Australian mainland or in Tasmania. Again, the reason is simple: there are no plate boundaries where volcanic activity occurs close to the Australian mainland.

There is plenty of evidence of volcanic activity occurring in Australia's past, however. Much of Australia's prime agricultural areas are founded on soils derived from the weathering and erosion of volcanic rocks. Queensland's sugar cane farms and the Darling Downs are based on the breakdown of basalt. The wineries and stone fruit orchards of the Granite Belt in southern Queensland are based on the breakdown of a volcanic rock – granite.

Aboriginal and Torres Strait Islander peoples were living in Australia when volcanoes were last active on the Australian mainland. Tower Hill volcano in western Victoria last erupted 25 000 years ago (see Source 5.14). Mt Gambier erupted as recently as 4500 years ago (see Source 5.16). Even Lakes Eacham and Barrine on the Atherton Tableland erupted more recently than Tower Hill – both around 12 000 years ago.

People living in areas with active volcanoes have to take very specific safety measures. Evacuation routes are planned and emergency kits with goggles and masks are kept in homes to reduce the risk of fatalities and damage to health. Volcanic eruptions are among the most destructive hazards on Earth. It is almost impossible to minimise the effects of an eruption. The key is detection and early evacuation.

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Reflecting and consolidating

Chapter summary

- Geomorphological hazards are dangers that occur as a result of changes to a landform, affecting the stability of the site and resulting in devastating effects on the area and those who live there.
- Floods, earthquakes, storm surges, tsunamis, volcanic eruptions, landslides and avalanches are all geomorphological hazards.
- Human activities may increase the likelihood of a disaster and create change within an environment that may in turn lead to a hazard.
- Geomorphological hazards can occur in many landscapes and have drastic effects on the land.
- Land erodes and shifts, and vegetation can increase or decrease, after a hazard has hit a certain area. Geomorphological hazards also have social, cultural and economic effects.
- Most people are aware of the hazards in the area in which they live, thanks to technology, knowledge of weather patterns and an understanding of their environment.
- Geomorphological hazards can be managed by building infrastructure in certain ways, planning evacuations and taking safety measures to limit the effects of a disaster.
- It is almost impossible to minimise the effects of a volcanic eruption due to its highly destructive and unpredictable nature.

Short-answer questions

1. Identify the differences between a ‘natural hazard’ and a ‘natural disaster’.
2. Explain the difference between a storm surge and a tsunami.
3. Suggest where and when floods would be expected in Queensland.
4. Discuss why Australia has so few earthquakes.
5. Describe the measures a country may take to decrease the effects of earthquakes.

Extended-response question

Australia has many areas that are vulnerable to geomorphological hazards. Storm surges, floods and bushfires occur regularly. For some people, the regular occurrence is too much and they pack up and leave, while others are resilient, pick themselves up and rebuild. In a short report, debate the question: ‘How often should people be allowed to rebuild in areas where a known natural disaster occurs regularly?’

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Source 5.17 Eruption of Tungurahua volcano, Ecuador

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UNIT 2
Changing nations



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6 Consequences of urbanisation

Before you start

Main focus

Some young people who live in rural areas may consider moving to the city when they get older. There is more choice of universities and jobs, as well as a larger variety of social activities. Others consider moving away from the city, but the greatest internal migration figures suggest that there are more people who move to the city. This is known as urbanisation.

Why it's relevant to us

As the world becomes increasingly interconnected, the effects of changes or actions in one place are increasingly likely to affect other places. Australia's position as a major economic partner of China and other countries makes this extremely relevant to our lives.

Inquiry questions

- What is urbanisation and what effect does this have on an area?
- How do economic activities cluster and why?
- How is economic growth in regions in Australia and China affecting other regions?
- What is the relationship between the economies of Australia and China?
- How does urbanisation affect carbon emissions and water consumption?

Key terms

- Archipelago
- Bilateral
- Comparative advantage
- Demographic factor
- Industrialisation
- Recession
- River basin

Let's begin

In the last century, Australia looked to far-away Europe and the United Kingdom for its economic ties. However, with the populations and wealth of Asian countries growing quickly, Australia is poised to take advantage of economic prospects much closer to home. The global 'centre of gravity' is shifting to Asia. Economists forecast that, within a few years, the Asian region will be the world's largest producer of goods and services, and the biggest consumer of them. Asia is already the most densely inhabited region in the world. In the future, it will also be home to the majority of the world's middle class. That is why people in Australia sometimes refer to the twenty-first century as the 'Asian century'. We want to take advantage of the economic opportunities that the rise of Asia presents. To do so properly, we must know and understand our neighbours.

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6.1 Indonesia: our nearest neighbour



Source 6.1 Map of the Indonesian **archipelago**

archipelago a group of islands

Indonesia is a country of more than 17 000 islands, with an area of 2 million square kilometres over a 5000 kilometre span. It has a population of just under 247 million – more than 10 times the population of Australia. More than half of Indonesia's people live in cities, and the capital, Jakarta, is home to over 10 million people.

Indonesia has the fourth largest population in the world, after China, India and the United States, and is Australia's closest neighbour. It comprises 33 provinces, 497 districts, 6651 sub-districts and 77 126



Source 6.2 In 2011, Jakarta's population was 10 187 595, and 51% of Indonesia's population lived in urban areas.

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villages. Of its over 17000 islands, fewer than 9000 have been named and, according to the government of Indonesia, just 922 of them are inhabited.

Jakarta: megacity

Jakarta, the capital of Indonesia, is one of the world's 'megacities' – vast cities with huge populations, often defined as having over 10 million people, that are challenging the way we deal with population growth. The nineteenth and twentieth centuries saw the rise of cities as centres of industry and population in Europe and North America. This pattern of urbanisation – populations moving to cities in search of work – shifted to the developing world, including Asia, from the second half of the twentieth century.

Whereas the world's older megacities like New York or London have, over time, become richer and developed better services and infrastructure, some of Asia's biggest cities, like Jakarta, have a different feel. They are poorer, are less well planned and have less developed public transport.





Source 6.3 As in many megacities, housing in Jakarta varies from slums to high-rise apartments and detached housing.

6.2 Urbanisation as a shift in where and how people live

Urbanisation is a process whereby a society becomes more focused on its urban areas, due to increased internal migration to cities and their increased economic importance compared with that of rural areas. So we look at why more people move to cities and why this then means that sometimes cities have more money than the country areas.

While megacities have captured much public attention, most of the new growth will occur in smaller towns and cities, which have fewer resources to respond to the scale of the change. In Asia, the population is rapidly shifting from the countryside to the bigger cities at a rate of 45 million people each year. Many people in the developing world move to cities to try to escape poverty – just as people did in Europe during the Industrial Revolution that began in the eighteenth century. The world is now experiencing the biggest trend in urban growth ever. In 2010, for the first time in history, more than half of the world's population were living in towns and cities. It is predicted that, by 2050, seven out of 10 people will live in an urban area, with urban growth concentrated in Africa and Asia.

However, in Asia only 40% of the population lives in cities, which may mean that much of Asia's urbanisation is still to come. As young people have better access to education, they are likely to seek professional rather than rural careers.

In theory, cities offer a more encouraging setting for the solution to social and environmental

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problems than rural areas. In most circumstances, cities produce jobs and wages. If a city has leaders in government who plan effectively and consider their area's diverse needs, and try to take into account future needs, they can deliver education, health care and other services more efficiently. However, some of these cities have little control over their own budgets, planning or policy. At a 2011 World Bank conference, the Governor of Jakarta complained that he had to beg the government of Indonesia for funds, and said he lacked the authority to plan for future urbanisation.



Source 6.4 In Jakarta, the wealthy shop at glittering malls while the poor scavenge at rubbish dumps.

Cities also present opportunities for people to put their efforts together to carry out combined activities by joining resources and building a bond in the community. This is a process that enables communities and individuals to create their own self-governing or community groups, allowing them to manage their own as well as the community's development.

However, there are problems associated with increasing urbanisation, not least the environmental impact. A resident of Jakarta consumes far more resources and generates far more greenhouse gases than a farmer from the Sumatran countryside. But whether we like it or not, cities are seen as a pathway out of poverty, and the majority of humanity is unlikely to stay down on the farm.



Source 6.5 Tokyo is an example of a successfully managed megacity.

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The relatively recent rise of megacities such as Tokyo and Shanghai, whose prosperity is coupled with highly efficient public transportation, shows that cities can be managed successfully. The objective for Jakarta and other emerging megacities should be to manage their future growth.

Economic growth in Jakarta is slow because of a lack of effective public transport and inefficient use of land. Movement of goods is also restricted by poor transport infrastructure. Some suggestions for taking advantage of urbanisation are:

- giving large metropolitan areas the authority and budget to manage their economic growth and social infrastructure
- reforming Indonesia's land ownership and property rights systems, which are complex and act as a barrier to better urban planning
- considering urban zoning – that is, the creation of designated industrial centres, business centres or financial districts.

DEVELOPING YOUR UNDERSTANDING 6.1

1 Recall two causes of urbanisation.

2 List some advantages and disadvantages of urbanisation.

Advantages	Disadvantages

3 Describe characteristics you think would apply to the average rural migrant to Jakarta. Think about age, occupation and wealth for a start. Do you think the same is true in Australia?

4 In your opinion, what are the differences between the ways in which the poor and the rich live in Jakarta? Predict how each group may access water, electricity, food and recreation.

RESEARCH 6.1

Research 'Car Free Day' in Jakarta. In a paragraph, write down what the government is trying to achieve. Discuss whether it would be possible for us to do something similar in Australia. Do you have any ideas about how we could make this work?

6.3 Urbanisation and economic activities

One important effect of urbanisation is that the economic activities (actions involving production, distribution and consumption of goods and services) often cluster together – although this is not the case if the business relies on the location of resources (for example, a fresh fish shop near the

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beach) or the location of customers (for example, a surfwear shop near the beach). Indications are that there are now a lot of people and economic activities in large cities, and many similar and related firms and industries are located near each other. Transportation and business costs may be cut as a result of improved contact between suppliers and customers located nearby. It also makes 'business sense' because customers can compare and have a choice while not having to waste time travelling or finding similar businesses. Production costs may also be decreased for the companies themselves through the possibility of sharing resources. This may help improve business performance. Another reason why cities have greater potential for a cluster of economic activities is because, with a higher and more varied population, there is an opportunity for companies to make use of people's diverse skills. Often internal and external communication is better, which enhances performance. So, regardless of whether or not firms in the city are directly engaged in collaboration and/or competition within a particular industry, the mixed nature of the circumstances and contact will help a firm be successful.

DEVELOPING YOUR UNDERSTANDING 6.2

1 Define the term 'economic activities'.
2 Discuss some ways in which transportation costs could be reduced for businesses.
3 Analyse why a larger and more varied population of people may be a positive for a business.

How do global economic connections shape a country's geography?

industrialisation the modernisation of a country, involving large-scale infrastructure development, economic growth and a movement towards more efficient, mechanised methods of production

As economic connections between countries become ever more important, they inevitably shape the geography of countries. Such connections may be through processes such as **industrialisation**, via shifts in levels of development or through migration of workers changing the culture of a city or town.

This is not a new concept. Since European settlement, Australia's geography – particularly in terms of economic development – has been linked closely with other countries by the possibility of sharing resources. Throughout the nineteenth century, paddle boats used to rush wool and other products down the Murray River to clippers to export them to England and around the Commonwealth. Prospectors from all around the world also arrived in Australia in the 1800s to try to make their fortunes in the gold rush.

Today, economic connections are even more complex and have influenced practically every area of the country. These relationships may involve services and property as well as the exportation of goods. Some examples of how these relationships are shaping places are shown in Source 6.6.

What does Australia export and import?

All countries import and export a range of goods and services. Imports are goods that are bought into the country and exports are goods or services that are sold to other countries. The quantity and

Geographical thought

In 2010, Australia exported over $16 billion more of goods and services than it imported. This is called a trade surplus.

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Mining: Australian and foreign-owned mines have attracted huge amounts of investment in regional areas. Almost $190 billion worth of mined resources is sent overseas each year.

Tourism and property development: The ability to invest and develop property overseas has also shaped places. Much of the property on the Gold Coast has been developed as a result of finances from Japan and other nations.





International business: Many companies have offices or regional headquarters in Australian cities. Sydney's CBD is home to many of the world's biggest companies' Asia-Pacific headquarters, bringing in money and workers from overseas.

Education: Foreign students are vital to the economy of Australia, with many coming from India and China to study. Almost 100 000 international students live in Melbourne, adding cultural diversity and economic value to the city.



Source 6.6 The influence of economic relationships

value of these goods is a significant contributor to the wealthy of a country. These products can be defined by using the following terms:

- primary goods: products that are extracted or grown in the ground or water – for example, wheat, iron ore and fish
- manufactured goods: products that are made or refined from primary goods – for example, furniture, petrol and televisions
- services: services or activities purchased by people from another country – for example, overseas students and tourism.

While most exports are sent overseas, services such as education and tourism that occur in Australia, but are purchased by people from other countries, are still considered exports.

Australia's 12 biggest exports and imports are shown in Source 6.7 (on the next page).

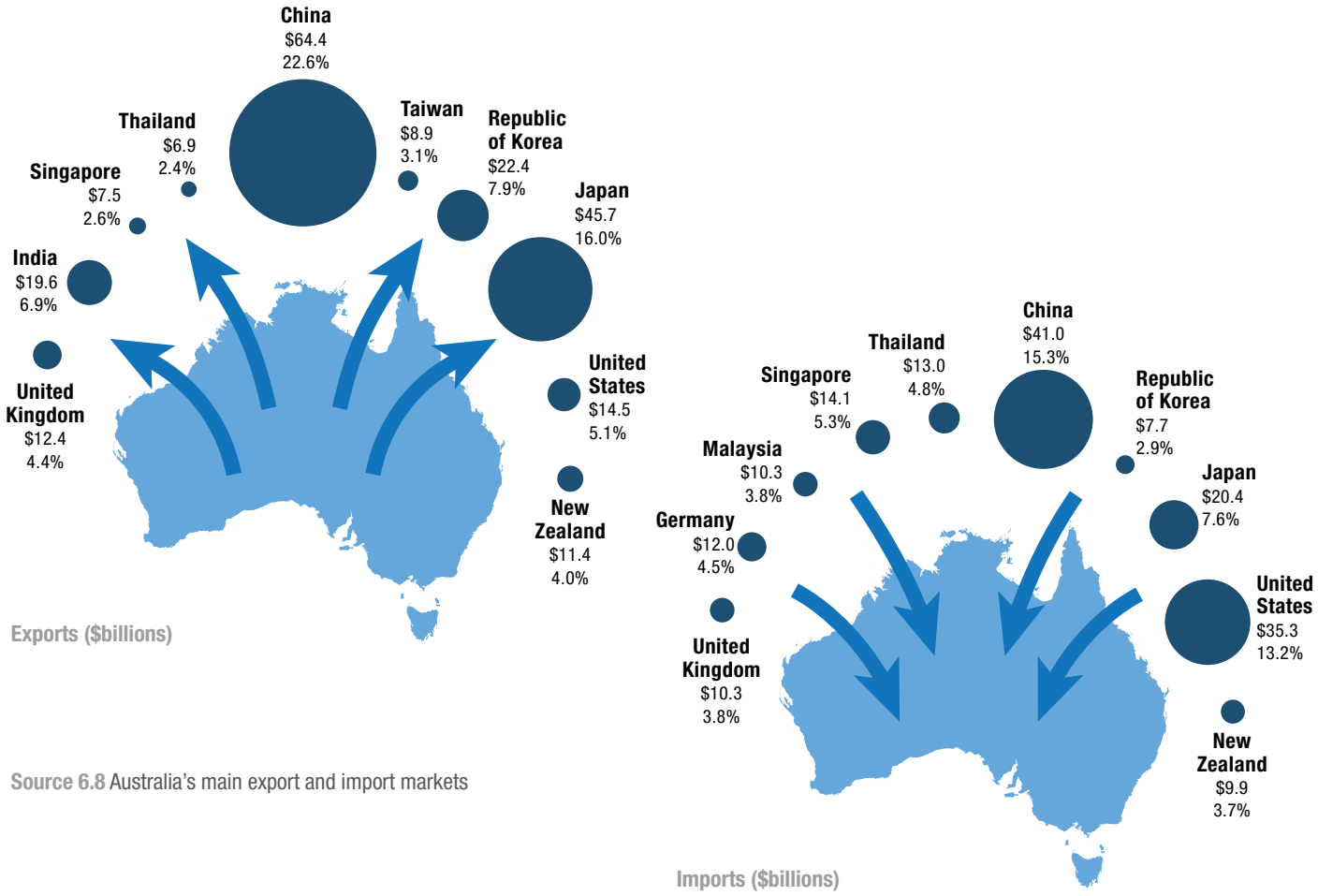


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Source 6.7 Australia's biggest exports and imports

Export	Value (billions)	Import	Value (billions)
Iron ore	$49.4	Crude oil	$16.2
Coal	$43.0	Passenger vehicles	$15.9
Education	$17.7	Petrol	$10.0
Gold	$15.0	Medicines and medical supplies	$7.9
Travel services	$12.2	Telecommunications equipment	$7.5
Crude oil	$10.5	Computers	$6.5
Natural gas	$9.4	Goods vehicles	$6.0
Aluminium ore	$5.3	Civil engineering equipment and parts	$3.0
Copper	$5.0	Televisions	$2.8
Aluminium (refined)	$4.4	Furniture, mattresses and cushions	$2.6
Beef	$4.4	Measuring and analysing instruments	$2.6
Wheat	$4.2	Vehicle parts	$2.6

Where do our goods go and where do they come from?



Source 6.8 Australia's main export and import markets

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DEVELOPING YOUR UNDERSTANDING 6.3

1 Classify the following possible exports as primary goods, manufactured goods or services:
   - **a** potatoes
   - **b** accounting services
   - **c** T-shirts
   - **d** coal.

2 Using Source 6.7, calculate how many billions of dollars Australia's exports are worth in the three categories of primary goods, manufactured goods and services. Calculate the figure for imports as well.

3 Now draw a bar graph (or use a spreadsheet to create the graph) of the information found in your answer to Question 2, comparing exports and imports for Australia in the three categories. Describe the trends shown in two sentences.

4 Locate Australia's main partners for imports and exports on a blank world map, and apply three colours to mark the countries on the map: one colour for importers, one for exporters and one for countries that are both main exporters and importers. Organise a title and key for your map.

5 Describe where most of our import and export partners are located, and explain why you think this is.

What Australia's economy does and why

As discussed, the economy is made up of various exports and imports. But why does Australia import some products and export others? This is mainly due to the fact that certain products can be produced more easily and cheaply in Australia, and others may be cheaper and easier to get from overseas. The ability to produce a particular good or product more cheaply than in another economy is known as a **comparative advantage**.

comparative advantage in economic terms, the ability of one country over another to provide goods at a cheaper price

Australia does produce a varied range of products and services, but there are certain key areas where Australia holds a comparative advantage over other economies. These include:

- primary production
- provision of services
- low-scale specialised production.

Primary production

Much of Australia's economy is based around primary production. This includes mining, farming and forestry. Mining is one of Australia's most important industries. Its comparative advantage lies in the vast array of deposits of minerals found in this country. As a developed country, Australia also has the technology to exploit these resources.

Farming is another extremely important industry for Australia. As Source 6.10 (on the next page) shows, most of Australia's land is farmed. The huge areas available to farmers, and the excellent conditions for growing of crops such as wheat and the raising of livestock give Australia a comparative advantage over other nations.

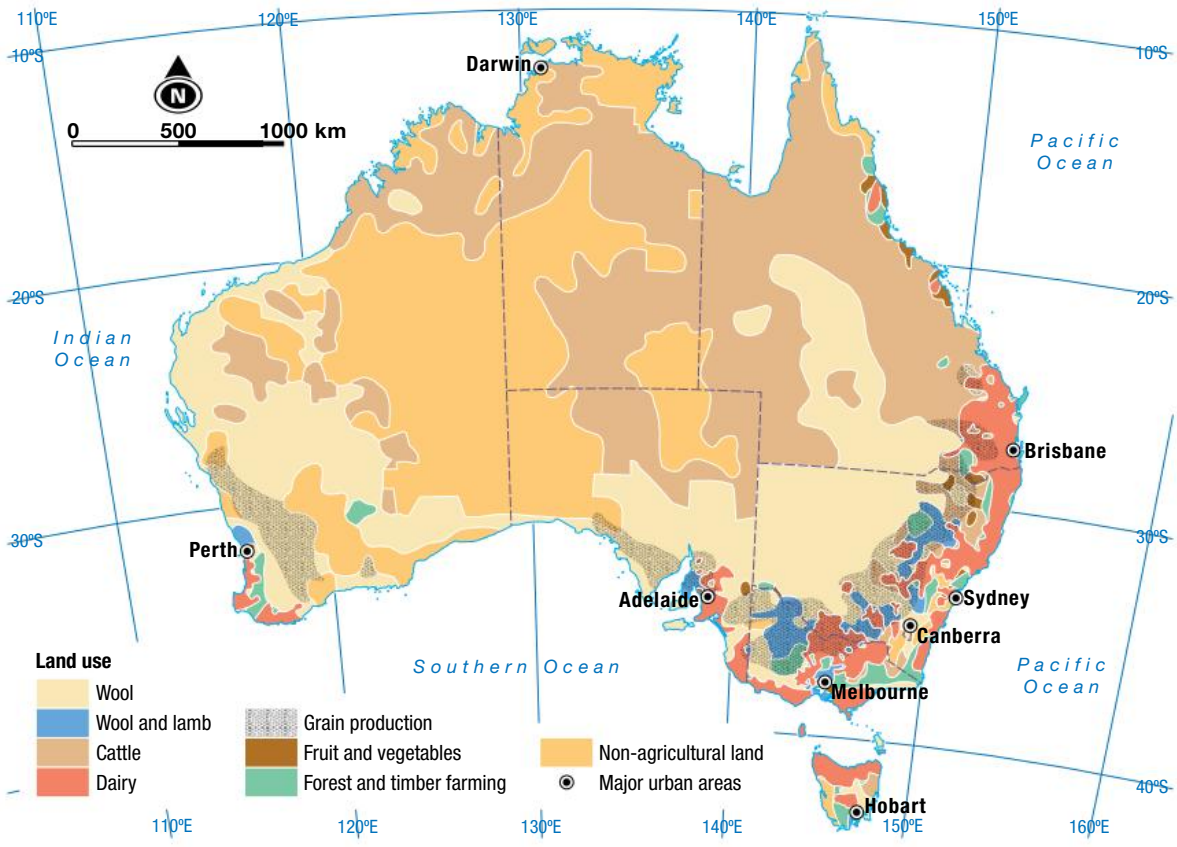
Provision of services

Service industries are even more important to Australia than primary production, providing four out of every five jobs. The biggest service sectors providing a comparative advantage to Australia are education and tourism.

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Source 6.9 An open-cut mine at Cobar in New South Wales. Australia is one of the world's biggest coal-mining nations.



Source 6.10 Main farming land use in Australia

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Education is particularly significant in the area of overseas students studying in Australia. Overseas students are attracted to Australia because it is an English-speaking country – English is an extremely important language globally, and particularly in Asia, where it is often used to conduct business. The relatively close proximity of Australia to the large Asian populations that study overseas, compared with the United States and Europe, also gives it a comparative advantage. Furthermore, Australia is considered a safe destination, and its language schools and universities are well established.

Tourism is also a very significant service industry for Australia. Along with factors such as the country's safety and short travelling time from Asia, Australia's comparative advantage in this industry lies in its attractive climate, rich and varied landscapes, and unique animals and habitats. This is evident in tourism attractions such as the Great Barrier Reef, Uluru and Kangaroo Island, which are not found anywhere else.

Specialised manufacturing

While Australia does import many of its manufactured products, low-scale, specialised manufacturing still occurs here. For these industries to have a comparative advantage, they usually have to be making something that can only be manufactured here, or is only likely to be wanted here in Australia. Examples include technical mining equipment, or heavy products like bull-bars for four-wheel-drive vehicles that would be too expensive to ship from overseas.



Source 6.11 Mining equipment, such as trays for dump trucks and surveying equipment, is still produced in Australia.

DEVELOPING YOUR UNDERSTANDING 6.4

1. Explain what the term 'comparative advantage' means.
2. Outline why Australia is an attractive area to farm.
3. Suggest when manufacturing may be at a comparative advantage in Australia.

6.4 Economic trends in Australia

recession a period when the economy shrinks

Australia's economy has been extremely successful over the last 20 years. Unemployment has typically been low, and the nation has been affected less by global **recessions** than almost any other developed nation. Its gross domestic product (GDP), which measures how big the economy is, has grown consistently over this period. This has been largely due to the mining boom and investment from many overseas companies in Australia. However, these two factors also mean that much of the control of Australia's economy is now in the hands of large companies based in other countries.

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The automotive industry in Australia

Car manufacturing has been extremely important to many areas of Australia, with the industry employing thousands of people in Melbourne, Adelaide and Geelong. However, these factories are controlled by companies such as Toyota in Japan and General Motors and Ford in the United States. Ford, General Motors Holden and Toyota have all announced that they will cease production in Australia, so from from 2017 cars will no longer be manufactured locally. This will cause job losses not only for those directly employed by the car manufacturers, but also for those employed in industries that supply car parts.



Source 6.12 Jobs in the car industry are in the hands of overseas parent companies.

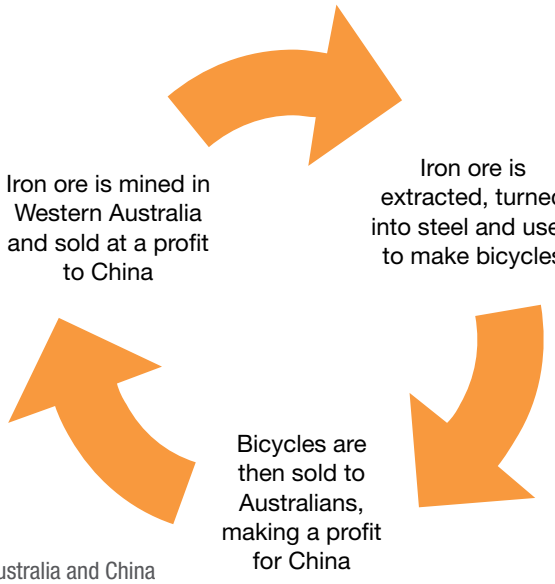
The mining industry in Australia

To some extent, Australian mines are also controlled from overseas. While most mines in Australia are owned by Australian companies, they are reliant on supplying companies and economies in other countries. If those countries were to suffer from a recession, they would be likely to stop buying Australian raw materials as demand decreased. If the price of minerals drops – this is set internationally – many mining companies simply shut down the mine until prices rise again. A number of major mining projects have been delayed or cancelled as a result of the recent Global Financial Crisis (GFC).

6.5 Bilateral trade: how China's and Australia's economies are interconnected

bilateral between two nations

Economies of different nations have different comparative advantages. Trade allows nations to take advantage of these differences in economies to supply and receive goods. **Bilateral** trade between Australia and China allows both economies to work successfully (see Source 6.13).



Source 6.13 Bilateral trade between Australia and China

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Who benefits from this interconnection in Australia?

The bilateral trade between China and Australia has led to considerable benefits for a number of different parties within Australia:

- *Mining companies and their shareholders.* The resource boom has meant Australian mining companies such as BHP Billiton and Rio Tinto have become highly profitable. This benefits shareholders, and also leads to more employment and investment in areas where mines are located, as the companies look to continue to increase their profits. Without the demand for their minerals in China, this boom would not exist.
- *Areas where mining is occurring.* With mining occurring in many regional areas, money is being spent on new facilities, roads and other infrastructure, which also benefits local populations. As demand from China continues to increase, more and more regional areas are being explored for mineral growth.
- *Governments.* Through mining royalties and taxes of both companies and workers, mining is providing a profitable revenue stream for governments at the national and state levels. This money is then spent on providing services such as health, education and defence. Chinese companies are also investing in mining projects around Australia, which are taxed by our government.

6.6 How urbanisation can affect carbon emissions and water consumption

Carbon emissions

Carbon emission is the release of carbon into the atmosphere. Carbon emissions and greenhouse gas emissions are components of climate change. Greenhouse gas emissions are known as carbon emissions when we talk about global warming or the greenhouse effect. Since the Industrial Revolution, the burning of fossil fuels has increased and directly relates to the rise of carbon dioxide levels in our atmosphere, speeding up global warming. China faces increasing international pressure to reduce carbon emissions, due to its size and growing urban population. How to organise energy use, carbon emissions and economic growth has become an important issue for a carbon economy. With the population moving from rural to urban, urbanisation – as discussed previously – has a direct effect on many factors, including carbon emissions.

demographic factor a factor of a population expressed statistically, such as age, sex, education level, income level, marital status, occupation, religion, birth rate, death rate, average size of a family and average age at marriage

Demographic factors not only influence greenhouse gas emissions and have important implications for climate change, but also bring about serious outcomes. These factors help us to analyse and understand how population is a driving force of carbon emissions due to the process of urbanisation. Carbon emissions caused by changes to a population's industry structure, economic growth, urbanisation level and carbon intensity



Source 6.14 China has surpassed the United States as the world's largest emitter of carbon dioxide, pumping out 6200 million tonnes annually.

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are all measures of urbanisation factors that affect climate change.

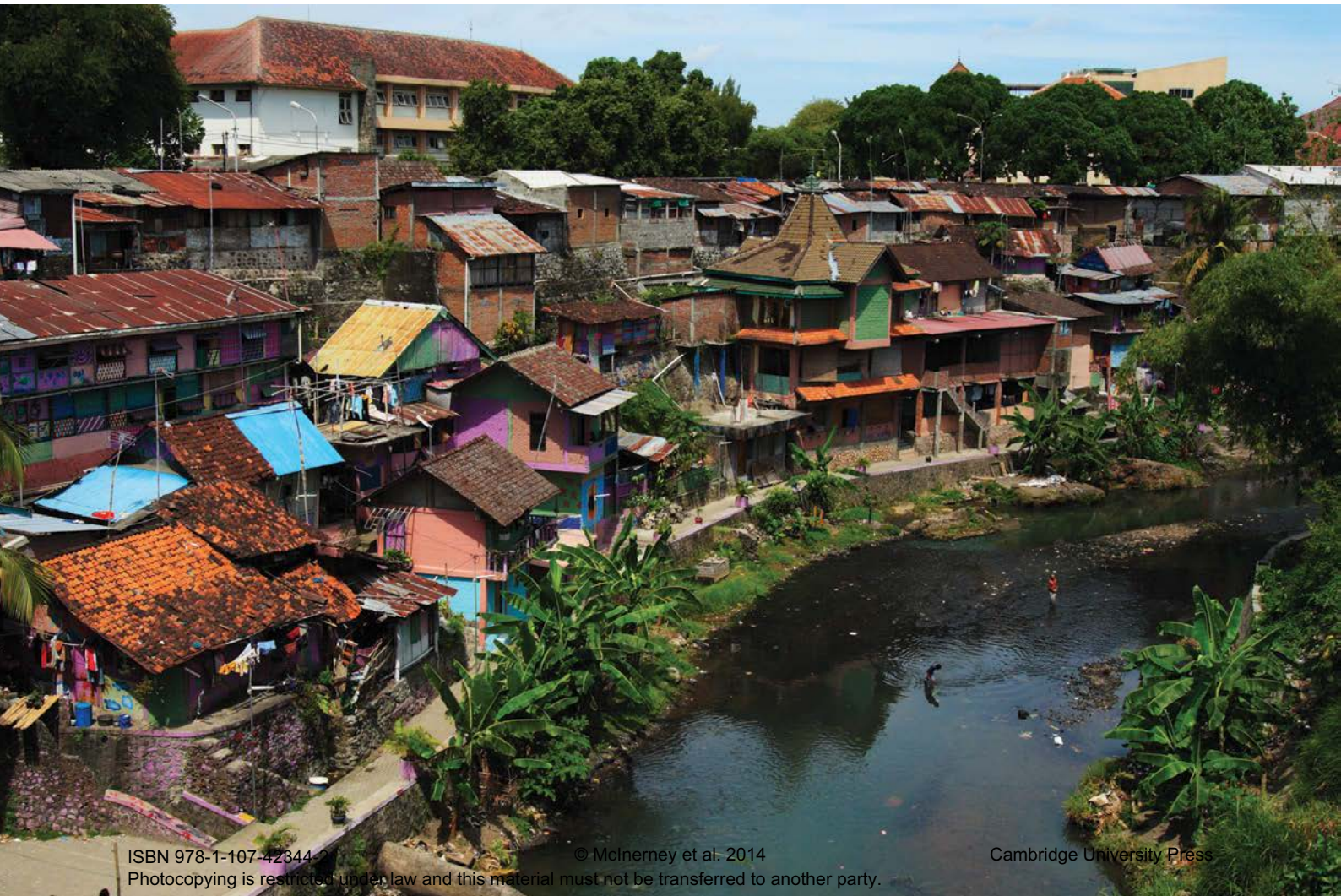
It is important to ensure that all parties benefit in some way by reaching a compromise between urbanisation and easing climate change. Carbon intensity and GDP per capita are the main factors influencing carbon emissions, followed by population size, urbanisation level and industrial structure. The main factors leading to global warning are population growth and human activities. These include, but are not limited to, consumption (carbon emissions per person), family pattern (carbon emissions per household), changes to production (industrial structure changing lifestyle) and transportation (carbon intensity).

Though reducing carbon emissions needs to be a priority for a country like China, it is a difficult task, as the economic and population growth rates are both rapid, as are rates of urbanisation and industrialisation.

Water consumption

Water security is under threat in urban areas. Urbanisation adds to concerns associated with water due to factors like population growth, poor city planning, pollution, poverty and opposing demands for water. Climate change is predicted to cause vast changes in rainfall patterns, which will affect the accessibility of water and cause water-related disasters. Urban water use is likely to double by 2025. From the viewpoint of technical operations, cost-effectiveness, social fairness and environmental sustainability, the current models of urban planning and water management have failed in China and other rapidly developing Asian countries. More should be done than simply improving the function and ability of a water system. A review of how water is used (and reused) and a water-management plan are needed to provide a framework for interventions over the entire water cycle. Addressing matters such as

Source 6.15 Water use in some parts of Indonesia



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water use in households, ecosystems, agriculture and industry should be a priority. Many more governments these days recognise the importance of addressing the challenges of cities by taking a united approach to urban water resources management. They are beginning to recognise the interrelated benefits associated with land use, management of water resources and energy.

In Indonesia, the problems with water management continue with the battle to improve both access to and the quality of water. Many Indonesian homes rely on low-quality drinking water, with a high percentage of the country's good-quality drinking water available only in urban areas in the form of bottled water that has to be purchased. This exploitation of drinking water for financial gain adds to household spending and worsens conditions for the poor. Many households in Indonesia spend two-thirds of their income on food, so having to buy drinking water puts more pressure on poorer households. Critically, there has been a decline of the Indonesian **river basins** over the past 40 years. The bulk of main rivers in Indonesia fall into the seriously polluted category. Indonesia does have an action plan, which is to extend and improve its water pipe networks; however, if the river basins are in decline then this plan is not going to work.

river basin the area of land drained by a river and its tributaries

DEVELOPING YOUR UNDERSTANDING 6.5

1. Recall why demographic factors affect greenhouse gas emissions.
2. Discuss some examples of how changes in rainfall patterns can affect the accessibility of water and cause water-related disasters. Perhaps use an example that has recently been in the news.
3. List some concerns with water that can be created by urbanisation.



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Reflecting and consolidating

Chapter summary

- Indonesia has a population of just under 247 million. More than half of Indonesia's people live in cities.
- Jakarta, the capital of Indonesia, is one of the world's megacities.
- Urbanisation is a process whereby a society becomes more focused on its urban areas.
- If a city has leaders in government, they can deliver services more efficiently.
- Megacities such as Tokyo and Shanghai show that cities can be managed successfully.
- An effect of urbanisation is that the economic activities often cluster together. Cities have greater potential for a cluster of economic activities.
- Imports are goods that are brought into the country. Exports are goods or services that are sold to other countries.
- Much of Australia's economy is based around primary production. Service industries are even more important to Australia than primary production.
- The biggest service sectors providing a comparative advantage to Australia are education and tourism.
- While Australia imports many of its manufactured products, manufacturing does still occur in Australia.
- Australia's economy has been extremely successful over the last 20 years.
- The bilateral trade between China and Australia has led to considerable benefits.
- Carbon emission is the release of carbon into the atmosphere. Carbon emissions and greenhouse gas emissions are a component of climate change.
- Demographic factors have important implications for climate change.
- Urbanisation adds to concerns associated with water, due to a variety of factors.
- Climate change is predicted to cause vast changes in rainfall patterns.

Short-answer questions

1 Describe three effects rapid urbanisation has on water supply and infrastructure.

2 Explain the bilateral trade process between China and Australia, giving examples of what products and services may be involved.

3 Justify why megacities require effective public transport systems.

4 Outline three major threats to Australia's car manufacturing industry.

5 Identify the major industry in your town or suburb. Evaluate three ways in which the needs of that industry have affected the local geography.

Extended-response questions

1 The mining industry has been an important element of Australia's economy over the past decade. What may happen when the global demand for our mining exports decreases?

2 List at least three possibilities in your response.

3 Write a paragraph for each of the possibilities and try to include statistical or economic data to support each paragraph.

4 Predict what arguments could be developed against your thoughts and provide counter-arguments to them in your report.

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7 Urban settlement patterns

Before you start

Main focus

This chapter discusses urban concentration and settlement patterns in Australia and the United States. Cities are complex places, with economic, social and environmental forces interacting in constantly changing ways.

Why it's relevant to us

It is important to study our cities today, as they have a major impact on the way in which we live. A large majority of Australian and United States citizens live in cities, making them diverse and fascinating places in which to live and work. However, the future of these cities will depend on whether or not they are environmentally sustainable.

Inquiry questions

- Why does Australia have areas of urban concentration?
- Why does the United States have areas of urban concentration?
- What is the history of European settlement and migration?
- What is the relationship between population density and proximity to urban centres?
- What is the shape of our transportation network?

Key terms

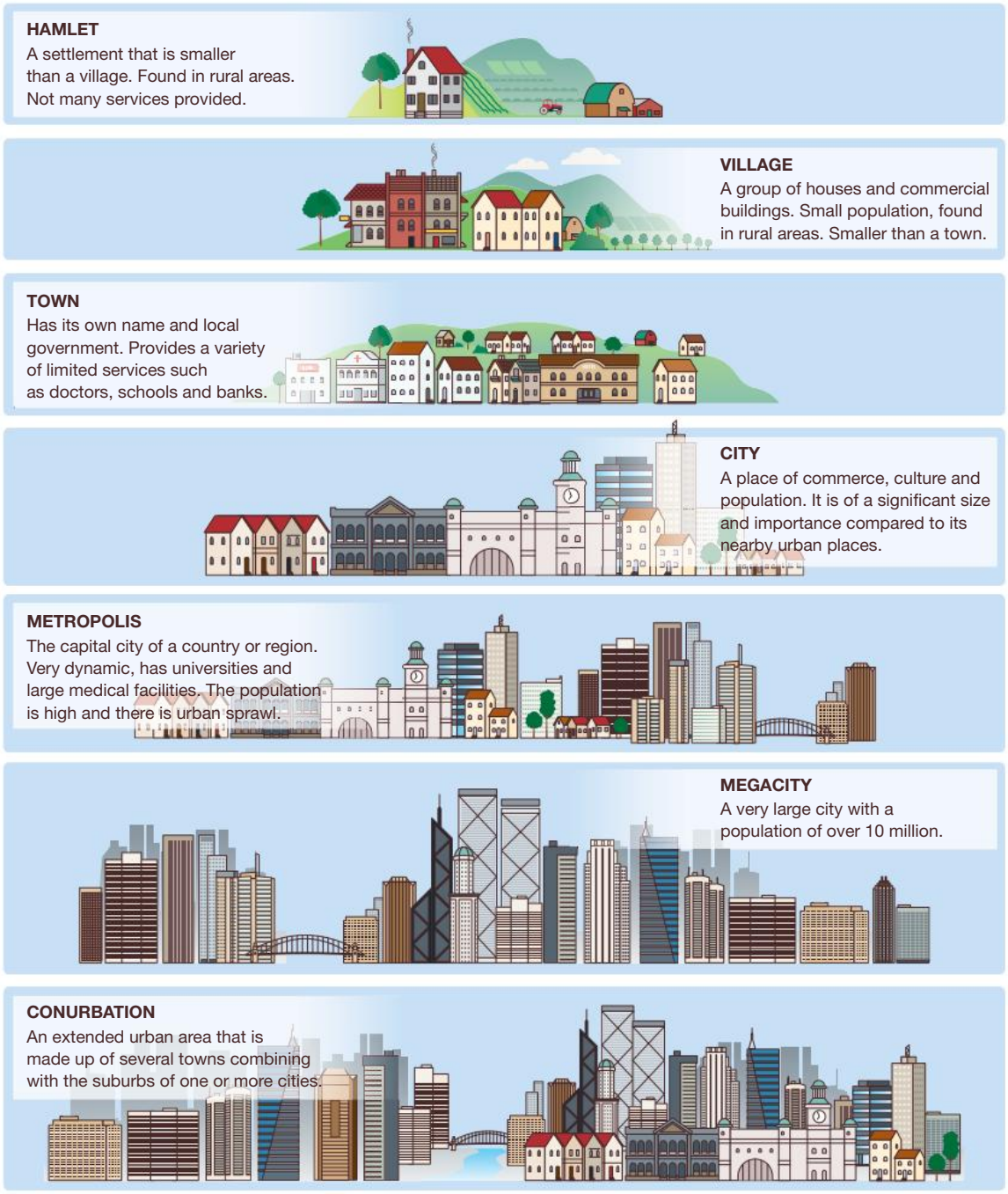
- Agriculture
- Emigrant
- Indentured labourer
- Manufacturing
- Recreation
- Satellite city
- Urban settlement

Let's begin

Cities have been important places for much of human history. This goes back to ancient times and the civilisations of ancient Egypt and Rome, where communities developed close to fertile river plains and valleys. It is natural for people to want to live close to services such as employment, education and medical care. In Australia, some of the early colonial settlements determined the location of our metropolitan areas. Our cities are linked by a complex transport system that connects each of them to their surrounding suburbs. Cities can also be linked by waterways and bridges. People in cities need power supplies, drains and sewerage, and access to fresh water and waste disposal, often on a large scale. It is important to maintain our cities so that they can be sustainable into the future. Both citizens and governments need to take responsibility for the ecological footprint of our cities.

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7.1 What are urban settlements?



Source 7.1 There is a variety of urban settlements.

Geographical thought

According to the Australian Bureau of Statistics (ABS), the percentage of people living in major cities in Australia increased from 54% in 1947 to 70% in 1971 and to 89% in 2012. This makes Australia the 15th most urbanised country in the world. Qatar is ranked first, with 100% of the population living in urban settlements!

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Urban settlements are distinct areas where people live and work. At any one time, a huge variety of activities is taking place in an urban settlement. People work in factories, shops, offices, warehouses and banks; they visit schools, stadiums, cinemas and places of worship. Urban concentration can vary in size from a small town to a large metropolis with millions of inhabitants. An urban settlement can be defined by how many people do not depend on **agriculture** for a living. Other definitions of an urban settlement rely simply on its population size. Different countries have different thresholds, ranging between 2500 and 20 000 people.

urban settlement a distinct area where people live and work

agriculture the use of the land to raise crops or livestock

The growth of urban settlements

Urban settlements grow for two reasons: because of general population increase, and because of the resettlement of people from rural areas. The proportion of the total global population living in urban areas has grown rapidly since the Industrial Revolution.

Source 7.2 Growth of urban settlements around the world

Year	% of population in urban settlements
1800	3
1900	14
1950	30
2050	70 (est.)

Global distribution of urban concentration

Why are urban settlements growing?

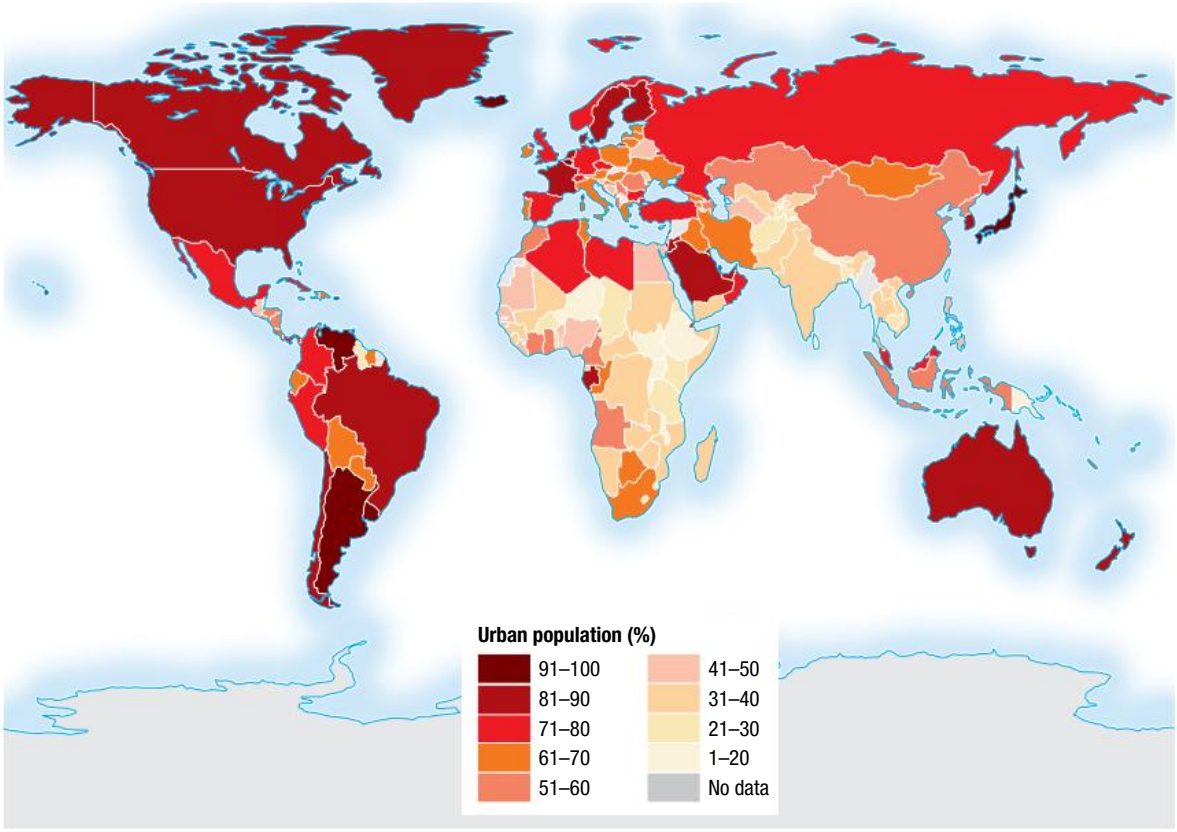
There are many reasons why urban settlements are increasing in size. The first is that there is a natural increase due to the rise in population. This has been caused by advances in medicine and better living conditions for many. Because of better medicine and immunisation programs, more children are surviving to adulthood than ever before, and people are living longer. This means that there are more children being born than people dying. The second major reason why urban concentration is increasing are push–pull factors, which drive migration from rural areas to urban settlements. For example, historically speaking, after the World War II years, European migrants were looking for a better life than their war-devastated countries could provide – this was the 'push' factor. Australia actively controlled who came by targeting specific skilled cohorts. Australia also enticed prospective emigrants by 'selling a dream'. At information evenings and via posters, billboards and fliers, prospective **emigrants** were told of the attractive lifestyle they would have in Australia, which included a level of materialism unheard of in post-war Britain and Europe. This propaganda also promised them a home of their own, white goods (electrical goods) and a vehicle – this was the 'pull' factor. An additional pull factor was passage assistance, to which both governments (of the relinquishing and receiving countries) contributed.

emigrant a person who leaves their country to permanently live in another

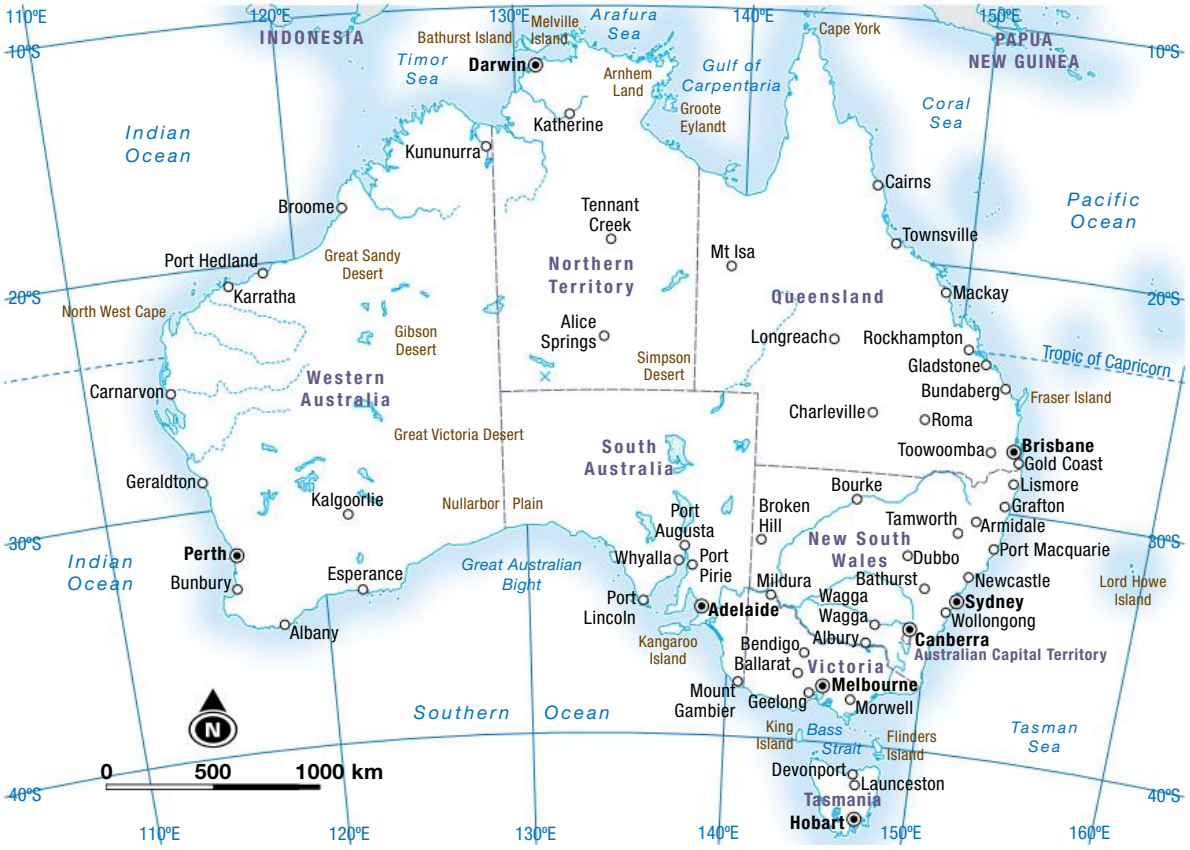
Geographical thought

The World Bank reported in 2012 that over 90% of urban growth was occurring in the developing world, adding an estimated 70 million new residents to urban areas each year. During the next two decades, the urban populations of two of the world's poorest regions – South Asia and sub-Saharan Africa – are expected to double.

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Source 7.3 World urban population map, 2012



Source 7.4 Urban places in Australia vary in size and distribution.

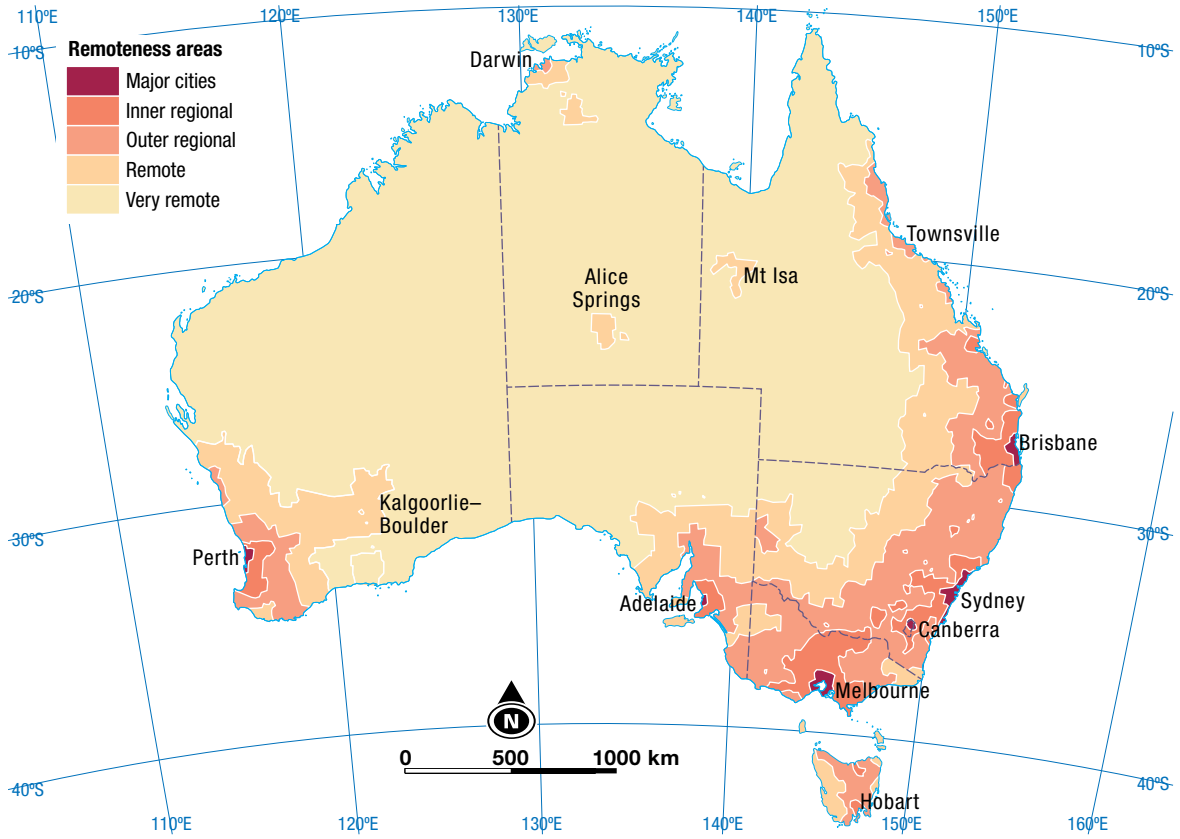
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Often people move from rural areas in search of a better life, especially to find work and improved educational opportunities. Advances in technology mean that fewer people are needed to cultivate farming land today. Source 7.3 shows the urban concentrations on a global scale.

Geographical thought

Did you know that one in five people living in New York City lives in poverty? This means 1.6 million people live below the poverty line (*New York Times*, 22 September 2011).

7.2 Urban concentration and settlement in Australia



Source 7.5 The types of urban settlements vary from state to state in Australia.

Australia is one of the most heavily urbanised countries in the world, with nearly 90% of the population living in urban areas, compared with around 80% for the United Kingdom and the United States, 70% for Italy and Germany, and 50% for China. The two maps in Sources 7.4 and Source 7.5 show the distribution of the main urban settlements and population density in Australia. Source 7.6 shows how each city has grown between 2005 and 2010.

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Source 7.6 Growth of capital cities, Australia, 2005–10

Estimated resident population by major region				
Capital city statistical division	June 2005 (No.)	June 2010 (No.)	Change 2005–10	
			No.	%
Sydney	4 245 045	4 575 532	330 487	1.5
Melbourne	3 680 609	4 077 036	396 427	2.1
Brisbane	1 822 074	2 043 185	221 111	2.3
Perth	1 485 823	1 696 065	210 242	2.7
Adelaide	1 134 513	1 203 186	68 673	1.2
Canberra	329 865	358 222	28 357	1.7
Greater Hobart	203 467	214 705	11 238	1.1
Darwin	111 258	127 532	16 274	2.8

Source: Information from the Australian Bureau of Statistics (2010)

RESEARCH 7.1

In groups, research an urban concentration. Your example can be from within Australia or from another country. For your chosen urban settlement, create a poster of your findings in response to the following questions. Remember to include statistics and images to support your findings.

1. Locate your urban settlement on either a world map or a map of Australia. Include the latitude and longitude.
2. Describe any important geographical features or features of the population of the urban settlement you have chosen.
3. Describe the changes to the natural and human environment that have occurred from the beginnings of the urban settlement until today.
4. List the population total and the average population density.
5. Demonstrate how your urban settlement is linked to others – for example, there may be a waterway linking them, or perhaps they are linked by transport and roads.

Historical factors in Australia's development

Aboriginal and Torres Strait Islander peoples did not have a large network of permanent settlement when the European settlers first came to the continent. James Cook made notes about possible settlement locations, and those following him were able to gather more information about the sites and make informed decisions about where to locate each town. Cook had recommended Botany Bay as the location for the first settlement, but this was moved further along the coast to Port Jackson by Captain Arthur Phillip because of its water supply and naturally deep harbour, which made it easier for ships to deliver necessary goods. When John Batman sailed to the Port Phillip district of what became Victoria, he declared that the area where Melbourne now stands looked like 'the place for a village' because

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of the richness of the surrounding land and its potential for agriculture.

In each colony of what eventually federated into the nation of Australia, there was a similar story. Towns were established to serve the new settlers and to ensure that the colony flourished and grew. Australia is not the only nation that began its white settlement as a colony of a major European country; there are many others, including Canada, New Zealand and the United States.

Advantages and disadvantages of living in large cities in Australia

Different groups of people have conflicting views about the advantages and disadvantages of living in cities. These advantages can be classified as economic, social and environmental.

DEVELOPING YOUR UNDERSTANDING 7.1

1 From the diagram in Source 7.7 (on the next page), classify the points of view into the following groups. Place your answer in the table below.

	Social	Economic	Environmental
Advantages			
Disadvantages			

2 In pairs, discuss the following statement: 'There are more advantages than disadvantages in living in large cities.' Summarise your conclusion.



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CITY LIVING: DISADVANTAGES

Police officers
- High crime rate
- Graffiti
- Drug use
- Problems associated with population-dense areas, such as the potential for rioting and drunk and disorderly behaviour in 'nightclub districts'



Young parents
- High price of housing
- Limited 'green' areas for children to play in and for sport or recreation
- Competition for education facilities



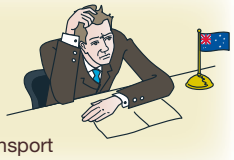
Aged persons
- Noise and traffic
- Isolation
- Lack of community



Ambulance officers
- Higher rates of accidents
- Higher rates of drug-related emergencies
- Traffic congestion can be a problem in emergencies



Government
- Problems associated with increased waste
- Pressure from growing populations to find suitable housing
- Pressure from growing populations to build suitable infrastructure, especially public transport



Social workers
- Growing inequality between rich and poor
- Isolation of those living in outer suburbs without a reliable public transport system



Environmentalists
- Cities cause many sustainability issues
- Cities create strains on flora and fauna



Traditional cultures
- Urbanisation may create distance from traditional customs of Aboriginal and Torres Strait Islander peoples
- Can be challenging to sustain cultural heritage



CITY LIVING: ADVANTAGES

Migrants
- Access to resources to help settle in a new country
- Often chain migration means that new migrants will already know people in an area
- Easier access to facilities (e.g. government departments and banks)
- More opportunities for employment



People aged in their twenties
- More job opportunities
- Selection of entertainment
- Greater opportunity for social activities in all forms
- More opportunities for employment



Doctors
- Wide range of medical facilities
- Opportunities to specialise in a variety of fields
- Variety of emergency services



Tourists
- Variety of cultural precincts and sites
- Access to public transport
- Variety of restaurants, cafes, bars and entertainment
- Greater diversity



Teachers
- Greater choice of schools and universities to teach at
- More opportunities to network with other teachers/academics
- Often more resources available



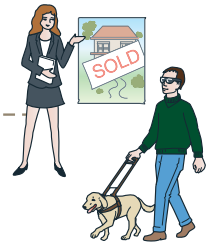
Business people
- Bigger market in which to develop business ideas
- More choice for consumers
- Greater access to a potential workforce and more variation of experience in the workforce



Youth
- Sport and entertainment facilities
- Greater access to public transport
- More opportunities for employment
- Greater opportunity for social activities in all forms



Real estate agents
- Population density drives up housing prices
- Greater assortment in choices of housing



People with disabilities
- More support available
- Accessibility to more services

Source 7.7 Advantages and disadvantages of living in cities

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7.3 Australia's population distribution

Most of Australia's population is concentrated in two widely separated coastal regions – the south-east and east, and the south-west. Of the two regions, the south-east and east is by far the larger in area and population. The population within these regions is concentrated in urban centres, particularly the capital cities.

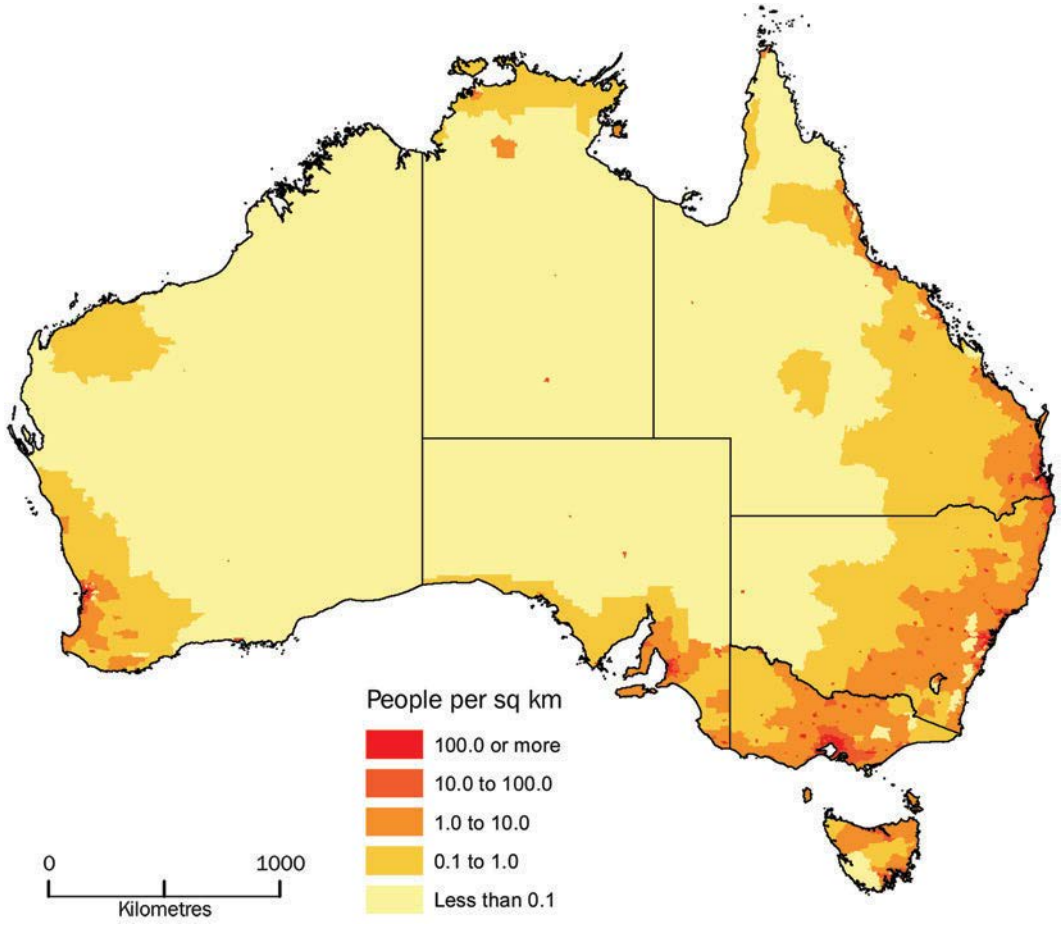
Australian cities have always been places where a large number of Australians have lived. More than 120 years ago, author Adna Weber, in his book *The Growth of Cities in the Nineteenth Century*, stated that 'the most remarkable concentration, or rather centralisation, of population occurs in that newest product of civilisation, Australia, where nearly one third of the population is settled in and around capital cities'.

Why has this pattern of settlement occurred?

The location of many of our early colonial settlements determined where our cities would develop. Safe sea ports located near rivers were needed for trade, so the coastline or a large stretch of river near the ocean became the natural choice for the location of a major city. Then the trade and **manufacturing** of the last part of the nineteenth century strengthened this pattern of settlement. The rail networks that were centred in capital cities increased their importance and connectivity within each state.

manufacturing the production of goods, often on a large scale and for sale to others

By 1911, almost half the populations of New South Wales and Victoria lived in Sydney and Melbourne, respectively. Adelaide and Perth



Source 7.8 The distribution of Australia's population, 2010

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accounted for 40% of the population of their states. Today, these cities, along with Brisbane, contain 60% of Australia's total population.

The end of World War II saw the need to reconstruct the nation, and large-scale immigration was needed to supplement the workforce. The combination of population and economic growth led to great urban expansion. At this time, the percentage of people living in cities grew from 54% in 1947 to 70% in 1971 (according to ABS in 2008).

Since 1971, the growth of our large cities has continued, but at a slower rate. The ABS stated in 2010 that the populations of regional or **satellite cities**, such as Newcastle, Wollongong, Geelong and the Gold Coast, are also increasing.

satellite city a smaller metropolitan area that is located near a major city; it may be economically and politically independent

State or territory	Name of regional city	Satellite city of …
South Australia	Gawler	Adelaide
Queensland	Ipswich	Brisbane
New South Wales	Gosford	Sydney
Victoria	Melton	Melbourne
Western Australia	Mandurah	Perth
Northern Territory	Palmerston	Darwin
Australian Capital Territory	Tuggeranong	Canberra
Tasmania	Kingston	Hobart

People from many nations and backgrounds have settled in Australia and made their mark on the land. Our history has been strongly influenced by people from many lands, and our nation has reminders of them everywhere we look.

Our settlements, regardless of size, have been established for a variety of reasons. Many, including our state and territory capitals, were ports with natural advantages for large ships to dock and unload their cargo or passengers. Other inland settlements began as 'staging posts', a day's journey from the major city or the previous post. These towns would often include a hotel that provided meals and accommodation to the human travellers and stables for horses. Berwick in Victoria is one such town – a full day's ride from Melbourne and halfway between Melbourne and central Gippsland.

Some towns sprang up to service the local population with general stores, or as trading posts for farmers to sell their goods and purchase other items they needed. Other towns were founded around an industry such as mining or whaling. There were many reasons why a town would be founded and a range of conditions under which it would flourish and grow.

Environmental factors in Australia's development

There have been many attempts to explain why people live where they do. In simple terms, people need to feel safe and have access to shelter, food and fresh water. It is important to have these elements for the survival of each individual and family. These needs are increased with larger populations. Added to this is the need to be able to dispose of waste effectively.

Australia is a land that has limited freshwater and fragile land that needs to be managed and nurtured carefully if long-term settlement is to be successful. With so much of the Australian continent being semi-arid or even desert, it is not surprising that the new settlers stayed close to the coastal fringe. The coast generally has higher and more reliable rainfall, more fertile land and more immediate access to transport, especially by sea. In order to future-proof the growth of some cities

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and the need for freshwater, desalination plants like the one found in Kurnell New South Wales were built. Many new Australians never returned to their country of origin, especially in the first century of settlement, but it remained important to them to stay near the links that could take them back if the opportunity ever arose. The wetter, greener coastal area also reminded them of the cooler environment they had left behind in Europe, and allowed them to feel 'at home' more quickly.

7.4 Urban concentration and settlement in the United States



Give me your tired, your poor, your huddled masses yearning to breathe free, the wretched refuse of your teeming shore. Send these, the homeless, tempest-tossed, to me: I lift my lamp beside the golden door. (Emma Lazarus, 1883)

Source 7.9 The Statue of Liberty, New York, and an extract from the sonnet carved on a plaque at the base of the statue

The United States is a nation made up of international migrants who came from a variety of distant places looking for a new life. That search may have been for political freedom, refuge, employment and economic opportunity, religious freedom or family. One of the most recognisable symbols in the United States is the Statue of Liberty. *The Statue of Liberty Enlightening the World* was a gift of friendship from the people of France to the people of the United States, and is a universal symbol of freedom and democracy.

There have been multiple waves of international migration to the United States. Each one has had a different influence on the nation's cities and way of life.

The first wave

The first wave of immigration to the United States began in the colonial period during the seventeenth and eighteenth centuries. During this period, most people came from northern Europe, especially England, Germany and Ireland. Over half of these European immigrants arrived as **indentured labourers** – young workers who

indentured labourer a worker, typically a labourer or tradesperson, under contract for a fixed period of time in return for payment of travel expenses and accommodation



Source 7.10 Migration to the United States, 1880–1920

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were provided with food and training, who then worked to pay off their travel costs. Africans also came to the United States by force through the slave trade.

The second wave

The second wave of mass migration, in the mid-nineteenth century, saw another great influx of people from Europe, in particular from Germany, Italy, Poland, Russia and Hungary. The advent of steam-powered ships made the journey across the Atlantic Ocean faster and more economically viable for families. This period was the most multicultural in United States history, with 15% of the population in 1890 being born in another country.

The third wave

The early part of the twentieth century saw a further wave of immigration from Europe, particularly southern and eastern Europe. It was during this period that the United States experienced its peak year of European immigration, 1907, when 1 285 349 people entered the country. This decreased greatly in the following decades: World War I, the Great Depression, restrictive immigration laws that targeted Asia and southern and eastern European countries, and World War II combined to bring this immigration boom to an end.









Source 7.11 The impact of migration on American cities

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The fourth wave

It wasn't until the *Immigration and Nationality Act* of 1965 that the United States sought to change the fundamentals of its immigration system, opening its doors to migrants from non-European nations. This changed the fundamental ethnic make-up of the nation. Today, international migrants primarily come from Latin America, Asia and the Caribbean. This shift has been caused by the need to find employment and make a new life. A large proportion of these immigrants are unauthorised; sources suggest that, of the 38 million international migrants, nearly one-third are in the country without legal permission.

How are the new migrants different from those of the past?

Geographic distribution is the key here. Until recent times, migrants settled in the traditional 'gateway states' such as California, New York, Texas and Florida – all situated at the geographical edges of the country. In 1980, changes to laws made it easier to settle further inland, in the Midwest and South, which led people to settle in large numbers in areas that had not had international migrants before. In 1990, 66% of immigrants lived in gateway states and 34% lived in other states. By 2005, the proportion living in gateway states had decreased to 60% while 40% were living inland.

7.5 Comparing Australia and the United States

A comparison of the development of settlements in Australia and the United States reveals both similaritites and differences. We need to understand these, and to analyse the reasons for the differences to predict future patterns of development. We should first recognise that both nations were already settled by native peoples who had been living on the land in harmony with the environment for long periods of time. In both cases, their lifestyle and sovereignty were not valued by the new colonists, and were often seen to conflict with the goals of the new settlers. A further similarity is that the free settlers who came to both countries were often looking for a better life for themselves and their families. They rarely had very much in the way of property or money, but were willing to work hard to achieve their dreams.

There are many historical connections between the two. It was the American Revolutionary War that saw the end of transportation of convicts. This directly led to England searching for a new destination for prisoners and deciding that Australia was a suitable replacement. The discovery of gold in California drew immigrants from across the globe, including some who later travelled to Australia and found gold in Victoria and New South Wales. The discovery of gold in the Australian colonies directly led to the end of transportation of convicts, as it was felt that sending prisoners to a gold mine was not really an effective punishment.

A key difference is that colonists who settled in America found that the environment was similar to the lands they had left behind. There was a plentiful water supply, and they were eager to push the frontier or settlement boundaries further west in their quest for a better life. The map of the United States in Source 7.12 clearly shows the regular distribution pattern of cities and towns across the nation, providing a network that supported the development of utilities and services such as transport and communication for the population.

The main exception to this is the state of Alaska, where the harsh climate limited the number of people who chose to live and work there. Despite being much colder, Alaska shares the harshness of its environment with the hot, dry Australian outback, producing a similar pattern of settlement with increased population centres along the coastline, and large interior regions with smaller and fewer towns.

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Source 7.12 Map of the United States



Source 7.13 Map of Australia

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Source 7.14 Comparison of Australia and the United States

	Australia	United States
Settlement factor	• Colonised by England with free settlers and convicts. • First Fleet arrived 1788. • Mostly convicts before the discovery of gold in New South Wales and Victoria in 1851.	• Colonised by England with free settlers and convicts. • Began in the early 1600s. • More free settlers than convicts. Penal transportation ended in 1776 with the Civil War. Discovery of gold in California in 1848.
Settlement pattern	Settlers came from Britain and other areas of Europe. Convicts featured as the major source of labour to build infrastructure in settlement locations decided upon by the British. There was also the forced migration of Melanesian workers to support agriculture.	Settlers came from Europe directly across the Atlantic Ocean, looking for land similar to the homelands they had left behind. They settled the eastern areas first, gradually moving west. The main exception to this was the forced migration of slaves from Africa and the Caribbean.
Environmental factors	Arid land with nutrient-poor soils through much of the inland; fertile soils with more reliable rainfall and access to fresh water supplies along the coastal fringe, especially the eastern and southern coasts.	Desert areas, but generally a more even climate with predictable precipitation in many areas, supporting more locations for settlements and agriculture.
2011 population	21 507 717 (about 21 million)	311 800 000 (about 311 million)
Land size	7 692 024 square kilometres	9 158 960 square kilometres

7.6 Transport and urban settlements

We have already identified many factors that are important in the selection of a site for a permanent settlement. Another very important one is transportation, especially how easy it is to bring goods such as food into the town and to take any produce of the area out to the markets. Good transport options can make a town thrive and prosper, while issues with transport can even cause a town to collapse. Throughout Australia's history, the importance of towns has changed according to the efficiency and reliability of transport.



Source 7.15 Most Australians use transport today.

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When Australia was first colonised, water transport was the primary method of moving large quantities of goods around, both from England to the colonies and inland on rivers. It was slow, but there were very few other options. As roads began to be built, horses and bullocks pulling loads on carts were also used, but they still did not compete with the water for large haulage. This led to the development and expansion of river ports such as Echuca on the Murray River, which provided a regional 'depot' for the area surrounding it. Goods could be brought to Echuca for transport to the larger cities or taken from Echuca back to the farmhouse.

As better overland transport options such as rail opened up in the second half of the 1900s, river ports began to decline in importance and size. River transport could not compete with the speed and cost of rail transport for large amounts of freight. The rail system was not restricted to the rivers, and could take goods to areas that had been difficult to access.



Source 7.16 Paddle steamer on the Murray River near Echuca, Victoria



Source 7.17 Road train in the Northern Territory

Transportation today

The development of roads and the invention of cars and trucks continued to improve the ability to move goods around the country, while the development of road trains made it even easier. These trucks, with their massive engines, are able to pull several loads at once across the continent.

Source 7.18 Melbourne from the bay, showing industry and recreation activities side by side



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They can carry goods from place to place, but can also replace trains in carrying freight to ports for movement to international destinations. Many ports around the country, such as Fremantle and the Port of Melbourne, have been revived by the increased efficiency of the road transport network in Australia. They are also benefiting from an influx of new residents, who are 'cashed up' and wanting to live in an historic area. These new residents are changing the areas from being primarily industrial to having a more diversified economic base that includes tourism, hospitality and **recreation**.

recreation activities for the purpose of relaxation during leisure time

Communication

Until very recently, newspapers were a major source of information for people. They were the chief way people found out what was going on in the world, as well as in their local community. With improved communication services, there has been a steady decline in the number of newspapers being produced. Some papers have vanished altogether, while others have merged or reduced the number of editions produced each week. Television news services are also suffering a decline, with more people now using the internet and their smartphones or tablets to stay informed. News can be updated quickly and downloaded to where it is wanted in a matter of seconds. If this technology had been available to the first European settlers as they arrived in Australia, the pattern of settlement may have been very different. Towns that were based on providing telegraph communications, like Alice Springs, might not have existed at all, while others might have a completely different focus.

If communities had been able to access the global communication and information services that we can today, there may have been an even stronger concentration of settlements along the coastal edge of the country, without the need to move nearer to families and friends. Improved transport links and options would have further changed settlement patterns, allowing easier movement around the country. Perhaps towns that are now virtually 'ghost towns', like Walhalla and Charters Towers, would have remained viable settlements, with residents being able to maintain connections to the outside world instead of being physically isolated.

Adapting to the environment

Over the past 75–100 years, technology has played an ever-increasing role in the Australian landscape. It has supported change to the agricultural and manufacturing systems we use, made us re-evaluate how we get our information and shown us new ways to stay in touch with our friends and family, as well as changing how we move around the country.

When Europeans first came to Australia, they did not understand the new land in the way that the Aboriginal and Torres Strait Islander peoples did. The local Indigenous people had been living with and from the land for thousands of years, maintaining balance in the environment. The Europeans brought with them farming methods that did not properly look after the land, and ultimately were unable to continue to be efficient in food production. The Australian environment had less fertile soil and less reliable rainfall than the settlers were used to. The obvious answer was to fertilise and irrigate the land to reproduce the conditions they were accustomed to, but this created other problems, especially salination of the land and conflict over water supply. Fortunately, scientific research has shown farmers how to better manage their land, while developments in technology have provided more efficient machinery for the industry.

Other manufacturing industries also benefit from similar processes. We have seen advances in robotics and assembly line practices, computerisation and, most importantly, human safety in the workplace. Distribution and transport network improvements have supported advances in manufacturing, as well as assisting in the tourism and hospitality sectors. When goods can be moved around the country more quickly and cheaply, the profits of the manufacturer increase. Consumers also benefit from cheaper prices for products and greater choice in the range of products available.



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Reflecting and consolidating

Chapter summary

- Urban settlements are distinct areas where people live and work.
- Urban settlements have grown over time because of increasing populations.
- Australia is one of the most heavily urbanised countries in the world, with most of its population concentrated in two widely separated coastal regions.
- Australia is a land that has limited freshwater and fragile land that needs to be managed carefully.
- The United States is a nation made up of international migrants.
- Australia and the United States have many similarities in their colonisation and history, as well as geographically.
- Technologies – particularly in the transport and communication fields – have changed the way we can operate in our landscape.

Short-answer questions

1 Compare the United States and Australia, and articulate the most important differences and the most interesting similarities. Justify your choices in a paragraph format.

2 How comfortable people feel in an environment is very important. Taking this into account, suggest why more migrants moved to the United States than to Australia.

3 Interpret the importance of transport routes when living in a vast country such as Australia. Construct an email that supports the transport industry, highlighting its importance to this country, and which could be sent to your local member of parliament to encourage them to reduce fuel costs for the industry.

4 Via the internet, research photographs of Australia's capital cities. Select two and write a brief 'promo' for each of them – that is, why someone should choose them to live in.

5 List three social, economic and environmental advantages of living in your local town or city, and then list two disadvantages of each type.

Extended-response questions

1 Predict what the settlement pattern would have been in Australia if we still relied on sea travel and horseback.

2 List at least three reasons for your response.

3 Organise a paragraph for each of the reasons and try to include data, a map or an image (photograph or sketch) to support each paragraph.

4 Predict what arguments could be developed against your thoughts and provide counter-arguments to them in your report.

5 Construct your response in the form of a report that could be presented to an Australian student conference based on the theme 'What if …'

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8 Internal migration in Australia and China

Before you start

Main focus

This chapter discusses the effects of internal migration and how it redistributes a nation's population.

Why it's relevant to us

Where we choose to live and why we want to live there have an impact on everything about our lives, from the size of our community to the services available to us, to our daily communication with people in other communities. In one way or another, decisions about where we want to live, and when each person makes that decision, have an enormous collective impact on our community, nation and world.

Inquiry questions

- What do the four main migration terms mean?
- What are the two main factors associated with internal migration?
- Does Australia's economic advantage lie in primary production, service provision, tourism or highly specialised manufacturing?
- Has the mining boom in Australia resulted in a large movement of people to areas in Western Australia and Queensland?
- Has the manufacturing boom in China resulted in a large internal migration from central areas to coastal cities such as Shanghai?
- Are Aboriginal and Torres Strait Islander peoples the custodians of one of the world's oldest continuing cultural heritage traditions and sustainable environmental practices?

Key terms

- Biodiversity
- Displaced person
- Displacement
- Interstate migration
- Intrastate migration
- Negative internal migration
- Open-cut mining
- Push factor
- Pull factor
- Strip mining
- Urban sprawl

Let's begin

This chapter identifies the changes that have occurred in both Australia and China as a result of internal movement of people, and explains the economic, environmental and social effects of this movement. It looks at the concentration of Australia's population on the east coast, and the emergence and dominance of major economic activities – especially mining in the central and western areas of the continent. Aboriginal and Torres Strait Islander peoples' attachment to a number of places (through family, country, location, dispossession, relocation and employment) is discussed.

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8.1 What is migration?

Migration is the movement of people from one place to another to take up permanent or semi-permanent residence. It allows people to move from town to town, city to city or country to country. There are various forms of migration:

- *internal migration:* migration within a country
- *seasonal migration:* migration to an area for employment based on a season
- *international migration:* migration to another country
- *rural-to-urban migration:* movement from the countryside to the city.

Global trends in migration

A number of global trends exist in terms of migration, but the most common – and the one that has the most impact on population distributions in many countries around the world – is rural-to-urban migration. Rural-to-urban migration is defined as the movement of people from the countryside to the city. A unique feature of rural-to-urban migration is the fact that it is not confined to certain areas of the world; it is evident across all continents (except Antarctica), and exists in both developed and **developing countries**. Rural-to-urban migration is having the most impact in the developing countries of the world, especially in Asia and Africa.

developing country a country with a low standard of living and a developing industry base and/or economy

Push and pull factors

A range of factors contribute to the movement of people as a result of rural-to-urban migration. These factors are split into two key groups: **push factors** and **pull factors**. Push factors force people to leave their place of residence in search of a new place in which to live.

push factor a reason that forces a person to leave their place of residence

pull factor a reason why a person would want to move to a particular area

Source 8.1 A rural house in southern Laos. This is the type of area from which people leave to move to the larger cities.



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displacement the situation of people forced to leave their home and community, either because others have made them leave, or because life in the community has become intolerable or unliveable

These factors can range from poverty and **displacement** to war, environmental hazards and famines.

Pull factors are forces that attract or entice a person to relocate to a new area or location. These factors generate optimism and hope for the residents that they will receive better conditions than in their current situation. These factors range from better employment opportunities to access to medical and health services.

Source 8.2 Push and pull factors associated with rural-to-urban migration

Push factors	Pull factors
Being forced off the land by owner of the land	Perception of better employment opportunities in cities
War and civil unrest	Promise of better access to essential services
Failure of subsistence farmers' crops	Better health facilities
Extremes of weather (floods or droughts) that destroy crops	Greater opportunities for an education
Rapid increases in populations	More access to entertainment and recreation activities
Lower standards of living in rural areas	
Boredom with rural life	
Increased mechanisation of farming, leading to loss of employment	

RESEARCH 8.1

Use the internet to gather information about how rural-to-urban migration is influencing a specific country. In groups or as individuals, research a specific country and identify examples of push and pull factors that are operating within that country. Organise your results and present them to the class in a wiki or PowerPoint presentation.

A good starting point for your research is the Population Division of the Department of Economic and Social Affairs of the United Nations, and a link is available via www.cambridge.edu.au/hass8weblinks.

Countries you could research include:

- Thailand
- Vietnam
- Nigeria
- Bangladesh
- India
- Mexico
- Brazil
- Egypt.

Make sure you incorporate the following features in your presentation:

- maps
- photos
- statistics.

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8.2 Australia's population

According to the Australian Bureau of Statistics (ABS), Australia's population in 2012 reached 22.8 million. This ranked Australia as the 53rd most populated country in the world. In comparison, Australia has a land area of 7 692 024 square kilometres, which ranks Australia as the sixth largest country in the world in terms of area. Only Russia, Canada, the United States, China and Brazil have greater land areas than Australia. To identify the population density of a country, we divide the land area by the population. This gives the number of people on average per square kilometre. Australia's population density is one of the lowest in the world, with 2.9 people per square kilometre. This can be compared with places like Monaco, which has 17 703 people per square kilometre; Singapore, which has 7252 people per square kilometre; and Hong Kong, which has 6782 people per square kilometre.

Economic growth in Australia

primary resource (also known as a natural resource) a product from the Earth that can be used to produce or run human-made inventions

Australia has relied heavily on the production of **primary resources** for economic benefits. From the early establishment of Australia as a country, it relied on the wool industry as a main source of economic growth; now the mining industry is one of the biggest contributors to the economic prosperity of the country. According to the Mineral Council of Australia, in 2010–11 the total mineral exports that Australia generated (excluding oil and gas) reached $154 billion, about 52% of Australia's export income.

8.3 Internal migration in Australia

intrastate migration movement of a person within their own state

interstate migration movement of a person to another state

Internal migration that occurs in Australia can be classified into two key types. There is **intrastate migration**, whereby people move within their current state of residence – for example, from Brisbane to Townsville. The other is **interstate migration**, where people move from their current place of residence to another state – for example, from Melbourne to Perth. A very distinct pattern has emerged over the past 35 years in the internal migration of Australians. Queensland consistently has received the greatest number of internal migrants; however, that trend has dropped to the point where it is now at its lowest in the last 35 years. There are a number of key factors why Queensland has received the most internal migrants in Australia. First, Queensland has a warm temperate to tropical climate, which makes it very attractive to people who are looking for a climate that gives them a unique lifestyle opportunity. Second, Queensland is very attractive to people who are looking to retire to a warmer climate to enjoy benefits such as beaches and recreational activities such as golf or tennis.

negative internal migration a situation in which more people leave a place than arrive as newcomers

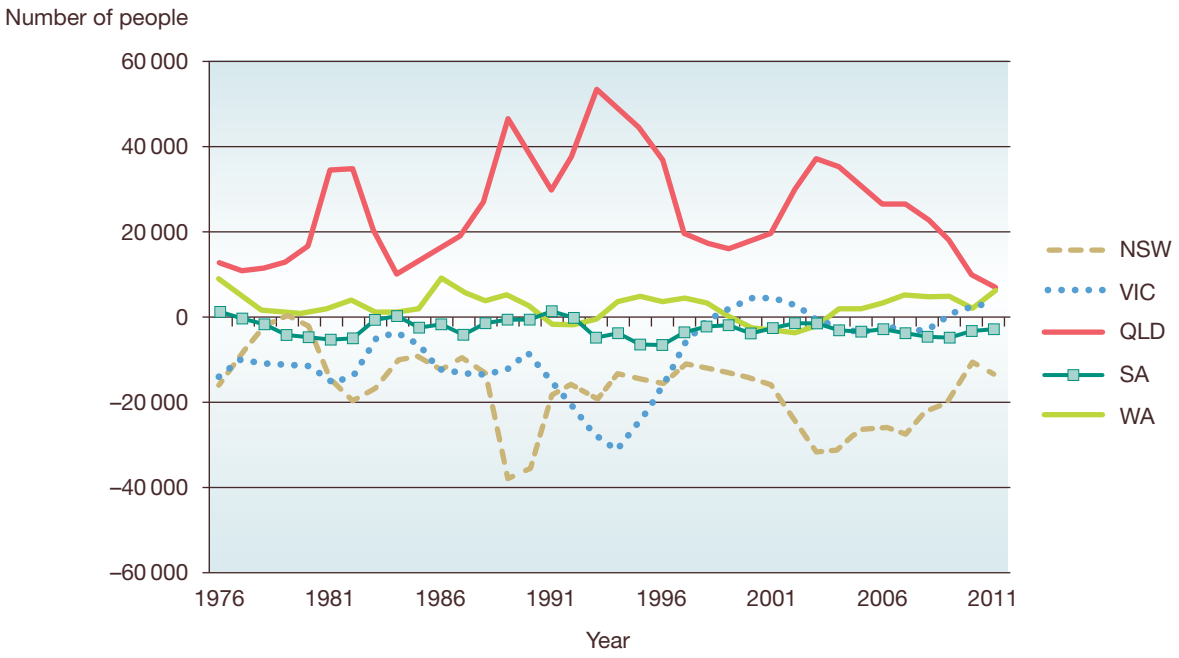
There are some other key trends that have occurred over the past 35 years. New South Wales has had fluctuating rates of **negative internal migration**. This means that there are more people leaving New South Wales than migrating into the state. This negative internal migration peaked in the late 1980s, when New South Wales lost a net total of 40 000 migrants. However, since then it has gradually decreased to a point in 2011 where 9000 more people migrated to New South Wales than left the state. Victoria has experienced a trend similar to that of New South Wales. Its lowest point was in 1994, with 30 000 people leaving; however, it has now reversed this trend and had a positive figure of 3000 people in 2011. This is because of better employment opportunities and the growth of Melbourne and Sydney as global cities with increased links into the global economy. Western Australia has seen a net increase in its internal migration over the period 1998–2011. Some 2000 people left the state in 1998, but by 2011 that trend had reversed, with 8000 people migrating to Western Australia. This has a direct correlation with the mining and resources

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boom, which has seen a rapid rate of development in Western Australia. With attractive salaries to be earned in the mining and resources sector, many workers have relocated themselves to this state to take advantage of the high salaries offered by resource companies.

Over time, there has been a general trend of internal migration in Australia to become a movement towards the cities. Whether it is intra-state or interstate, the main part of the migration has involved people moving to the major urban centres. This has developed to a point where Australia has now become one of the most **urbanised** countries in the world.

urbanisation the process by which more and more people are coming to live in towns and cities



Source 8.3 Net internal migration in Australia, selected states, 1976–2011

DEVELOPING YOUR UNDERSTANDING 8.1

1. Taking Source 8.3 into account, predict the order for those five states in 2020, from highest net internal migration to lowest.
2. Victoria's negative internal migration was reversed in 2011. Explain why this was so.
3. Describe a major pull factor for each of the following states: Queensland, Western Australia and Victoria.

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8.4 Internal migration in China

The movement of people internally through China has changed over time. The rise in economic development of China over the past 30 years has had a great impact on the movement of people throughout the country. This economic development has drawn the rural Chinese to the cities in search of higher paid work than is available in the agricultural sector. According to China's National Bureau of Statistics, the movement of rural Chinese to the big urban areas increased from around 30 million in 1989 to more than 140 million people in 2008. Another estimate puts the total movement of rural people to urban centres in China at 278 million people between 1979 and 2003.

A number of key factors help explain why this large movement of people has occurred:

- *A lack of employment in rural areas.* In rural areas, it is difficult to maintain a constant income with variables such as drought and other natural disasters restricting employment prospects. Therefore, people are seeking more stable and higher incomes in urban areas.
- *Income gain.* People are moving to urban areas to find employment that will give them a higher wage. In 2011, the average net income of a rural worker was 6977 yuan (A$1073), while the average net income for an urban worker was 23 979 yuan (A$3643).
- *Working conditions and employment.* Jobs in rural areas tend to involve manual labour, working outside in all seasons. These are very tough working conditions, whereas work in urban areas tends to be in service or **manufacturing** occupations, which usually involve less physical strain.
- *Access to services.* This is an important factor, especially for parents with children, who want to be able to give their children better access to educational institutions such as schools and universities.

manufacturing the production of goods, often on a large scale and for sale to others

Source 8.4 The square inside the Forbidden City, Beijing



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Source 8.5 A village and rice terraces in Guangxi province, China

Where is the internal migration in China occurring?

province an area within a country or state

China is a large country with a large area, divided into **provinces**, as shown in Source 8.6 (on the next page).

Most of the internal migration that occurs in China is based around a large movement of people from the central areas of China towards the coastal areas, especially in the south-east of the country. This is illustrated in Sources 8.7 (on the next page) and 8.8 (on page 147), which indicate the internal migration flows in 1995–2000 and 2000–05.

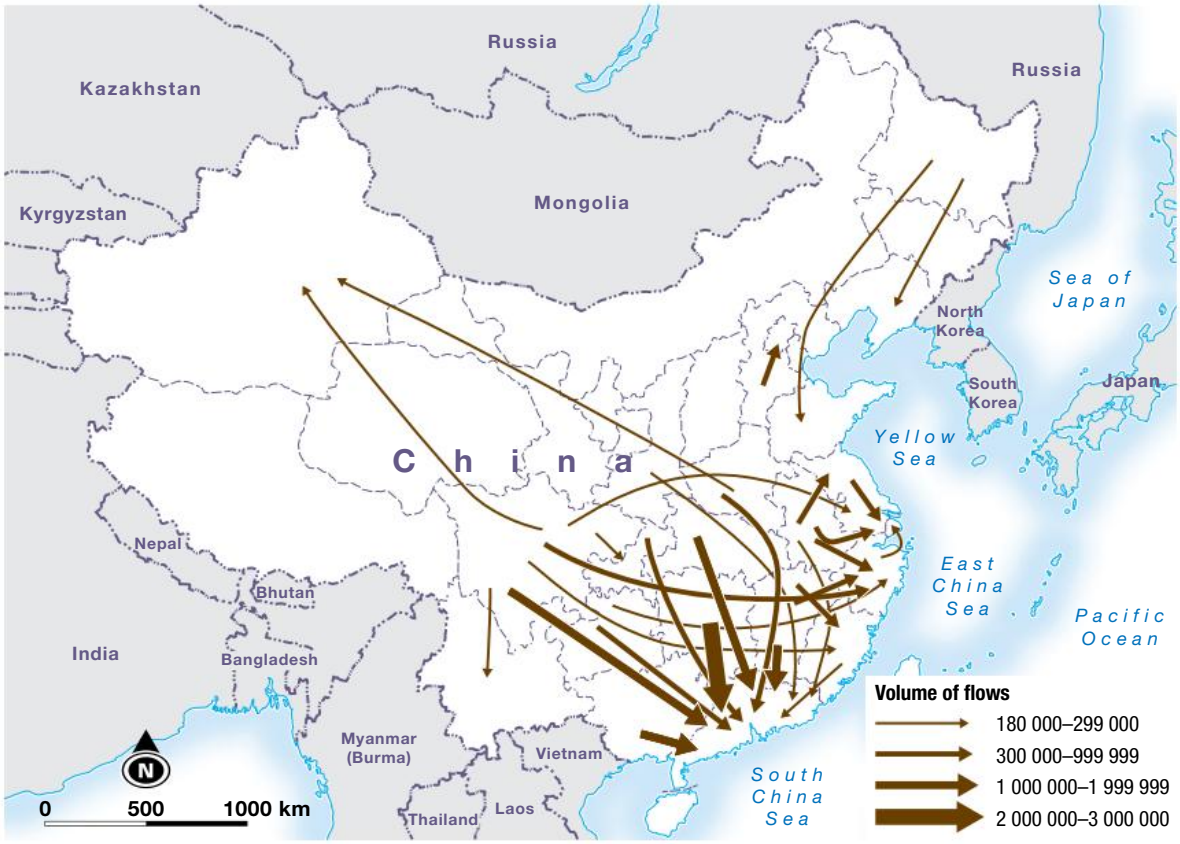
These figures clearly show that the largest numbers of people moving within China over this period are from provinces such as Henan, Hubei, Hunan and Sichuan. The destination for most of these internal migrants has been Guangdong province.



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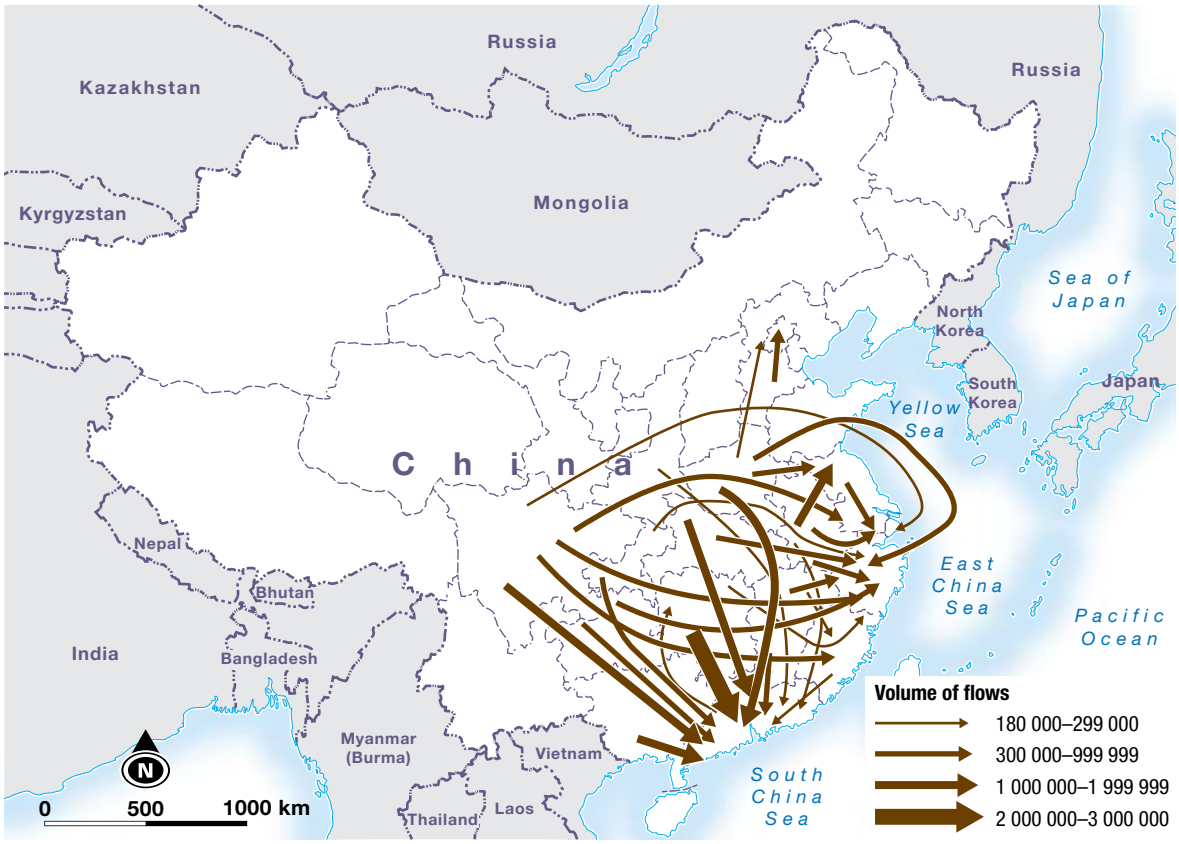


Source 8.6 China's many provinces



Source 8.7 Chinese internal migration, 1995–2000

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Source 8.8 Chinese internal migration, 2000–05

DEVELOPING YOUR UNDERSTANDING 8.2

1. Imagine you are a young parent with an infant child who has moved to the Guangdong province from rural China. In a paragraph, explain the reasons why you moved.
2. Taking into account Sources 8.7 and 8.8, try to construct a similar migration map for Australia using relevant information in the chapter.
3. Discuss briefly how drought and other natural disasters restrict employment prospects in rural areas.

How global economic connections are shaping China's geography

trading nation a nation with an economy that greatly benefits from the export of goods to other countries

While China historically has been a great **trading nation**, communist China was relatively isolated from the rest of the world until the late 1970s, when **special economic zones** were created in many coastal cities to encourage trade and manufacturing. These zones allowed foreign investment, and their coastal locations made trade with other countries convenient.

Within 30 years, China's economy grew to the point where it was the largest **manufacturer** in the world in 2010, responsible for almost 20% of all goods produced globally. This transformation has had a wide range of impacts on the geography of the country.

special economic zone a region that has conditions designed to ensure competitive trade between countries

manufacturer a maker of goods

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Increase in standards of living

wage payment to employees for work

As the economy of China has grown, so has the standard of living. Average **wages** have increased to 10 times those of 1978. Life expectancy has also increased, and the Chinese health system is comparable to those of many more developed nations. It has also led to the emergence in China of the 'super-rich', a class of people whose wealth far exceeds that of the average population.

Geographical thought

Shanghai has around 123 000 millionaires – more than any other city in the world.



Source 8.9 In 20 years, this small coastal town has developed into a city of more than 1.1 million people.

Mass urbanisation

In 1950 only around 15% of China's population lived in cities. As more and more people from rural areas migrate to cities, especially in special economic zones, that figure is predicted to be 90% by 2030.

environmentalist a person who acts to preserve the quality of the natural environment

air pollution substances in the air that affect the health of humans and the environment

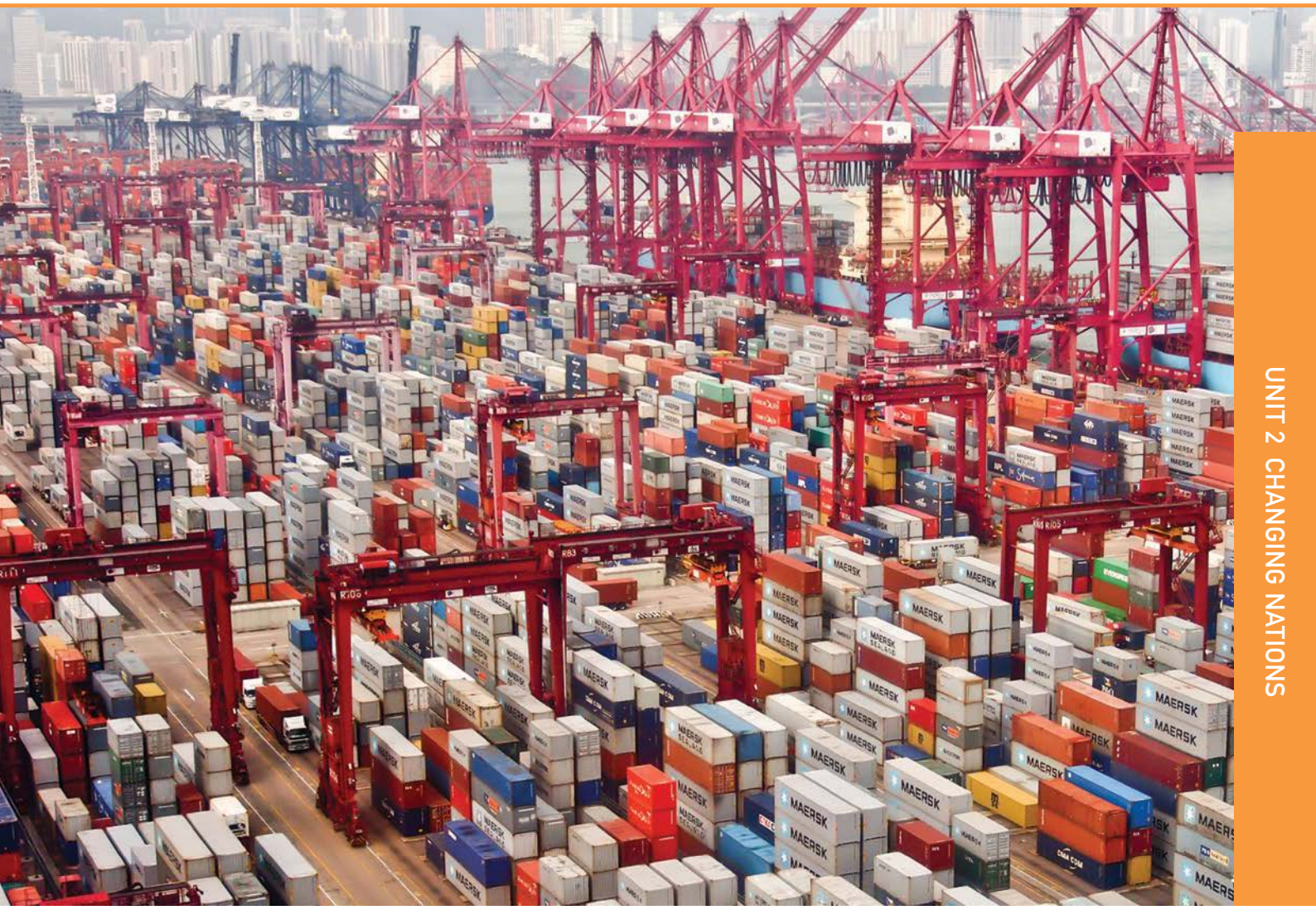
vegetation trees, shrubs and other plants

The rapid growth of cities in China is causing considerable concern to **environmentalists**, as issues such as **air pollution**, rubbish disposal and a lack of **vegetation** alter the quality of life of residents.

Development of global hubs of trade and transport

As a result of China's huge export market, ports such as Hong Kong have become vital hubs in the transport of goods. Hong Kong has the world's busiest cargo airport, and its sea port is the third busiest in the world. Six of the world's 10 busiest ports are located in China.

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Source 8.10 Hong Kong's busy port links China's factories to the world.

DEVELOPING YOUR UNDERSTANDING 8.3

1. Describe one way in which both China and Australia are shaped by their global connections.
2. Evaluate whether the ways in which places are shaped by these connections are always positive. Provide evidence from the text to support your answer.
3. List the goods in your home and at school that are manufactured in China, and outline what types of products they are.

8.5 What China's economy does and why

China's economy is very different from Australia's. It is largely focused on manufacturing goods (although it does have a growing services sector). For a long time, these goods were basic items such as clothing or plastics that did not require much technology, but now China has thousands of factories producing high-technology goods such as computers, mobile phones and planes.

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Source 8.11 An earphone factory in Shenzhen, China



Source 8.12 Technology fair, 2012, Shenzhen, China

China's comparative advantages

Low wages
The average minimum wage in China is about A$2000 per year. This compares to the minimum wage in Australia at just over $20 000. This allows Chinese factories to spend far less on wages, and so enables them to charge less for their products, giving them a massive comparative advantage. As China continues to develop, wages will rise, reducing this advantage.

Large domestic market
China's huge population of about 2 billion provides a large market to sell products to. This allows factories to produce on a larger scale, making them more efficient and cheaper. As the population of China gets richer this advantage will become even more important, as they will be able to buy more products.

Factories being subcontracted by Western companies
Many of the factories in China are not owned by the companies whose products they make. For example, a Chinese bicycle factory may make bikes for several of the big Western bike companies. This means they can concentrate their activities on manufacturing and not on more expensive design and innovation. This also give manufacturers greater flexibility.

Less strict rules and regulations in worker welfare and health and safety
Chinese industrial areas do not have the same strict rules as many developed countries in areas such as workplace safety and environmental regulations. This means money is not always spent on reducing pollution or training workers in safe practices. This makes their products cheaper than in places where these rules exist.

Source 8.13 Comparative advantages of China

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Why does China enjoy a comparative advantage in manufacturing?

comparative advantage in economic terms, the ability of one country over another to provide goods at a cheaper price

China is the world's largest manufacturer of products. There are a number of reasons why the nation maintains a **comparative advantage** in this area (see Source 8.13 on the previous page):

- low wages
- a large domestic market
- factories being subcontracted by Western companies
- less strict rules and regulations in worker welfare and health and safety.

8.6 How has manufacturing led to regional growth in China?

In the same way as Australia's population has increased in areas where mining occurs, China has also seen dramatic growth in regions where manufacturing is focused. Much of this growth is from rural-to-urban migration, where people are leaving farming areas to work in cities – especially in the special economic zones.

What are the negative impacts of this interconnection with China?

While it is clear that China's demand for natural resources has brought economic benefits to many regions in Australia, there are aspects of the economy and the environment that have suffered as a result.

As we have seen, the Chinese economy has a huge comparative advantage in terms of wages and working conditions. This has caused many Australian manufacturing companies to either close down or move their manufacturing overseas. Areas of cities based around manufacturing have seen increased unemployment as a result. Pacific Brands, the company that makes Bonds underwear, has moved its manufacturing to China in recent years, costing Australia 1800 jobs.

Damage to the environment

Despite strict environmental controls, as the number of mines grows – often in remote, pristine areas – the environmental damage that occurs inevitably increases. Mining is an activity that also uses high levels of water and produces large amounts of carbon dioxide.



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RESEARCH 8.2

Divide the class into groups of three students. The groups will take part in a role-play radio debate about the state of Australia's economy and the role of foreign-owned businesses and the bilateral trade relationship with China. All three students in the group must work together to complete additional research and statistics that build on the content in this book to provide a strong argument for both sides of the debate.

- One student is representing the Australian government, and is to argue that these relationships have been good for the economy.
- Another student will take on the role of a workers' representative in an area where unemployment has occurred as a result of these relationships, and is concerned about the power of overseas interests.
- The final member is the radio host, responsible for asking appropriate questions and linking the debate together.

The debates should be recorded and marks awarded for good communication, appropriate questions and understanding of the main issues.

8.7 Economic, environmental and social effects of internal migration

Internal migration has many varied effects on countries. Positive effects include increased employment, population growth and economic development. However, there are negative effects of internal migration, such as environmental destruction, overly rapid population growth and exploitation of workers.

Economic effects

The internal migration and movement of people have a range of economic effects. With people moving from one location to another, a number of economic transactions take place and create a flow of goods and services. For example, the most common form of internal migration in Australia is rural-to-urban migration. When someone moves from a rural location, a range of economic transactions takes place, with the sale of houses and goods, a loss of that person's skills from the rural region, and the loss of spending by that person in the rural area. Therefore, the economic impact on rural areas can be very detrimental as more and more people leave, shrinking the local economy. The more people who leave an area, the greater the economic impact on the rural area; and with decreased services in rural areas, it is very hard to attract new families to replace the people who have left, thereby creating further economic stress on rural areas.

Rural-to-urban migration has a positive impact on the urban areas to which the internal migrants move. These migrants will need to buy or rent



Source 8.14 The buying and selling of houses is an economic effect of internal migration.

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accommodation, they will need to purchase goods and services and, most importantly, they will need employment. All these factors create an economic gain for the urban area, which allows it to provide more services for the population.

government service a fundamental service provided by the government, such as law enforcement, education and health care, considered to be necessary for the functioning of society

Another economic effect of internal migration is the allocation of **government services** and **infrastructure**. With greater movement of people towards major urban areas, governments have to redirect the funding that they allocate to these areas to ensure they can meet the needs of the redistributed population. This can be detrimental to rural areas because people moving away means less funding from governments, and this can ultimately lead to cutting back of services to those areas.

infrastructure structures and services needed for society to operate properly, such as transport, water supply, health services, education systems, waste disposal systems and telecommunications



Source 8.15 Large numbers of internal migrants move to the Gold Coast each year, so the government has to ensure that it has sufficient infrastructure to cope with the demand.

Environmental effects

Internal migration of people also raises some major environmental issues. Shanghai, China's largest city, has experienced rapid population growth, which has raised a number of environmental concerns. Shanghai's population has grown from 10.8 million people in 1975 to 23.47 million people in 2011, which is a 12.67 million increase in 36 years. Additionally, the land area of Shanghai has increased dramatically to accommodate the growth of in the population. In 1975, the urban area covered 1.59 square kilometres; by 2011, this had expanded to 6340 square kilometres. However, this rapid increase in population and associated expansion in land area, which has been driven by internal

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Source 8.16 Aerial view of Shanghai, China's largest city



Source 8.17 Traffic congestion in Shanghai is a major cause of environmental damage.

degradation a loss of quality

biodiversity the variety of life forms and the interaction between them in a given area

migration to the city, has created a **degradation** of air and water quality, changes in **biodiversity** and local climate changes.

The degradation of air in Shanghai has been attributed to the burning of coal for electricity production and the exhaust fumes from the many additional private motor vehicles within the city; in 2011, there were about 1.95 million private cars in Shanghai. In an effort to control the number of cars in Shanghai, the government has placed a **quota** on the release of number plates every month. The loss of biodiversity has been associated primarily with the urban expansion of the city and increased human activities. The number of native plant species has declined as a result of the **urban sprawl** of the city. For example, in the Sheshan area of Shanghai there has been a 50% decrease in the number of native species. Additionally, there has been a dramatic increase in the introduction of non-native plants; this has had a major impact on the biodiversity of the area. In response, the government has established nature reserves and forested parks in an attempt to preserve and maintain the biodiversity of the region.

quota a specific number that either must be achieved or not exceeded

urban sprawl the gradual spread of cities into previously rural areas due to population growth

Source 8.18 The vast urban area of Shanghai has created a number of issues with the biodiversity of plants and animals.



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Social effects

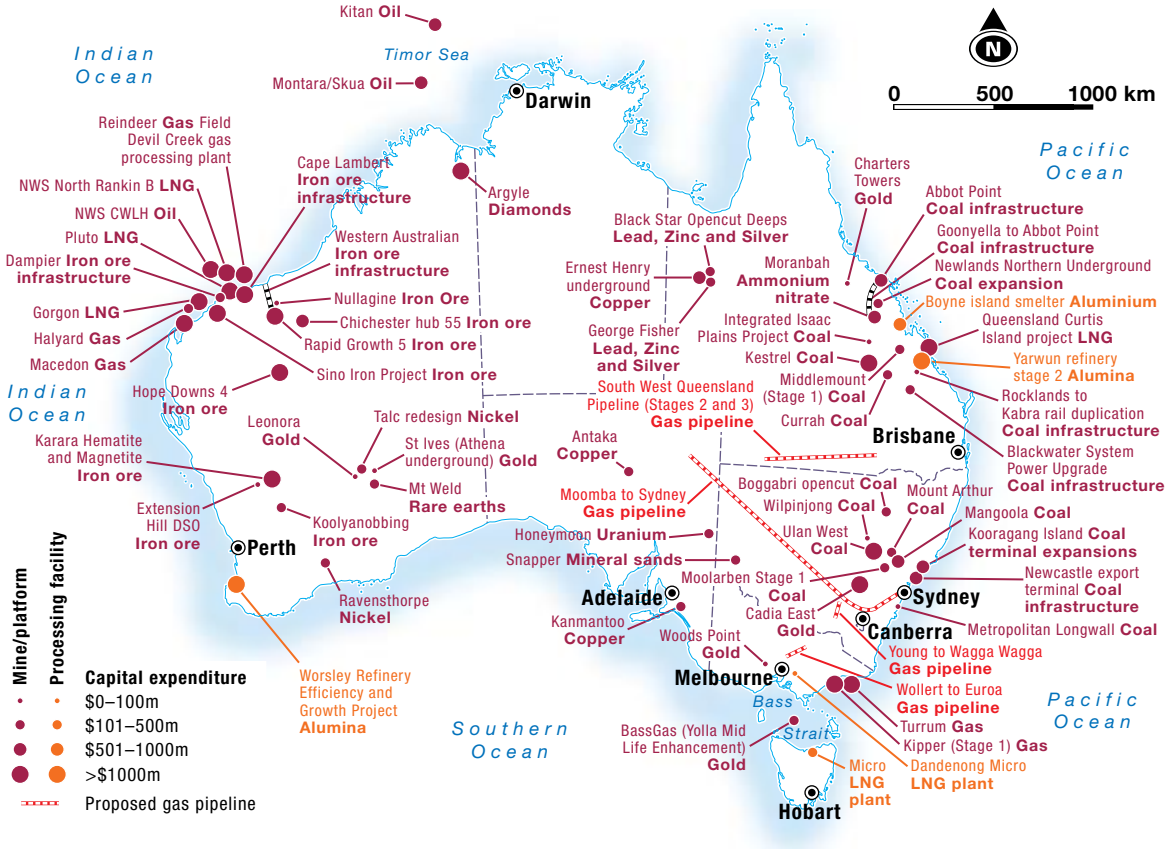
Internal migration has a range of effects across sectors of the community. This movement of people affects the population structure of a town. Most people who migrate are in the younger age groups (the 18–40 years age bracket), which leaves the areas from which migrants are drawn with a much older average population. The large numbers of people moving puts pressure on businesses and services because they find it hard to get people to fill employment positions in smaller towns or cities.

DEVELOPING YOUR UNDERSTANDING 8.4

1. Summarise what you think are the most positive effect and the most negative effect of internal migration for the city that receives the internal migrants.
2. Explain why the government in Shanghai placed a quota on the release of number plates every month.
3. Suggest ways in which your city could lessen the negative impact of internal migrants and could improve the positive impacts.

8.8 The positive effects of agriculture, mining and tourism

Mining occurs more often in regional areas of Australia, often well away from cities. Agriculture and mining are both activities vital to our economy that occur in rural regions. Despite this, these industries also bring a wide range of benefits to cities.



Source 8.19 Map of Australia's recent mining projects

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Agriculture

Agriculture covers a wider area of Australia than any other industry. Livestock, dairy, wheat production and **viticulture** are all significant contributors to the local economy. These industries often sustain small rural towns and cities, and provide a range of manufacturing and service jobs. For example, in many regions where livestock farming occurs, the local town may be home to **abattoirs** and meat-processing factories. Other businesses in these towns may provide services that assist farmers, such as repairs to machinery or veterinary services.

viticulture the practice of growing grapes

abattoir place where animals are killed for human consumption

These benefits are also passed on to cities. Supermarkets, butchers and food companies will employ large numbers of people, selling the goods that originated in the rural area.

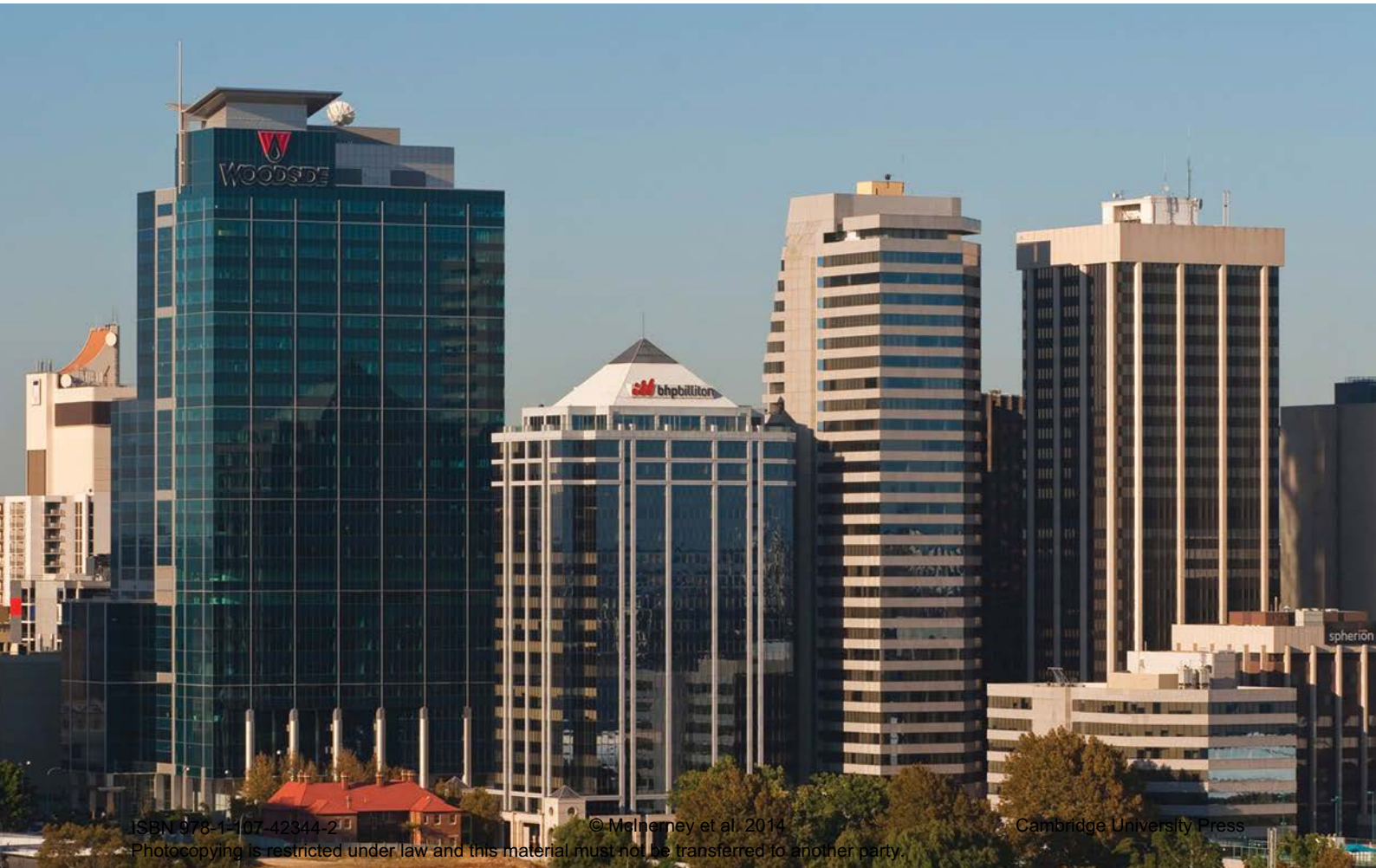
Mining

In Australia, most growth has occurred near the large cities as people have moved from rural areas and overseas to these areas for work, education or services. However, the mining boom has reversed this trend in some areas of regional Australia, as jobs are created at or close to mining sites. Most of Australia's recent mining sites and infrastructure projects are located in regional areas that are many hundreds of kilometres from Australia's largest cities. This has led to regional growth in these areas.

This increase in the number of workers in areas that are often sparsely populated can bring large injections of money to local businesses. Mining services, such as transport companies and surveyors, are also likely to benefit regions where mining is occurring. Specialised manufacturing of highly technical or bulky equipment may also take place in these regions.

The benefits of mining also flow through to large cities located in the states where mining occurs. The 270 mines that operate in Western Australia have had a major impact on Perth.

Source 8.20 The headquarters of mining companies in Perth



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Mining royalties paid to the state government have improved infrastructure and the building industry has boomed, as many miners who live temporarily in mining areas build homes in Perth. Mining companies have also set up headquarters in the city, providing employment for a range of workers.

Tourism

Tourism is often a vital aspect of economies in regional areas. Locations such as Alice Springs, north Queensland and Tasmania rely on tourism to bring money into the region and provide employment. Tourism can also benefit manufacturing and primary production in these areas. Tourists often want to buy goods manufactured locally, and eat produce grown in the region. Cities also benefit from tourists heading to these regional destinations. Hotels and tourism businesses purchase supplies from manufacturers in cities, and many tourists (particularly international visitors) fly in via these cities to visit the regions.

Alice Springs

Alice Springs in central Australia attracts about 600 000 tourists every year. Many of them are international tourists, who are flying in to experience the unique cultural attractions and to visit Uluru. Tourists visiting Alice Springs are likely to spend money on Aboriginal and Torres Strait Islander peoples' artworks and souvenirs, benefiting local manufacturing in these areas.

Mined precious stones, such as opal and other gems, are also sold in the cities, helping locals, while local produce is served in many restaurants and cafés. The area has improved its infrastructure partly as a result of tourism, including a major airport, **recreational facilities** and a range of cultural centres.

recreational facility
a program or structure, such as a library and park, that provides enjoyment for communities



Source 8.21 Camel riding tours are a favourite tourist attraction in Alice Springs.

RESEARCH 8.3

Explore a tourism region in your state and write a short report highlighting the main ways in which tourism benefits the area. Collect secondary research findings on visitor numbers and trends from the Tourism Australia website and look for other articles on tourism in the area. Interview locals employed in tourism in the region and find out where the visitors come from, how long they stay and what they spend their money on. Then identify one negative impact of tourism in the area.

8.9 Areas changing as a result of resource extraction

The introduction of mining to an area can lead to a range of economic, environmental and social impacts. While many of these impacts are positive (see the following page), there are a range of negative impacts (see page 159) in areas where mining for resources occurs.

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HOW MINING CAN BENEFIT AN AREA

Infrastructure

As well as roads, electricity and water supplies, mining companies often invest in local recreational facilities, while increased taxes at a local level can provide a range of services not always found in regional areas.



Source 8.22 Golf course in the desert: revenue from the Olympic Dam site allows Roxby Downs to have its own irrigated golf course.

Jobs

Employment is provided to areas where mining occurs, both in the mine and in the businesses that support the mining industry. This may keep people from leaving rural areas. Salaries in mining are also high, with some truck drivers earning over $100 000 a year.



Source 8.23 Mining provides a range of jobs.

Money entering the economy

Mining companies may need to use local suppliers to provide a diverse range of products and services in areas where mining is being carried out. Well-paid workers may also spend their wages in local businesses, benefiting the local economy.



Source 8.24 A hotel in Kalgoorlie. Western Australia benefits from miners spending money in nearby towns.

Increased house prices

House prices in mining towns can increase dramatically when mining occurs, as there are often very few houses and mine workers can afford to pay high prices. However, while this may be good for home-owners, who can make a profit, it may be bad for those from the area trying to buy a first home or rent a property.

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Ecological impacts

open-cut mining (also known as open-pit or open-cast mining) extracting rocks from the earth from an open pit

strip mining the removal of resources (usually coal) found close to the Earth's surface by the removal of overburden along a long line and then mining by open-pit operations

The nature of mining means that flora and fauna are destroyed. **Open-cut mining** and **strip mining**, whereby large areas are mined on the surface, can cause severe loss of habitats. Many mining companies set up revegetation programs to counter this issue. Dust and water pollution can also occur if mining sites are not managed carefully.



Source 8.25 Natural environments damaged as a result of copper mining in Tasmania

HOW MINING CAN HAVE A NEGATIVE EFFECT ON AN AREA

Changes to population structure in mining areas

Mining can change the structure of a population in a region. Although more women are working in the industry, more males are still employed in mining, leading to situations where there is a gender imbalance.



Source 8.26 Gender imbalance in mining

The short-term nature of a mine

Mines are usually planned and designed to last for periods of about 15 to 30 years. This means that any investment in a town and its facilities is likely to exist only for a relatively short period of time. What happens after the resources have gone is a concern for many who live in mining regions.

RESEARCH 8.4

Locate a mining project in your state and use newspapers, books and the internet to research the impacts of the mine. Draw a poster examining the positive and negative impacts and use the terms 'social', 'environmental' and 'economic'.

8.10 Aboriginal and Torres Strait Islander peoples' population mobility

Aboriginal Australia is a product of a unique blend of established traditions and new influences. The country's original inhabitants, the Aboriginal and Torres Strait Islander peoples, are the First Nations custodians of one of the world's oldest continuing cultural traditions. These peoples have been here for **millennia**. On the other hand, migrants – both voluntary and forced (**marooned** seafarers and the

millennia thousands of years

marooned abandoned in an isolated place, often an island, with little hope of rescue or escape

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convict a person found guilty of a criminal offence and serving a sentence of imprisonment

indentured labourer a worker, typically a labourer or tradesperson, under contract for a fixed period of time in return for payment of travel expenses and accommodation

displaced person someone forced to leave their home country because of war, persecution or a natural disaster

slaves they had on board, **convicts**, **indentured labourer**, **displaced people** and **refugees**, including **boat people**) – only began making Australia home by chance from 1629, and as 'official' settlers from 1788.

On 8 March 2013, the resident population of Australia stood at 22 941 155 people. Australia's inhabitants comprise two distinct categories: Aboriginal and Torres Strait Islander peoples, and forced and voluntary migrants (and their descendants) from countries around the world. Many are **naturalised Australians**.

Australia's descendants from the colonised population since 1770 and settlers from 1788, along with today's migrant populations, collectively speak about 400 different languages and identify with about 300 ancestries. More than a quarter of the population were born in one of over 210 overseas countries. Two out of every five people have at least one parent born overseas (see Source 8.27).

refugee a person who has left their home country because of persecution or the fear of persecution

boat person an asylum seeker arriving by boat

naturalised Australian an individual born outside Australia who has become an Australian citizen

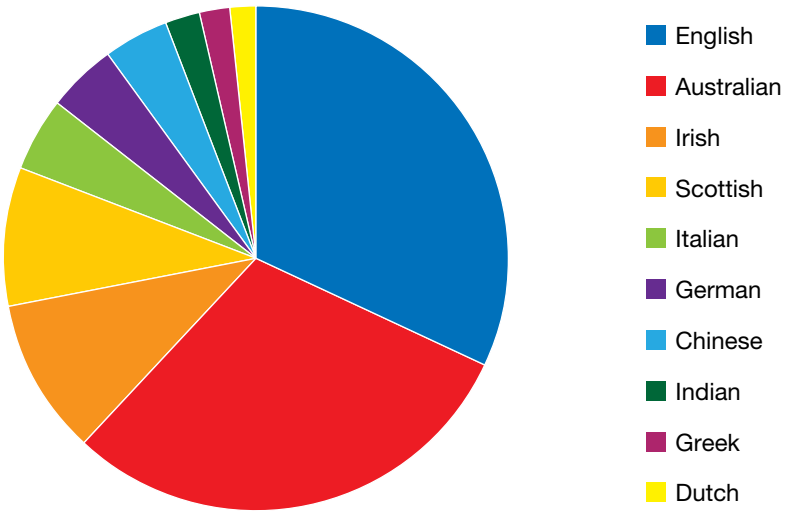
Source 8.27 Selected characteristics of ancestry groups

Ancestry	People ('000s)	Proportion of total population (%)	First generation (%)	Second generation (%)	Third-plus generation (%)	Also stated another ancestry (%)
English	7238.5	36.1	18.5	20.1	61.4	53.5
Australian	7098.5	35.4	2.0	18.3	79.6	38.5
Irish	2087.8	10.4	12.9	13.9	73.2	80.4
Scottish	1792.6	8.9	17.1	19.1	63.8	78.3
Italian	916.1	4.6	24.1	41.0	34.9	44.3
German	898.7	4.5	17.3	19.8	62.9	75.4
Chinese	866.2	4.3	74.3	21.3	4.4	16.2
Indian	390.9	2.0	79.8	18.6	1.6	12.9
Greek	378.3	1.9	30.9	44.8	24.3	26.2
Dutch	335.5	1.7	32.5	43.3	24.2	55.1

Geographical thought

In 2011, the ABS counted 548 400 people who identified themselves as being of Aboriginal and Torres Strait Islander origin. New South Wales had the highest count (172 600, or 32% of the national Indigenous total), followed by Queensland (155 800, or 28%) and Western Australia (69 700, or 13%). The Northern Territory had the highest proportion of the population counted as being of Aboriginal and Torres Strait Islander origin (27%), and Victoria the lowest at less than 1% of the state total. The numbers of Aboriginal and Torres Strait Islander peoples – albeit still small – are increasing.

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Source 8.28 Percentage of the population claiming a specific heritage

8.11 How have Aboriginal and Torres Strait Islander peoples been advantaged and disadvantaged by mining?

Because such a large amount of Australia's valuable minerals is located in isolated rural areas, mining often occurs in places owned and occupied by Aboriginal and Torres Strait Islander peoples. Mining in these areas is often controversial, given the special connections many of the communities have with their local areas, and there is considerable debate about whether mining advantages or disadvantages Aboriginal and Torres Strait Islander peoples.

How mining can benefit Aboriginal and Torres Strait Islander peoples

Leasing land

Aboriginal and Torres Strait Islander communities possessing land ownership rights can grant **leases** to mining companies. This can provide a significant source of income, which can be spent on infrastructure and raising standards of living. These agreements often include undertakings to not damage sacred sites and environmental controls. However, once consent to mine has been given, Aboriginal and Torres Strait Islander groups can do little to control it.

lease a contract allowing temporary management or use

Providing employment and training

Some leases include agreements to train and employ members of the Aboriginal and Torres Strait Islander community in the field of mining. Some Indigenous elders claim mining is directly employing 3000 Aboriginal and Torres Strait Islanders in the Western Australian region of the Pilbara.



Source 8.29 BHP has employed a number of local Aboriginal and Torres Strait Islander peoples at Port Hedland.

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In remote communities where unemployment can be as high as 35%, this is a significant advantage to some. **TAFE** qualifications have also become available at several mining sites. In Port Hedland, BHP Billiton set up an after-school project for Aboriginal children who show academic promise, providing study and computer facilities. This initiative has led to increased school attendance for those taking part.

TAFE Technical and Further Education training college

Providing facilities and infrastructure to remote communities

One of the biggest issues for remote communities is a lack of infrastructure due to their distance from urban centres. Mining towns and sites can bring health care, mains electricity and even recreational facilities closer to Aboriginal and Torres Strait Islander populations. Airstrips and bitumen roads may also be built, providing links to capital cities that may not have existed before.

How mining can disadvantage Aboriginal and Torres Strait Islander peoples

The short-term nature of mining

Aboriginal and Torres Strait Islander peoples and their ancestors have strong historic links with their land, often stretching back over thousands of years. While mining can bring benefits as described above, these benefits are only going to last as long as mining does, which can be for periods of as little as 15 years. Many argue that the short-term nature of mining makes its benefits for Aboriginal and Torres Strait Islander populations **unsustainable**.

unsustainable impossible to maintain

High levels of poverty in areas being mined

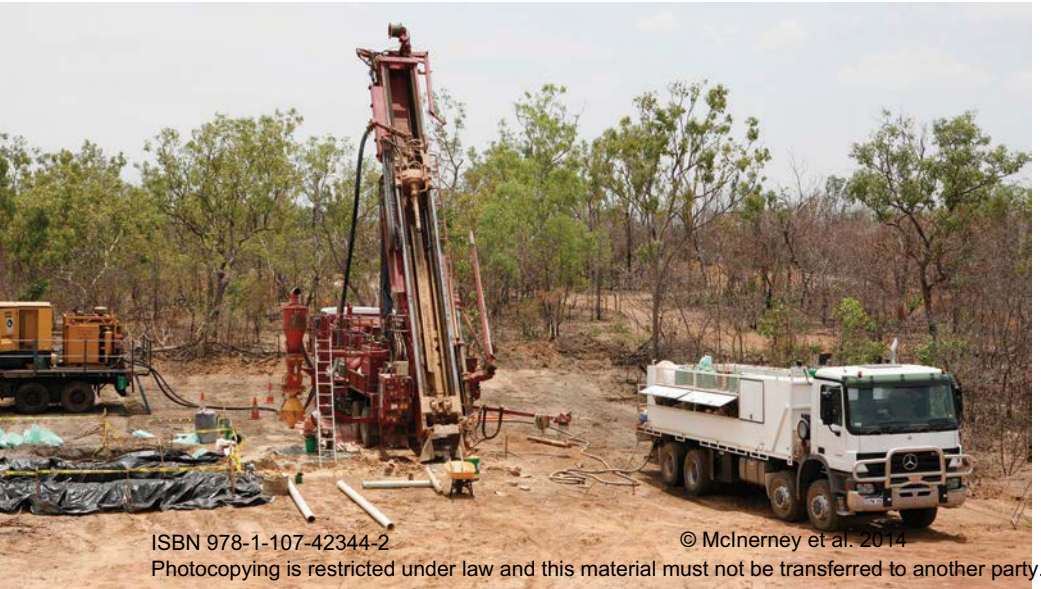
While some argue that the financial benefits of mining have been recognised in many communities, others point out that Aboriginal and Torres Strait Islander communities in mining regions are often just as poor and disadvantaged as those living in communities without mining.

Tensions caused by mining agreements

Many Aboriginal and Torres Strait Islander communities have found it hard to decide whether to agree to mining on their land. For example, many of the votes about whether to allow mining may be split, with significant numbers opposed to the mine. This can cause conflict and divisions in the community.

Damage to the environment and traditional ways of life

Many Aboriginal and Torres Strait Islander peoples object to the ways in which mining companies have assumed that their communities want employment in mining and closer links to urban centres, and object to the idea of mining as a 'solution' for inequalities within their areas. Others are concerned about environmental damage that will scar the landscape for hundreds of years.



Source 8.30 Some local Aboriginal people have expressed concern about environmental damage from bauxite mining in Arnhem Land.

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Reflecting and consolidating

Chapter summary

- Migration is the movement of people from one place to another to take up permanent or semi-permanent residence.
- There are four main types of migration: internal, seasonal, international and rural-to-urban migration.
- There are two main factors associated with internal migration: push and pull factors.
- The geographies of both Australia and China are shaped to a large extent by global connections.
- Australia's economy will be reliant on importing and exporting a vast range of goods to many different countries if it is to continue being successful.
- Australia's economic advantage lies in primary production, service provision, tourism and highly specialised manufacturing, while China's lies in large-scale production of goods.
- Australia's and China's economies are closely intertwined through the provision of raw materials from Australia and the provision of manufactured products from China. This provides both benefits and disadvantages to Australia.
- Mining and manufacturing have led to regional growth in both Australia and China, although China's regional growth has occurred on a much larger scale, with huge increases in population in these areas.
- Resource extraction can lead to radical changes to the areas in which it occurs, with both negative and positive impacts for Aboriginal and Torres Strait Islander peoples and others living in those regions.
- The mining boom in Australia has resulted in a large movement of people to areas in Western Australia and Queensland.
- The manufacturing boom in China has resulted in large internal migration from central areas to coastal cities such as Shanghai.
- Internal migration has a range of negative economic, environmental and social effects, such as air pollution, population decline, loss of biodiversity and loss of government services.

Short-answer questions

1 Contrast the four types of migration.

2 Explain the characteristics of both push and pull factors.

3 Describe the impact the rapid growth of Shanghai has had on the physical and built environment.

4 Outline the positive and negative effects of mining.

5 Discuss the advantages and disadvantages of mining on Aboriginal and Torres Strait Islander peoples.

Extended-response question

Evaluate whether internal migration has had a positive impact on the redistribution of people in Australia and China. In your answer, you need to refer to:

- environmental factors
- economic factors
- social factors.

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9 International migration in Australia

Before you start

Main focus

This chapter shows how international migration has changed cities and urban lifestyles.

Why it's relevant to us

It is important to know about international migration because it helps us to understand the foundations of our nation and the characteristics that make Australian cities unique.

Inquiry questions

- What is international migration?
- Where have international migrants come from to live in Australia?
- How have migrant communities in Australian cities changed over time?
- Why do migrants want to live in Australia, and what impact has this had on Australian communities?

Key terms

- Assimilation
- Asylum seeker
- Chain migration
- Cultural integration
- Demographer
- Forced migration
- Immigration
- International migration
- Mass migration
- Migrant
- Persecution
- Refugee
- Seasonal migration
- Visa
- Voluntary migration

Let's begin

International migration has shaped many nations, including Australia. Australia has a long history of migration that begins with the migration of Aboriginal and Torres Strait Islander peoples. A key theory is that, when the first humans left Africa, they followed the coastline. They moved across the Middle East, into southern Asia, and eventually to Australia. This migration dates back approximately 60 000 years, when the first Aboriginal and Torres Strait Islander peoples migrated from islands of present-day Malaysia and parts of Indonesia. Convicts were later forced to migrate from countries such as Ireland and England between 1788 and 1868. The gold rush era also attracted many new migrants to Australia. After World War II, there was mass migration from Europe. In more recent times, there has been a pattern of migration from the Middle East, Africa and Asia. International migration occurs for many reasons, including those of economics, family, employment, education and freedom. International migration includes those seeking asylum and refugees. Generally, people who migrate are seeking a better future.

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9.1 International migration

international migration the movement of people from one country to another

voluntary migration when people move somewhere else by their own choice

persecution unfair or cruel treatment over a long period of time because of race, religion or political beliefs

forced migration movement of people somewhere else because of unfavourable conditions

International migration is the movement of people from one part of the world to another. People migrate to live somewhere else. They can migrate because they want to, seeking brighter opportunities for work and family – this is known as **voluntary migration**. Alternatively, they can migrate because they are forced to do so, through political instability in their country, or the threat of war or **persecution** – this is known as **forced migration**. Migration has occurred throughout history, beginning from the movement of the first humans in East Africa to their current position across the world. Migration happens on a variety of scales – from the **mass migration** after World War II to individual migration.

mass migration large numbers of people moving somewhere else for similar reasons

What are the types of migration?

- *External migration:* moving to a new home in a different state, country or continent (such as moving from Japan to Australia or moving from Queensland to New South Wales)
- *Internal migration:* moving to a new home within a state, country or continent
- *Forced migration:* leaving a country not through force, but because of unfavourable situations such as welfare, political problems, religious persecution or environmental reasons



(a) Rosario Messina



(b) Maria Amenta and Natale Messina



(c) Maria Amenta and Graziella Messina



(d) Natale Messina

Source 9.1 An example of chain migration: Natale Messina (d) was sponsored by his brother (a, Rosario Messina) to move to Australia where he settled (b) and started a family (c).

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such as sea levels rising (for example, some Vietnamese people moving to Australia)

- **Immigration**: moving into a new country (for example, some English people immigrated to America)
- **Chain migration**: a chain migration often begins with one family member who sends money to bring other family members to the new location (for example, a brother sponsoring his sister from their homeland to come and live in Australia; see Source 9.1 on page 165)
- **Seasonal migration**: the process of moving for a period of time in response to labour or climate conditions (such as ski instructors moving from the Swiss Alps to Mt Kosciuszko in New South Wales during winter).

immigration moving into a new country

chain migration a series of migrations within a family or distinct group of people; often begins with one family member, who sends money to bring other family members to the new location

seasonal migration moving for a period of time in response to labour needs or climate conditions

9.2 Sources of international migrants to Australia

According to the Department of Immigration and Border Protection, Australia's migration program is open to anyone from any country, regardless of their nationality, ethnic origin, gender or colour. In 2010–11, people from 185 different countries migrated to Australia. China was Australia's largest source of permanent **migrants**, accounting for 29 547 places, or 17.5% of the total migration program, up from 24 768 or 19.3% in 2009–10.

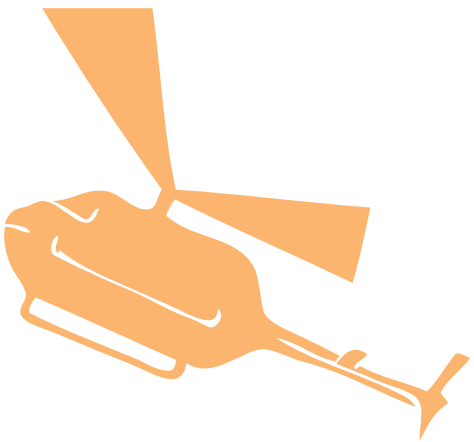
migrant an individual who has moved from one country to another

Geographical thought

Of the 6 million-plus migrants living in Australia, over a million people were born in the United Kingdom.

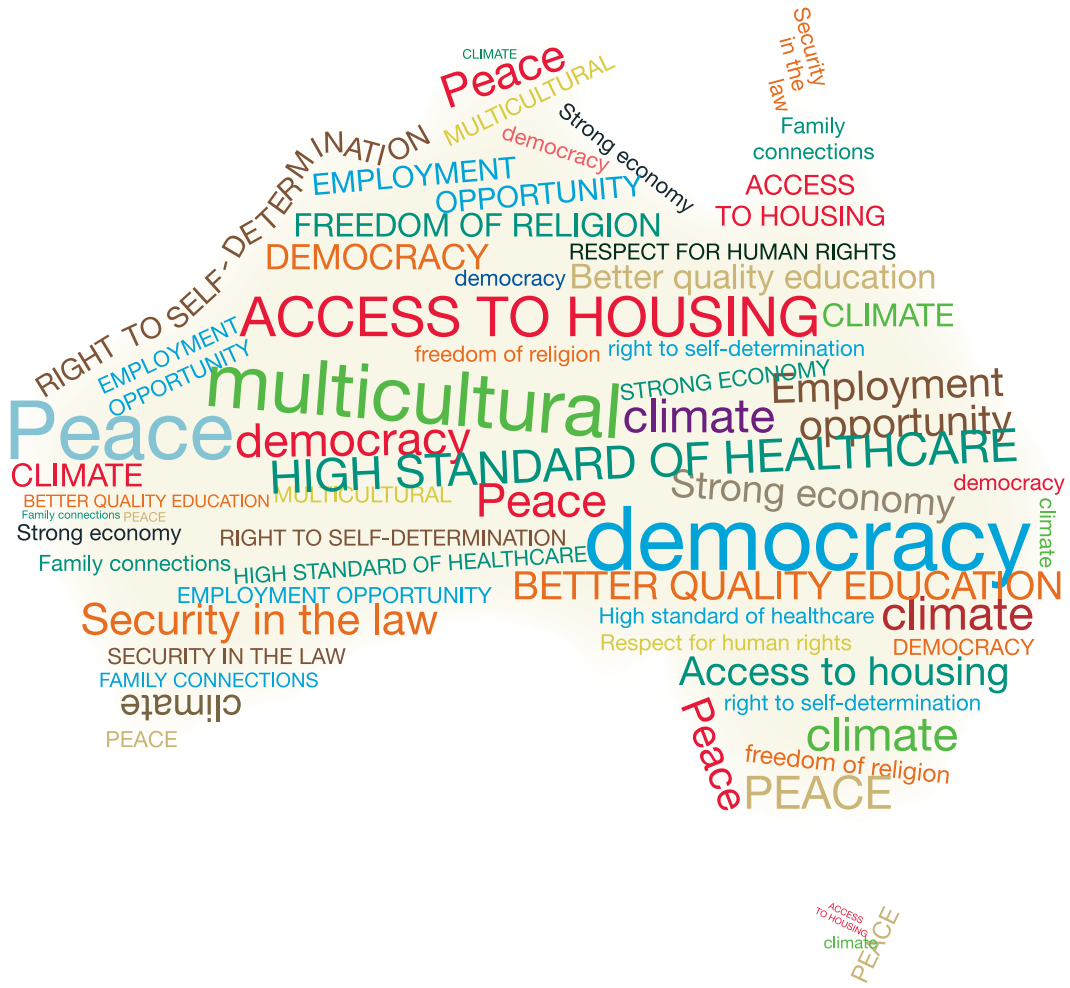


Source 9.2 Chinese New Year celebrations in Australia



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Why do international migrants want to live in Australia?



Source 9.3 Why migrants choose to live in Australia

People choose to live in Australia for many reasons, including:

- the freedoms we have – such as freedom of religion and the right to self-determination
- our democracy
- the climate
- our **multicultural** society
- higher-quality education
- employment opportunities
- a high standard of health care
- respect for human rights
- access to housing
- security in the law
- a strong economy
- peace
- family connections.

multiculturalism an idealogy that different cultures can coexist successfully within a country (rather than conform to one national culture)

What is the impact of international migration on Australia?

There are many advantages to international migration. The Human Rights Commission identifies the following economic and cultural advantages:

- filling skill and labour shortages
- creating demand for goods and services
- investing in the Australian economy.

Migrants can also foster Australia's international trade through:

- business networks
- speaking a language other than English
- knowledge of overseas markets and cultural practices.

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Employment

Migrants are better able to participate in the local workforce the longer they live in Australia. Research suggests that the success with which new migrants find jobs is related to their proficiency in English, age, skill level and qualifications. Over one-third of migrants (36%) struggle to gain employment. This may be due to discrimination, or to a lack of Australian work experience.

The Australian government encourages international migration for a variety of reasons in addition to population growth. For example, the government has a variety of State-Specific and Regional Migration (SSRM) proposals with the aim of assisting state and territory governments to:

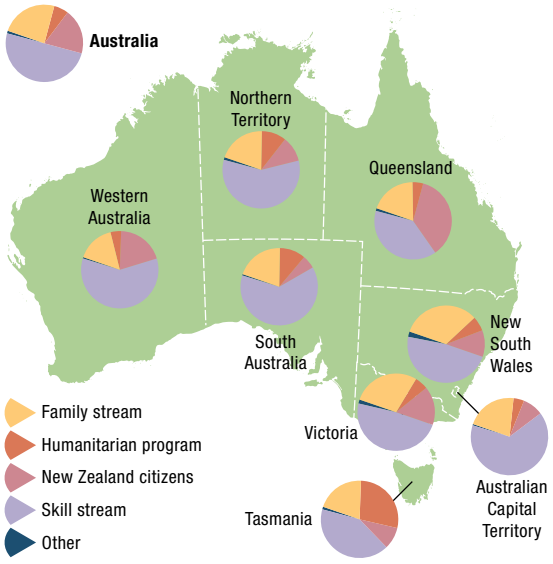
- attend to skill deficiencies that may exist in their area
- attract overseas business people to establish new or joint ventures in their area
- support a more balanced settlement of Australia's skilled migrant intake.

These proposals include flexible criteria that recognise the unique conditions of rural and regional areas. The goal is to entice young, skilled, English-speaking migrants to move to areas in need. Skilled migration **visas**, which are sponsored by regional employers or state and territory governments, receive priority handling. This helps state and territory governments and regional employers to influence the amount and type of skilled migrants settling in their areas, in line with the skills required and the expansion goals of the area in question.

visa a document allowing a person to enter and stay in a particular country for a specified time period

Where do migrants want to live in Australia?

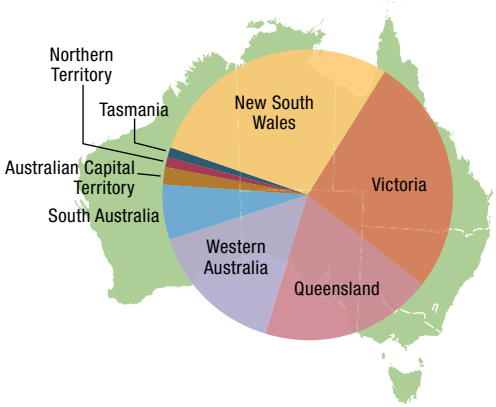
According to research and statistics, most migrants choose to live in large cities or suburbs where there are family and friends from the same cultural heritage. Quite often, this will depend on the reasons for their migration to Australia – for example, the map in Source 9.4 shows that 33.35% of migrants coming to live in New South Wales did so to join existing family members. They are also in search of work, and in 2009–10 62.05% settled in Western Australia due to the minerals boom. The map in Source 9.5 reveals a distinct preference for living in New South Wales.



Source 9.4 Map showing the distribution of Australia's migrant population

Geographical thought

According to the Department of Immigration and Border Protection, almost 7 million people have migrated to Australia since 1945. There are over 260 languages spoken.



Source 9.5 The proportion of migrants in each state and territory

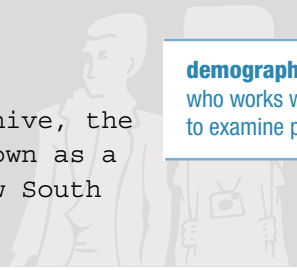
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DEVELOPING YOUR UNDERSTANDING 9.1

1. Define 'international migration' in your own words – include an example.
2. Identify three reasons why people may migrate to other countries.
3. Research and identify the top five countries of origin for migrants who came to live in Australia in 2010–11.
4. Research and describe the composition of Australia's population in 1947 and 1997. Identify any notable changes.
5. Using Source 9.4, identify which state has the largest proportion of its permanent residents coming for family stream. Justify one reason for this pattern.
6. Using Source 9.5, explain why there are such a high proportion of new migrants in New South Wales.
7. Class discussion: Imagine that Australia did not accept immigrants from other countries. What would Australia be like?

Geographical thought

Demography is a science that studies populations. A **demographer** is someone who works with the statistics. According to the Australian Social Science Data Archive, the first population count was taken in 1788 and was known as a 'muster'. The first official census was taken in New South Wales in 1828.



demographer a person who works with statistics to examine populations

RESEARCH 9.1

Imagine you are a demographer. Your job is to present a series of graphs that summarise your findings based on the following class survey. Your aim is to find out what migrant heritage exists in your class.

Survey questions

1. Where were you born?
2. Where was your mother born?
3. If your mother was born overseas, how old was she when she came to Australia?
4. Where was your father born?
5. If your father was born overseas, how old was he when he came to Australia?
6. Where was your grandmother born (maternal)?
7. Where was your grandfather born (paternal)?
8. What languages do you or your family members speak?
9. What were the reasons for migrating to Australia?
10. Why did they settle in their chosen suburb or town?

Organise the data you have collected into a series of graphs (pie charts, bar graphs, etc) that show this information and present it to the class.

(continued)

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Extension task

List the cultural origins of all members of your class. On a large map of the world, draw the paths of immigration from these countries to Australia. For each country, indicate the number of students who share this cultural origin (for example, nine from the United Kingdom and five from Greece).

1 Identify any patterns that emerge.
2 Discuss the contributions each of these cultures has made to Australia.

9.3 What is the difference between a refugee and an asylum seeker?

Geographical thought

The United Nations estimated that there were 43.7 million refugees worldwide in 2012.



asylum seeker a person whose claim for refugee status has not yet been approved

An **asylum seeker** is a person who has sought protection as a **refugee**, but whose claim for refugee status has not yet been approved. Every refugee has at some point been an asylum seeker. Those asylum seekers who are found to be refugees are entitled to international protection and assistance. Those who are found not to be refugees, or not in need of any other form of international protection, can be sent back to their country of origin.

refugee a person who has left their home country because of persecution or the fear of persecution

Asylum seekers are not illegal immigrants.

- Asylum seekers are people seeking international protection, whose claims for 'refugee status' have not yet been determined. They are not 'illegal immigrants' because under both international and domestic laws they have a legal right to enter Australia to seek asylum.

Asylum seekers and refugees do not receive more favourable treatment or higher benefits.

- Claims that refugees in Australia receive higher benefits than other social security recipients are not correct. Everybody arriving by either air or boat must go through the same process. Non-government organisations and churches often provide great support for refugees.

Boat people are not 'queue jumpers'.

- There is no queue for asylum seekers to join. Only a small amount of people are registered with the UNHCR, and of these only 1% are resettled.

Other countries have far greater numbers of refugees than Australia.

- Australia, with 22 548 refugees, ranks 47th in the world. This compares with Pakistan (1 740 711), Iran (1 070 488), Syria (1 054 466), Germany (593 799), Jordan (450 756), Kenya (358 928), Chad (338 495), China (300 989), the United States (275 461) and the United Kingdom (269 363). On a per capita basis, Australia is far behind poorer countries such as Jordan and Syria.

Source 9.6 Dispelling myths about refugees and asylum seekers

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DEVELOPING YOUR UNDERSTANDING 9.2

1 Define the term 'refugee'. How is this different from the term 'migrant'?

2 Outline Australia's responsibility to refugees, according to Article 1 of the *Convention Relating to the Status of Refugees* (1951).

3 Explain why people seek refugee status in countries like Australia.

4 World Refugee Day is 20 June. Visit the World Refugee Day website via the following link and write a brief report about the importance of the United Nations acknowledging this day: www.cambridge. edu.au/hass8weblinks.

5 Visit the Edmund Rice Centre for Justice and Community Education website via www.cambridge.edu.au/hass8weblinks and make your own fact sheet about refugees. Use an ICT application such as Microsoft Publisher to create your document.



Source 9.7 World Refugee Day is an international day that acknowledges the plight of refugees.

9.4 The emergence of a multicultural policy

Australia prides itself on the fact that, according to recent statistics published by the Australian Bureau of Statistics (ABS), one in four of its citizens has a migrant heritage. Some 44% were born overseas, and 4 million speak a language other than English. **Cultural integration** occurs when ethnic communities and governments work together to create communities. The Australian Department of Immigration and Border Protection defines 'multicultural' as a term that describes the cultural and linguistic diversity of Australian society. Multiculturalism is all about ethnic communities being recognised and strengthened, and has been the official government policy since 1970. In 2010, the Australian government released its most recent multicultural policy. It is based on four main ideas, shown in Source 9.8 (see page 172). This policy indicates the strong government support that exists for multiculturalism.

cultural integration the process of drawing together various elements of a cultural system, such as ethnic groups, into a wider community

It is a system of unity that encourages respect and celebrates our cultural diversity. Every Australian benefits from this inclusiveness. All Australians have the right to be active and free participants in society by maintaining their cultural traditions and encouraging others to celebrate this.



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Principle 1
The Australian government celebrates and values the benefits of cultural diversity for all Australians.

Principle 2
The Australian government is committed to a society where everyone can participate in the opportunities that Australia offers and where government services can provide services to meet the needs of Australians from different cultures.



Principle 3
The Australian government encourages the economic, trade and investment benefits that come from our multicultural nation.

Principle 4
The Australian government promotes understanding and acceptance, and discourages discrimination. If discrimination occurs, the law will be there to provide support.

Source 9.8 Australia's multicultural policy is built on four principles.

DEVELOPING YOUR UNDERSTANDING 9.3

1. Identify the main types of migration and provide one example of each.
2. Discuss some reasons why migrants may choose to live in the capital cities of Australia.
3. Refer to the timeline in Source 9.9 on the next page. Reflect on one of the historical events. Explain how it helped or hindered multiculturalism – for example, the White Australia Policy or the dictation test.
4. Refer to the 'Living in Australia' website via www.cambridge.edu.au/hass8weblinks. Using Microsoft Publisher, create a brochure that gives advice about coming to live in Australia for someone wanting to migrate.



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First Australians: Sources suggest Torres Strait Islanders and Aboriginal societies had some 700 different cultural groups and 250 different languages.

1606 First documented European contact with Aboriginal people by Willem Janssen, skipper of the *Duyfken*, a vessel of the Dutch East India Company.

1770 Captain Cook arrives and claims the east coast for Britain.

1788 The First Fleet arrives in Sydney with 60 nationalities on board.

1790 Aboriginal people are killed as they resist the European colonisation.

1830s Assisted migration from Britain begins, along with labourers from Asia and the South Sea Islands. Germans settle in South Australia.

1840s People from Greece, China, Italy, Hungary and Spain arrive, as do Irish convicts.

1850s Chinese come for the gold rushes. There are also a great number of Irish settlers after the potato famine.

1860s First Afghan camel drivers arrive. South Sea Islanders are kidnapped for labour in north Queensland.

1870s Irish migration peaks.

1880s Laws are introduced to restrict immigration.

1890s A dictation test is introduced to exclude non-European migrants.

1900 The White Australia Policy is introduced.

1910s World War I: immigration stops.

1920s Immigration starts up again with British and northern Europeans arriving.

1930s Anti-immigration feeling increases during the Depression. Assimilation of Indigenous people adopted as national policy. Jewish refugees are granted permission to come to Australia.

1940s Post-World War II 'populate or perish' policy is introduced. The Adult Migrant Education Scheme begins.

1950s Dictation test is abolished and assisted migration from some countries such as Italy is introduced.

1960s Referendum for Aboriginal rights is passed and policy of integration for migrants is instituted.

1970s Aboriginal flag is flown for the first time. Department of Aboriginal Affairs is set up.

1980s SBS television begins transmission.

1990s Temporary protection is provided for those from Kosovo and East Timor.

2000s Australians march in support of Reconciliation.

2008 Prime Minister Kevin Rudd says 'sorry' to the Stolen Generations.

2010 New multicultural policy introduced by the federal government.

2012 Labor government discusses whether to recognise Aboriginal and Torres Strait Islander peoples in the Australian Constitution and what this recognition will be.

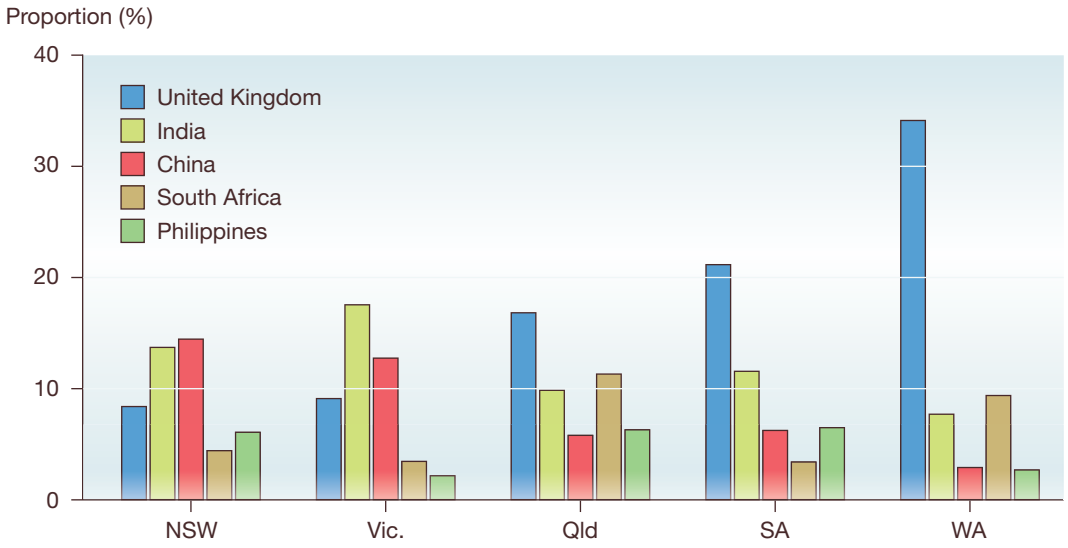
Source 9.9 Some key dates in the history of Australian multiculturalism

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9.5 The importance of community: the migrant experience

A community is a group of people with something in common. In the case of international migration – whether voluntary or forced – communities are important for human survival. When migrants first arrive, they face natural barriers. One of the most difficult of these is the language barrier: the ability for them to communicate with the people of their adopted country. This is often very difficult or impossible for some migrants, so they rely heavily on their children and others in the migrant community for help. Communities are formed for a number of reasons: these include the need to belong, common **heritage**, common experience and common religious celebrations. The urge to build community dates back to ancient civilisations. Having a group of people with similar cultural backgrounds is the key to the survival of new migrants. The celebrations, clothing, food, sport, music and religious practices are a way of remembering their previous lives and celebrating their new life here in Australia. As the social face of Australia has changed, so migrant groups have needed to change as they have forged a new life in this country.

heritage monuments, physical objects or customs and traditions inherited from previous generations



(from ABS, Characteristics of Recent Migrants, Australia, Nov 2010 (cat. no. 6250.0)

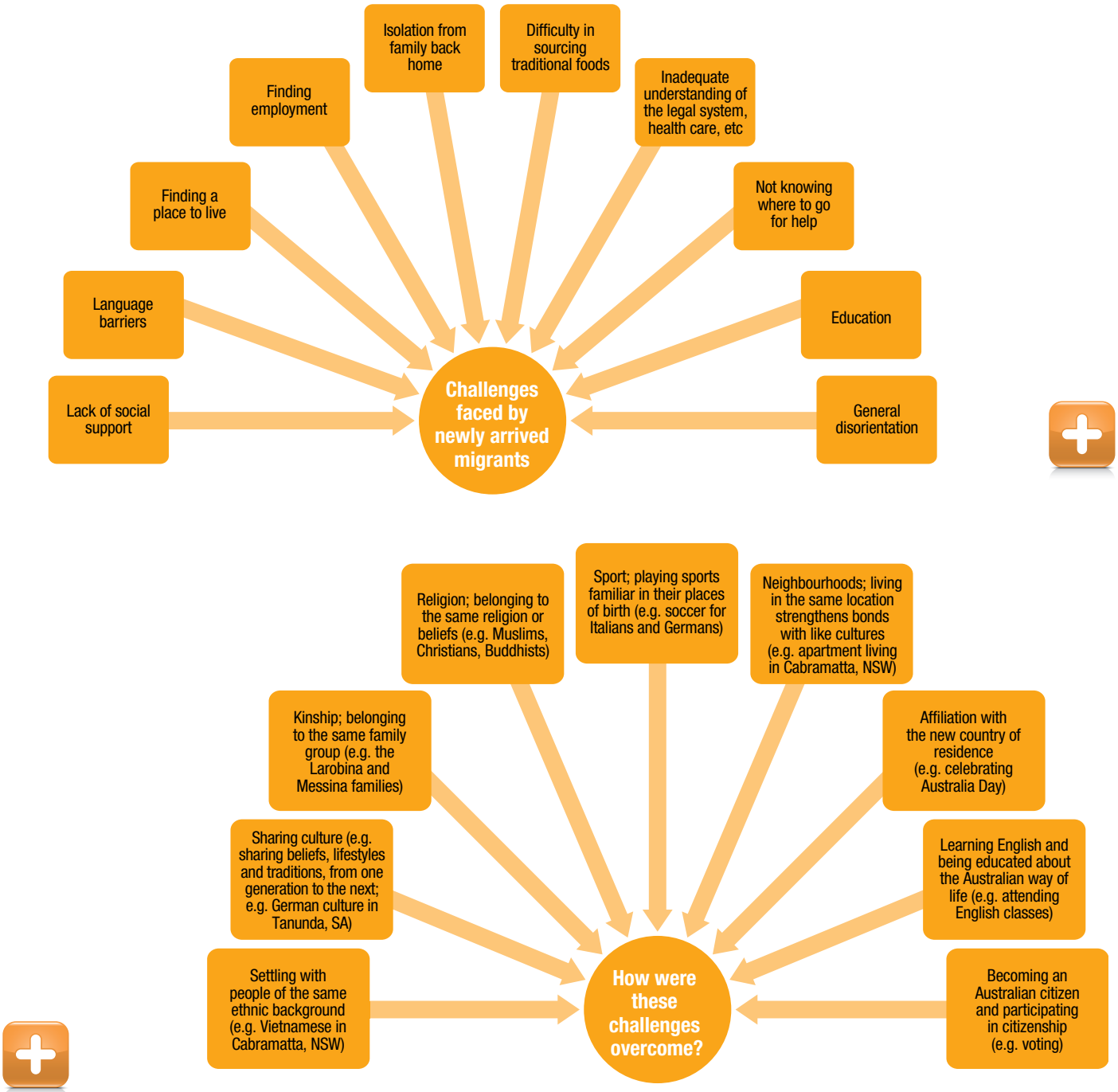
Source 9.10 Distribution of migrants creating communities in Australia, by birth and usual state of residence, November 2010

Challenges faced by migrants

Migrants arriving in Australia have faced a wide range of challenges, from learning a new language and finding somewhere to live to obtaining employment and negotiating new social rules and structures. Source 9.11 outlines some of these challenges and how they can be overcome.

The most ambitious phase of Australia's migration program followed the end of World War II, which had displaced millions of people from their homelands. Australia negotiated agreements to encourage newcomers from the United Kingdom, and Western and Southern Europe as well as Displaced Persons (DPs – refugees) from Eastern and Central Europe and the Baltic states. Australia needed migrant labour in order to boost the economy, overturn the flagging birth rate and ensure defence was maintained. Intending emigrants were enticed to Western Australia

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Source 9.11 Challenges faced by newly arrived migrants and how they can be overcome

with images of booming industry, boundless opportunity, full employment, good working conditions and a level of materialism that was unheard of in post-war Europe. Passage assistance was offered by the Commonwealth government to prospective emigrants if they met the health, security and age criteria and agreed to remain in the employment for which they were selected for a period of 2 years, or to repay their fare.

A policy of **assimilation** ruled in the 1940s to the 1960s. 'New Australians' were expected to learn the Australian language and to adopt the traditions and

assimilation absorbing and making alike; the process of cultural absorption

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customs of their new country. Cultural heritage and language had to be discarded, as migrants were told that the past was irrelevant to the new life they were about to forge. Australia's demand that newcomers assimilate quickly and totally to its culture not only implicitly asserted the superiority of Australian culture over theirs, but also guaranteed that Australia's essential Britishness would remain.

The process of resettlement was greatly improved when the immigration policy shifted from assimilation to **integration** in the mid-1960s. Integration implied that migrants no longer needed to totally and immediately discard their cultural past, as they had with assimilation.

integration a situation in which a people is able to maintain its own basic culture and have it respected, while living within and respecting another culture



Source 9.12 Burundian dancers and musicians perform in national dress during the Adelaide Multicultural Festival

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Reflecting and consolidating

Chapter summary

- International migration dates back thousands of years, to when the first humans crossed from East Africa over to Asia, then to Australia.
- Immigration can be forced (usually by political circumstances) or voluntary (usually for economic reasons).
- The composition of the Australian population has changed significantly, due to the various waves of historical migration.
- International migration is the outcome of economic and political change.
- Refugees and asylum seekers are an example of forced migration; they come to Australia because they live in fear in their own country, and do not have the same protection afforded to them as we have here.
- The results of international immigration are reflected in our cities in the architecture, religious and cultural events, food and services provided.

Short-answer questions

1 Explain how international migration has changed Australian cities.

2 Discuss some reasons why refugees may want to live in Australia.

3 Justify your response to the following statement: 'Multiculturalism has enriched the way of life in Australia.'

4 'Australia is not the only country that is made of international migrants.' Discuss this statement with examples to support your answer.

5 Asylum seekers are not 'illegal immigrants' because, under both international and domestic law, they have a legal right to enter Australia to seek asylum. Identify the difference between an asylum seeker and an illegal immigrant.

Extended-response question

Identify and explain the main types and patterns of international migration. Explain the differences between permanent migration, temporary labour migration, student migration, forced migration (including refugees) and family reunion in your response.



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10 Managing Australian cities

Before you start

Main focus

In order to manage and plan Australia's urban future, policy makers and the community must plan and implement strategies to build and maintain sustainable cities.

Why it's relevant to us

Sustainable cities in Australia support social and economic development while minimising environmental damage. Managing urbanisation as it occurs, rather than trying to fix cities at a later time, is crucial and an important factor in the evolution of our society as a whole. Building and maintaining sustainable cities has implications for our current standard of living, and future generations will be affected by the actions and decisions we make now.

Inquiry questions

- What can be learned from examining the forecasts for the size of Australia's major cities and regional urban centres?
- What are the implications of the size of Australia's major cities with respect to environmental sustainability and liveability?
- How can the projected growth of Australia's cities and regional urban centres be managed?
- What are the advantages of a more balanced distribution of the urban population?
- What are the disadvantages of a more balanced distribution of the urban population?
- What can we learn about how Canberra can be used as an example of urban decentralisation?

Key terms

- Decentralisation
- Gentrification
- Humpy
- Internment camp
- Metropolitan
- Population distribution
- Suburbanisation
- Sustainable
- Town planner
- Urban consolidation
- Urban sprawl
- Urbanisation
- Zoning

Let's begin

The population of Australia's capital cities grew by 1.8% between 2011 and 2012, faster than that in the remainder of Australia (1.2%). Greater Perth had the fastest growth of all capital cities at 3.6%, ahead of Greater Darwin and Greater Brisbane (both 2.0%). The fast pace of urbanisation in Australia is bringing vast challenges for the management of cities.

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10.1 Building sustainable cities

urbanisation the process by which more and more people are coming to live in towns and cities

Urban growth and **urbanisation** has both positive and negative effects. On the positive side, growing urban centres can take advantage of the financial benefits that result from more jobs and increased incomes. A large percentage of Australia's economic growth comes from its urban areas. On the negative side, some of our cities undergoing rapid growth suffer from insufficient services, environmental degradation, growing traffic congestion and an increase in the number of homeless people.

Increasing **decentralisation** and the issues of management are putting more pressure on the responsibilities of local governments, but without the necessary additional financial or human resources. The expectations of residents and businesses concerning lower-cost and higher-quality services are increasing, but the required levels of resources are sometimes not available.

decentralisation the spread of power away from the centre to local branches or governments

With a country as large as ours, which has many diverse needs, the social and economic development of urban areas is focused increasingly on local government management. Priorities for the city of Cairns, for example, may be different from those of Launceston. Population, climate, tourism and the potential for natural disasters are just some of the differences that need to be considered in the planning and maintenance of these cities. In Australia, some cities have a heavier focus on water catchments, whereas others have regular flooding concerns.

sustainable healthy and functional in the long term

The World Health Organization states that **sustainable** cities are cities where the population enjoys a high quality of life and takes care not to leave economic, social, environmental or health problems for future generations to face.

Our cities are growing

As the populations of our cities grow, there is an increasing need to provide services for the people who will live in newly developed suburbs. Services that need to be provided include schools, hospitals, utilities such as water, gas and electricity, solar energy resources, roads, bridges, sewerage and telecommunications. As these population numbers grow, so does the size of our Australian cities, which has an impact on the surrounding areas. This is mainly seen in new suburbs on the outer fringes of cities. The growth of new suburbs is called **suburbanisation**, and is often associated with another process called **urban sprawl**. These processes are evident in all Australian cities. The impacts can be both positive and negative.

suburbanisation the movement of people and work to outer urban areas and middle-distance suburbs

urban sprawl the gradual spread of cities into previously rural areas due to population growth

Impacts of urban sprawl

Urban sprawl can have negative impacts. For example, as suburbs grow there is an impact on areas that were once native bushland or land that was once used for agriculture or the raising of animals for food. The cost of providing such increased utilities and services in growing urban areas is also very expensive, and many suggest that this has consequences in terms of the efficient use of natural resources.

Increased traffic

This is caused by many factors, including the distance from amenities such as schools and workplaces. This contributes to greenhouse gases in the form of emissions from car exhausts and the fuel needed to drive the vehicles. It also can lead to traffic congestion and delays in getting to places.

Decrease in air quality

Urban sprawl causes a significant decrease in air quality. People spend much more time in cars commuting to work and running errands. Commuting to work used to take people 10–15 minutes in the car. Today, people are spending 30 minutes or considerably more commuting to and from work due to urban sprawl.

Urban decline and renewal

In some older suburbs closer to the city centre, the older-style homes can be abandoned as families seek to live in bigger homes in the newer suburbs

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on the outskirts of the city. This usually occurs because industries relocate to the outskirts of the city, where land is less expensive and there is more space for expansion. As a result, the inner-city areas become unused and fall into decline until there are people who want to live in the older-style houses and renovate them. These are usually professionals without a young family, or 'empty nesters' (older people whose children have moved out of home). This process is known as **gentrification**. This can be seen as a positive, as it is a process that brings new life into older suburbs that previously were in decline.

gentrification the renovation and growth in social and economic status of previously run-down areas

Lack of choice in housing styles

So that more houses can be 'fitted' into new developments, many dwellings are often built to the same design. This leads to homes in some newer suburbs lacking individuality and a uniform appearance in the character of the suburb.

Loss of rural areas

This is due to the need for land to establish the growth of the population.

This has ecological consequences, as the rural areas absorb carbon dioxide from emissions.

Geographical thought

In 2012, Melbourne was estimated to have grown by 79000 people, or more than 1500 each week. For the eleventh consecutive year, Melbourne had the biggest growth of any city in Australia. Since 2001, it has gained 605000 new residents, up 17%, who are rapidly pushing out the urban boundary in every growth corridor. Perth outgrew Sydney to be Australia's second biggest growth centre, its population swelling by 65434, or 3.6% – more than twice the national growth rate – to almost 1.9 million.

Source 10.1 The city of Melbourne has the biggest growth of any Australian city.



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Decline in water quality

Paved surfaces allow run-off during rainstorms. This run-off picks up oil, chemicals and gravel from the pavement and grass. These chemicals would usually be filtered out of the water through the ground; however, due to the increase in the amount of concrete, they now run off into waterways such as creeks and streams. Fertilisers from gardens also run off into these waterways, causing algal blooms, which in turn decrease the level of oxygen in the water, killing aquatic life. This pollution contaminates the water supply of nearby towns.

Decrease in groundwater

The increase in paved surfaces reduces the opportunity for infiltration of rainwater into groundwater. Areas that depend on groundwater as a source of public water supply are facing a water crisis as aquifers become thin. These areas can also face a problem with land subsidence. The increased demand on the groundwater due to urban sprawl has created air pockets in the aquifer. The land then compresses, causing flooding problems and cracking of foundations. There is also an impact on groundwater reserves: the water that would normally infiltrate into the soil now runs off and makes its way to the drains and then to the ocean or other water storages.

Loss of biodiversity

Urban sprawl has a negative impact on wildlife and ecosystems, as they are cleared or fragmented by the development of new areas. In some suburbs, such as Woodcroft in New South Wales, artificial wetlands have been created in order to attract wildlife and add a nature reserve to the built environment. There are also some areas of Woodcroft that are protected, including the remnant Cumberland Plain Forest. The reason this remnant forest is protected and has not been removed for the construction of houses is that there is a rare species of frog in the forest.

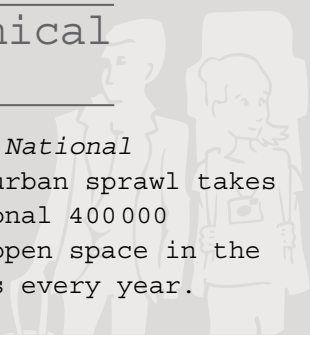
Source 10.2 The impacts of urban sprawl: an aerial view of fertile farmlands surrounding the town of Dalby, Queensland



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Heat islands

Many cities and suburbs experience a heat island effect, caused by the temperature increases in the area due to the increase in the amount of asphalt and buildings. Studies in the north-east of the United States have demonstrated that this increase in temperature can be as much as 7°C.



Geographical thought

According to *National Geographic*, urban sprawl takes up an additional 400 000 hectares of open space in the United States every year.

Ways to reduce the effects of urban sprawl

Preserve natural resources

This includes the preservation of natural resources such as farmlands, parks, open spaces and unused land. Preserving the land keeps it the way it was meant to be. The benefits of this are that biodiversity is encouraged and flora and fauna are not removed.

Renew cities and older suburbs

Urban renewal projects can reduce urban sprawl. In older parts of the city centre and in older suburbs, the removal of contaminated land and investment in original heritage buildings can add life to areas that have undergone decline. This also attracts people back to these urban places, reducing the growth of urban sprawl. Once the areas are improved, the government can provide incentives to get people to move back into these areas. This could take the form of affordable housing for low-income earners.

Create a community identity

This includes building sports facilities, parks and schools in close proximity to residential areas, reducing driving times and fostering a closer sense of community.

Improve public transport

Providing more options such as light rail and bus transit lanes can help reduce traffic congestion during peak hour.

Have more high-density and a greater variety of housing

Higher-rise or medium-density housing can reduce urban sprawl by limiting the amount of land needed to create homes in which people can live. Creating a mix of housing types within a suburb – such as larger homes for big families and smaller homes for singles and couples – can also stop urban sprawl by encouraging a mix of family types and meeting their housing needs. This stops people from wanting to move away from the city.

Government policy

This is important, as governments make plans for future growth through the **zoning** of land. This must clearly support the need for a sustainable future in city living with a long-term plan that is flexible and reflects the needs of the community.

zoning government restrictions about the types of buildings and services allowed in an area

Encourage regional settlement

This means there is less demand to live in urban places. This is particularly so in the case of migrants from overseas or those moving intrastate. The Department of Immigration and Border Protection estimates that 90% of new migrants settle in cities. As a result of the various waves of migration, our cities are enriched by cultural and religious diversity and a variety of languages. The reason for this pattern is that there are more resources and opportunities for employment in the quest to become established in their new country. Some claim that this can put pressure on existing city resources, but others say that migrants create new jobs and opportunities for all residents. Government statistics also state that over the last 10 years the proportion of newly arrived migrants settling in regional Australia has seen a slight increase, rising to 15% of all migrants.

Improve energy sources

Encouraging better use of renewable energy sources can benefit the environment and reduce the cost

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for the individual. Solar power and recycled water are areas that can be strengthened in the future. It is important to encourage more energy-efficient housing by such means as ensuring that new housing developments have regulations in place: insulation in the walls to reduce the need for air-conditioning, water tanks to collect rainwater and better recycling of household rubbish to reduce landfill, for example.

Reduce commercial zones

With the increase in online shopping, some people feel less need for the physical shopping centre. This can reduce urban sprawl, as consumers would not have to drive to the commercial areas to do their shopping. Another strategy is mixed-use areas that have commercial properties on the ground floor and apartments on the top floors.

Develop regional centres

Developing regional centres takes the pressure off the larger established urban areas close to the city. Projects such as Evocities have been an incentive for people to move out of the **metropolitan** areas to these regional centres. This New South Wales government initiative is a positive way to encourage growth in existing regional areas that have the space for growth and the need to have their local economies stimulated.

metropolitan relating to a very large city, often the capital of a country or region

Urban consolidation

This can greatly reduce the need for urban sprawl and make our cities more ecologically friendly.



Source 10.3 Better transport and connected urban places can reduce urban sprawl.

Urban consolidation is the process of planning and construction of more medium-density housing in existing urban areas. This is more sustainable, as it uses existing roads and amenities and often is used to infill areas that are not suitable for stand-alone dwellings in the city. This has added benefits, as the buildings are often close to public transport facilities such as trains and buses.

urban consolidation the process whereby medium- and high-density housing is added to existing areas in urban places, using existing roads and amenities, with the purpose of reducing urban sprawl

Geographical thought

A way of making cities more environmentally friendly is seen in the Green Roofs Project in Toronto, Canada. A study, undertaken by Ryerson University, praised green roofs as a positive strategy to address issues in urban areas, including management of stormwater run-off and pollution. Precipitation is stored in plants on roofs, reducing the water flow to the hard surfaces below, like concrete – which does not absorb water. The study estimated that the installation of approximately 5000 hectares (on roofs larger than 350 square metres) could save the city an estimated C$39 million in pollutant and erosion control, and an additional C$46 million from reduced water-storage costs.

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DEVELOPING YOUR UNDERSTANDING 10.1

1 Identify the main reason why cities are growing.

2 In pairs, discuss the positive and negative implications of the suggested strategies to improve the impacts of urban sprawl. Copy the table and then summarise and write your answers. The first two have been started for you.

Suggested way to reduce urban sprawl	Advantage	Disadvantage
Improving public transport		
Developing regional centres		

3 List the impacts of urban sprawl.

4 Explain why urban sprawl is not an efficient use of resources.

5 Use the internet to write a brief report about the advantages and disadvantages of urban consolidation. Identify examples in your nearest urban area to include in your report.

6 Conduct a class debate on the following topic: 'Australian cities are unsustainable.'

10.2 Agenda 21 promotes sustainable cities

In 1992, the United Nations introduced an action plan for sustainable development called Agenda 21. Agenda 21 is a blueprint that sets out what we can all do to contribute to global sustainability in the twenty-first century. It recognises that most environmental challenges have their beginnings in local activities, and therefore encourages local governments to promote local environmental, economic and social sustainability by developing strategies that are meaningful to local communities. This process is called Local Agenda 21. It is important to have this global plan for sustainable development of cities. It aims to create sustainable cities by encouraging governments to locally:

- provide better-quality homes for all
- improve the planning of urban places
- encourage better use of land
- reduce waste, and recycle
- encourage better use of energy and alternatives to fossil fuels
- encourage environmentally sustainable transport systems
- promote sustainable construction of urban places.

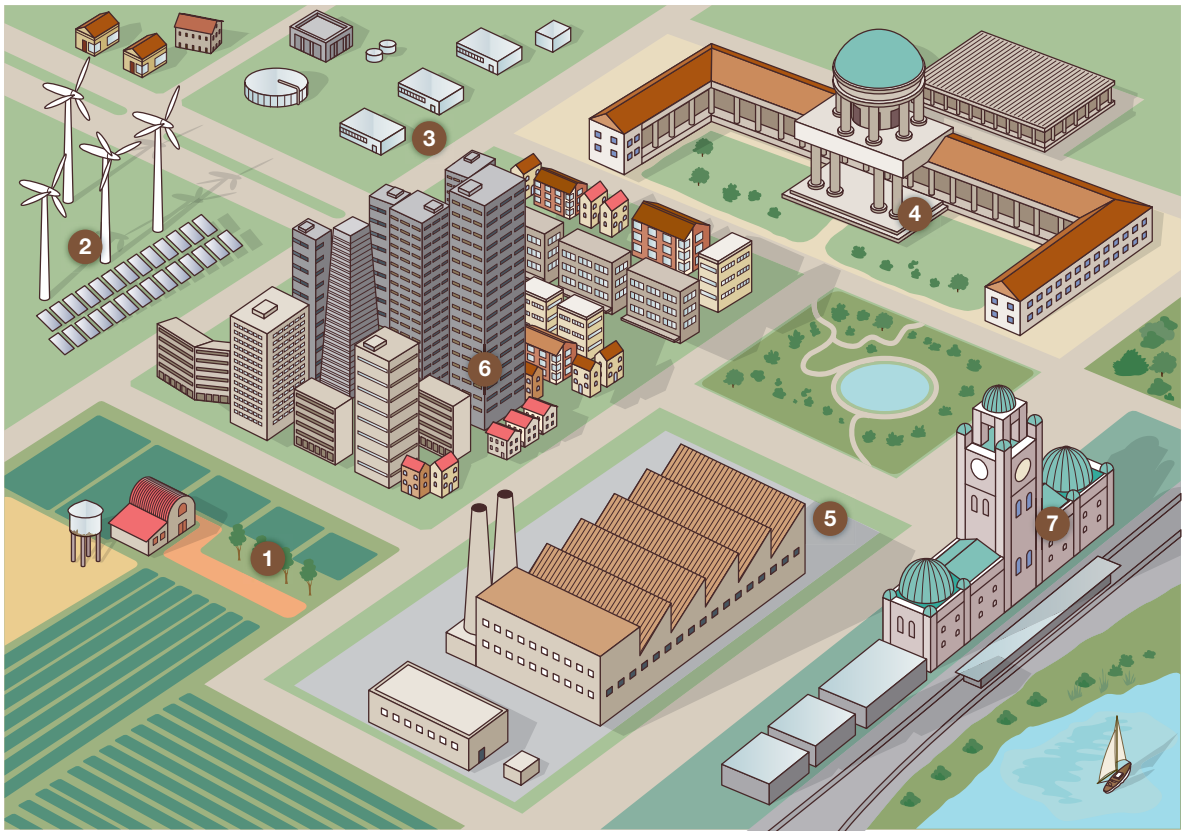
There have been many successful urban plans that have implemented the strategies of **environmental sustainability** to make cities more sustainable for the future. These can be seen in the following examples.

environmental sustainability the management of the world's environment to meet the needs of the present population without reducing the capacity of future generations to meet their needs

Geographical thought

The first Earth Summit for Agenda 21 was held in Rio de Janeiro in 1992; this summit took place again in 2002 and in 2012, 20 years on from the first meeting.

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1 Food supplies will need to be close to the city with plans in place to encourage the growth of market gardens.
2 Need for greater cleaner and efficient use of alternative energy supplies and a reduction in reliance on fossil fuels.
3 Improve recycling capabilities and reduce waste.
4 Allow for people and groups to share ideas of sustainable cities.
5 Reduce air pollution and greenhouse gases.
6 Improved planning by increasing urban consolidation in both cities and suburbs.
7 Improved public transport connections that are fast and use energy efficiently.

(Other examples, not pictured)
8 Introduce more native species in green areas to improve air quality and biodiversity.
9 A variety of jobs for the future to maintain a strong economy and the skills of those living in cities.
10 Create more areas of cultural diversity so values and beliefs can be expressed and maintained.
11 Emphasis on local history and heritage to encourage preservation of buildings.
12 Include infrastructure that is sustainable in terms of energy use and design, and that exploits existing features, such as taking into account the direction of the sun and topography.

Source 10.4 Cities of the future

Examples of sustainable strategies implemented with the principles of Local Agenda 21

Gold Coast, Queensland

The Gold Coast is a high-density **urban area** with an attractive coastline. In response to the population growth predictions, in 1997 the Gold Coast City Council developed a plan that would protect the natural and built resources of the city. This was known as the Integrated Environment Plan. The aims were to create a sustainable city and to maintain the Gold Coast as economically strong. This included strategies to improve the quality of life by providing choices for employment, cultural celebrations and improved health. A core focus of the project was to conserve what remained of the natural environment and to support the tourism industry. Strategies included bushfire-management schemes, wastewater recycling, more ecologically sustainable sewage treatment, a city transport plan and the management of existing sand dunes. The plan also included urban consolidation, aiming to

urban area an area with a high population density, as well as social and political organisation, that has been transformed from a natural to a built environment

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Source 10.5 Gold Coast, Queensland



Source 10.6 Marion, South Australia

reduce the use of motor vehicles and prevent more land being released for housing. Along with other cities, it has joined the 20% Club for Sustainable Cities, a network aiming to reduce each city's environmental impact by 20%.

Marion, South Australia

Marion is a suburb of Adelaide with native vegetation, historic sites, groundwater and 7 kilometres of coastline with reefs and coastal cliffs. There is also a 400-strong Indigenous community – the Kaurna People – who have a strong relationship with the Warriparinga site on the Sturt River. For these reasons, it is seen as a place that needs to be managed wisely and sustainably. The City of Marion Council has adopted Local Agenda 21 to deal with environmental issues affecting the community. These include protecting the water catchment area, maintaining biodiversity, promoting coastal management, improving air quality and managing waste disposal in a more environmentally friendly manner. World Environment Day is celebrated as part of Local Agenda 21, whereby local people can submit ideas and be awarded grants to support their projects. Success stories from this program include the revegetation of eroded and deforested areas. Marion is also committed to the goals of Cities for Climate Change Protection, which involves the council having an energy and emissions audit and establishing targets to reduce greenhouse gas emissions.

You can read more about these strategies in *Our Community Our Future: A Guide to Local Agenda 21* at www.cambridge.edu.au/hass8weblinks.

DEVELOPING YOUR UNDERSTANDING 10.2

1. Identify how Local Agenda 21 has encouraged the development of sustainable cities.
2. Explain how the Gold Coast and Marion communities have made their urban areas more sustainable.
3. Imagine you are an environmental scientist working for the local council. Design an information brochure that will be distributed to local residents. Suggest ideas for how they can make their suburb, city or town more sustainable. Include images to support your argument.
4. Collect newspaper and magazine articles about sustainability issues facing urban areas. Construct a collage with a headline that summarises your findings.

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10.3 Distribution of urban population

Population distribution

There are approximately 7.3 billion people in the world, but population is not spread evenly. This is called uneven **population distribution**. Patterns of population distribution tend to be uneven: places that are lightly populated contain few people and those that are heavily populated contain many people. Lightly populated places are usually places in which it is difficult to live – for example, Antarctica. Places that are heavily populated are usually easier places in which to live due to factors such as mild temperatures and pleasant living conditions.

population distribution the way a population is spread in a given area

Australia's population distribution

Australia has a large land area with a low population density; however, the population distribution is very uneven, with the majority of Australia's population located on the east coast of the continent. Around 85% of the population is located along a strip of coastal land that stretches from Cairns in Queensland all the way down the east coast through Brisbane and Sydney to Melbourne.

There are key geographical reasons for this uneven distribution. First, many of the major cities were historically founded on the coast, and that is where they have developed over time. Second, the climatic features of most of the central and western parts of the continent – which are covered by desert – make it difficult to access resources to sustain a settlement of people, and this has restricted the development of towns and cities in those areas. Furthermore, the climate on the coast is very temperate, which attracts people to live in these areas.

Economic growth

One of the most important reasons for the uneven distribution of Australia's urban population is that large cities contribute to economic growth. Recent studies claim that 84% of the growth of the national economy has come from major cities. Of this, 74% has been contributed by the capital cities. This was supported by 81% of employment growth in the same period.

Employment

As the population of Australia is concentrated in the five biggest cities, there is a variety of employment, education and training opportunities in urban settlements. Cities employ a great percentage of Australia's population – the growth of employment in cities was more than 625 000 in 2010, according to the Australian Bureau of Statistics. The proximity to work is an important consideration for workers. This is a positive reason for the uneven distribution of the urban population. Cities are the places that support economic growth, and as such have to be able to provide the capacity for people to live in them.

Business and trade

There is a concentration of businesses and trade in cities. These offer the sharing of ideas and employment opportunities at both a local and an international scale. Business and trade create networks, which offer training and specialisation in employment. Since such a large percentage of people live in urban areas, this in turn supports the growth of business and trade.

Open spaces

Open spaces such as landscapes along the coast and rivers, as well as cultural landmarks, are attractive to tourists both from within Australia and from overseas. In 2012, the Tourism Forecasting Committee suggested that, since 2000, 86% of visitors spent nights in the major cities. As a result of this, a further 75% of all spending by visitors was also within our capital cities. This shows the importance of keeping our cities attractive to tourists and the need for our local population to support them by providing services.

Cultural diversity

Cities are a reflection of our cultural diversity, with 89% of Australian residents who were born overseas living in our major cities. A total of 93% of new arrivals live in major cities and 20% of city residents speak another language. Seven per cent of urban residents speak an Asian language compared with 0.6% of the rest of the Australian

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population (according to the ABS in 2006). Having culturally diverse cities has helped us to make connections with other communities in the world. Our Asia-Pacific location and cultural diversity create an economic advantage for all Australians. Consequently, it is important to encourage the population growth of our large cities.

Biodiversity

The negative impact on biodiversity is one of the most important arguments against an uneven distribution of the population. Land clearing for new housing estates, highways and other urban facilities has destroyed many valuable habitats and sometimes entire ecosystems – natural systems that have evolved over many millennia. As a consequence of this destruction of habitats, there are broken food chains – major linkages between species that allow for the creation of new life in habitats. This has led to the extinction of some plant and animal species found within these specialised communities.

Aquatic habitats are also threatened by the uneven distribution of the population. The Hudson River in New York, the Seine in Paris, the Thames in London, the Nile in Cairo and the Mississippi in New Orleans are all examples of the environmental impacts of the uneven distribution and concentration of people in these cities. There is widespread pollution from high traffic volumes, as these waterways are used for transportation. There is also the impact of sewage and contaminated surface run-off, which disrupt the way these ecosystems function by reducing the biodiversity within them. Overusing these natural water sources for industrial purposes has also posed challenges for environmental sustainability.

Deforestation and agriculture

Another serious consequence of the uneven distribution of populations in urban areas is the impact of deforestation and agriculture. Agriculture is needed as a food source for the millions of people who live in our cities. For example, in Australia it has been said that, during the early years of settlement, 500 000 hectares of forest land was cleared to supply timber for the construction of buildings. The land was then used to grow crops and raise animals to feed the people, which in turn destroyed many native species of plants and animals. The raising of hard-hooved animals such as sheep and cattle has resulted in compaction of soil, reducing its fertility. Introduced species of weeds have slowly invaded and taken over the native species. One of the greatest concerns is the impact of dryland **salinity** that has been caused by these agricultural practices. This has had a negative impact on the biodiversity of these habitats, brought about by the uneven distribution of people.

salinity the salt content of water

10.4 The development of Canberra

For at least 21 000 years, the Canberra region was home to the Ngunnawal people. There is evidence of this in rock paintings in Namadgi National Park and at Birrigai Rock at Tidbinbilla Nature Reserve. In 1913, the Australian Capital Territory was announced as a separate area from New South Wales and pronounced the capital territory of Australia. This territory largely fell within Ngunnawal country, which – as with many of our Aboriginal and Torres Strait Islander peoples' areas – is defined by the language of the people inhabiting the land and not by map grids. The borders of Ngunnawal country approximately cover the area from Yass to Boorowa, through to Tumut, the highlands west of the Shoalhaven and back to Goulburn.

The areas we now know as Yarramundi Reach, Black Mountain and Pialligo are believed to have been important meeting places for groups coming together on the trek to the mountains. It is interesting that Australia's Parliament House is in the same locality as a traditional meeting place.

Why is Canberra important today?

Canberra today is the site for many important cultural landmarks such as the Australian War Memorial, the Australian Defence Force Academy, the National Gallery of Australia, the National Library of Australia, the High Court, Parliament

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Geographical thought

The name 'Canberra' comes from the Ngunnawal word *kanberri*, meaning meeting place. Canberra has several sister cities: Versailles in France, Beijing and Hangzhou in China, Nara in Japan and Dili in the Democratic Republic of Timor-Leste (East Timor).

House, the Aboriginal Tent Embassy and foreign embassies from around the world. It has become one of the most visited places in Australia for both international and domestic tourists. Canberra is where all the national laws are made and where most of the activities for the federal government are completed by public servants.

Origins of our nation's capital city

When Australia became a federated nation in 1901, politicians decided to look for the location of the new capital. At the 1898 Federal Convention, it had been decided that there was a need for a new capital city. The important question was 'Where should it be?' In 1899, the colonial premiers decided that the capital city should be in New South Wales, but no closer than 160 kilometres from Sydney. Until a site was chosen, Melbourne would be the meeting place for the federal parliament. It took 10 years for the final decision to be made to put the new capital city in the chosen site. The Federal Capital Territory of 2356 square kilometres was established in 1911 and an international competition was held to see who would design the new city. There were over 130 entries and the winner was an American architect named Walter Burley Griffin. His wife Marion Griffin collaborated with him on the design competition entry, and is known to have prepared the design drawings that accompanied the Griffin entry. In 1913, work began to erect the first public buildings. World War I interrupted construction, however, and it was not until 1927 that the Commonwealth government moved from Melbourne to Canberra.



Source 10.7 The National Gallery of Australia has recently established a dedicated section highlighting the diversity and complexity of Aboriginal and Torres Strait Islander art.

Geographical thought

Canberra is approximately 282 kilometres from Sydney, 150 kilometres from the east coastline and 571 metres above sea level. Canberra covers an area of 805 square kilometres, making it the largest inland Australian city.

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DEVELOPING YOUR UNDERSTANDING 10.3

1 Using the internet and maps, create an annotated map of Canberra. Include such features as prominent landmarks, both natural and cultural, as well as main roads connecting Canberra to surrounding cities.

2 In what year did the federal government move from Melbourne to Canberra?

3 Copy and fill in this table, summarising aspects of the built and the natural environments in Canberra.

Natural environment	Built or human-made environment

RESEARCH 10.1

Investigate why Canberra has sister cities. Summarise your findings as a brief report, using images to support your case. In your findings, include an explanation of why sister cities are important for international relationships. Explain why each of Canberra's sister cities was chosen. There is a website available as a great starting point for your research via www.cambridge.edu.au/ hass8weblinks.

Canberra as an example of a planned city

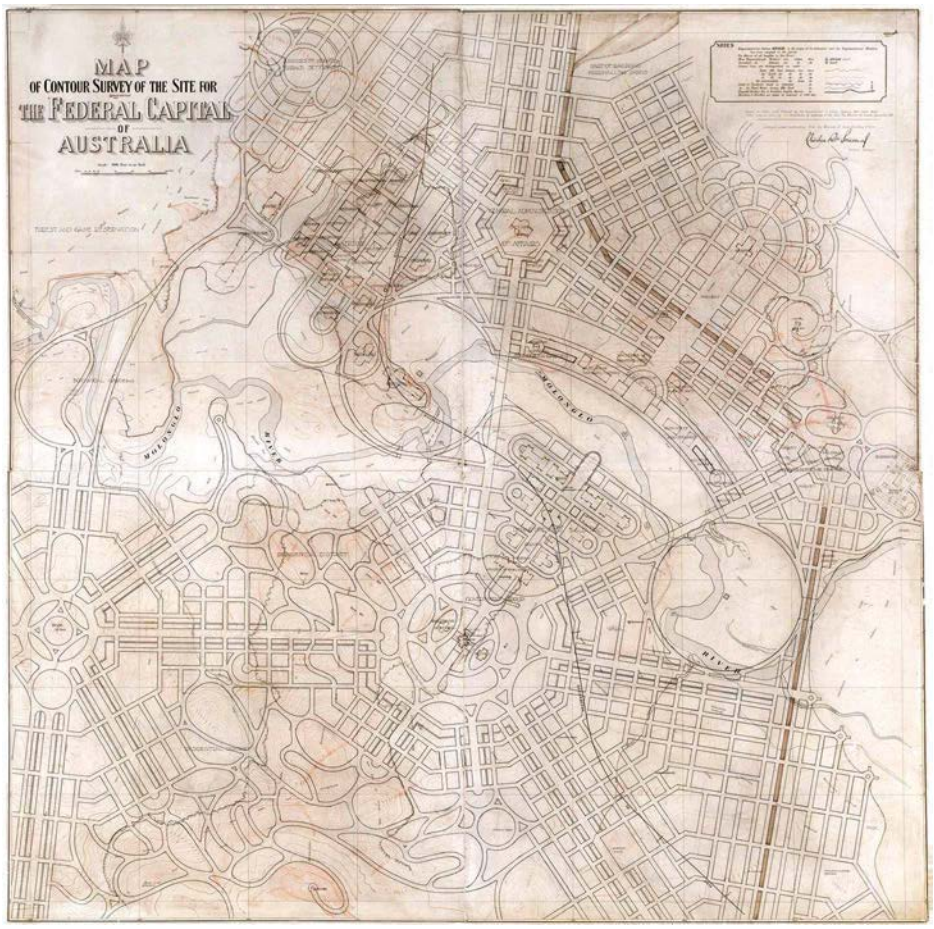
A planned city is a city that has its entire urban infrastructure planned. This includes hospitals, schools, universities, sports facilities, bridges and railway lines. There were many key points that Walter Burley Griffin put into his plan for the city. These included that the city had to be built from two axes (imaginary lines that intersect at right angles). The first axis was known as the 'land axis'; it ran in a south-west direction from the top of Mt Pleasant to what is now Capital Hill. The second axis was known as the 'water axis'; it ran in a south-east direction from Black Mountain to the Molonglo River. Together, these axes were the starting point of the plan for the city, with a large lake that would be created when the Molonglo River was dammed.

At the top of the design was the 'Capital Building', used for important occasions and intended to be the centre of the newly designed capital city. It overlooked all of Canberra, to show the importance and function of this new building as the seat of the nation's new capital. There was also the new library, which would contain all the new capital city archives that needed to be stored and protected.

The plan also connected other land uses in the area. These included residential areas, hospitals, schools, the university, the military academy, retail precincts and land zoned for industry. The interesting thing about Griffin's plan was that the connecting suburbs were planned in a hexagonal grid to connect with each other and the city centre. Another key aspect of the design for this planned city was that the buildings were low rather than high-rise, and all the important buildings were to be modern in architecture.

Griffin's experience in building other cities overseas showed him the importance of gardens

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Source 10.8 An early map of Canberra: Walter Burley Griffin's design for the city

Source 10.9 Canberra today



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and parks as the focus of a built environment. He suggested that the city and the surrounding suburbs should have streets lined with trees, gardens and parks, and should also include water features such as lakes and ponds. He was strongly influenced by radical European and North American architects and the 'City Beautiful' and 'Garden City' movements that were popular in late nineteenth- and early twentieth-century town planning. The natural environment and Australian flora featured so prominently in Griffin's plans that Canberra was often called the 'Bush Capital'.

The first survey peg marking the beginning of the development of Canberra was driven in on 20 February 1913, and the foundation stone was laid on 12 March. Lady Denman, wife of the Governor-General, announced the name of the city as Canberra. The year 2013 marked the centenary of this occasion. While in Australia, Griffin designed both the Capitol Theatre and Newman College at the University of Melbourne. In New South Wales, he planned and developed the towns of Leeton and Griffith, and the Sydney suburbs of Castlecrag and Castle Cove.

The beginnings of a new city

There were many factors to take into consideration when construction of Canberra began. Where would the workers live? The men who came to build the city had to live in tents and **humpies** as well as a few old farmhouses. In the 1920s, there were some small brick cottages built to accommodate the workers and their families; there were also 120 barracks in the ex-**internment camp** at Molonglo that were converted so they could be used by workers during this period. Single men continued to live on site in camps. Establishing a water supply was an important part of the plan. The construction of Cotter Dam began in 1912. A temporary 'tent school' was created to educate the children of the workers; it closed in 1917. In 1913, a brickyard was in operation and the first bricks were made. Then a post office was opened at Westridge in 1917.

humpy a temporary shelter made from bark and tree branches

internment camp a dentention centre, usually during a time of war, for people considered to be political enemies



Source 10.10 The Australian Minister for Home Affairs, King O'Malley, drives in the first peg of the new national capital, Canberra.

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Source 10.11 Walter Burley Griffin's topographic map of Canberra

DEVELOPING YOUR UNDERSTANDING 10.4

Using the map provided in Source 10.11, complete the following activities.

1. Record the natural feature found in H4.
2. Record the human-made feature found in E5.
3. Justify the location of Lake Burley Griffin, using evidence from the map provided.

Timeline of major events in the building of Canberra

Before World War I

1823 European settlement
1901 Australian Federation
1908 The site for Australia's capital chosen
1911 Population of ACT was 1714
1912 Walter Burley Griffin wins international design competition
1913 Canberra chosen as name for the city
1914 Rail link to Canberra established

1920s

1924 Griffin plan for Canberra gazetted
1927 Provisional Parliament House opened

The Great Depression and after

1930 Federal Capital Commission disbanded
1930 Canberra's population 9000
1931 Federal Highway links Canberra to New South Wales town of Goulburn

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1936 Regular air services to and from Canberra commence
1939 Population 10 000

World War II

1941 Australian War Memorial opened
1945 Population 13 000
1946 Australian National University established

Post-war reconstruction

1957 Population 39 000

1960s boom

1960 Population 50 000
1962 Kings Avenue Bridge built
1962 Woden Valley development begun
1963 Commonwealth Avenue Bridge built
1964 Lake Burley Griffin filled
1966 Population 96 000
1966 Belconnen development begun
1968 National Library of Australia opened

1970s

1971 Population 146 000
1973 Tuggeranong development begun
1976 Population 203 100

1980s to the present

1980 Mitchell, Giurgola and Thorp win New Parliament House design competition
1981 High Court of Australia opened
1983 Population 235 000
1988 New Parliament House opened
1988 Population 270 000
2000 Population 311 000
2010 Population 358 222
2012 Preparations for Centenary Celebrations begin

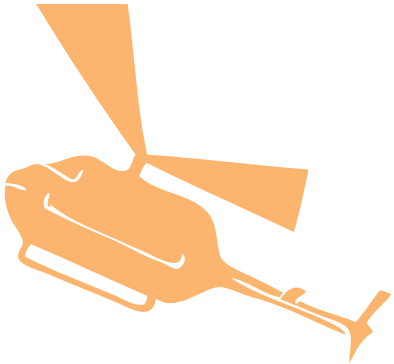
RESEARCH 10.2

Imagine you are a **town planner**. In groups, design your own planned city. You will have to give your city a name, design the roads and plan for parks, hospitals and residential areas. Where will you place schools and universities? Will you include an airport and railway station? What about a water public transport service such as a ferry wharf? You must also consider where industries and shops will be zoned and located. What about the natural features such as climate and topography? How and where will you obtain water and electricity, and collect wastes?

town planner a person who plans the designs of urban places

Present your findings using an ICT such as PowerPoint to share with the class. Take the following aspects into consideration:

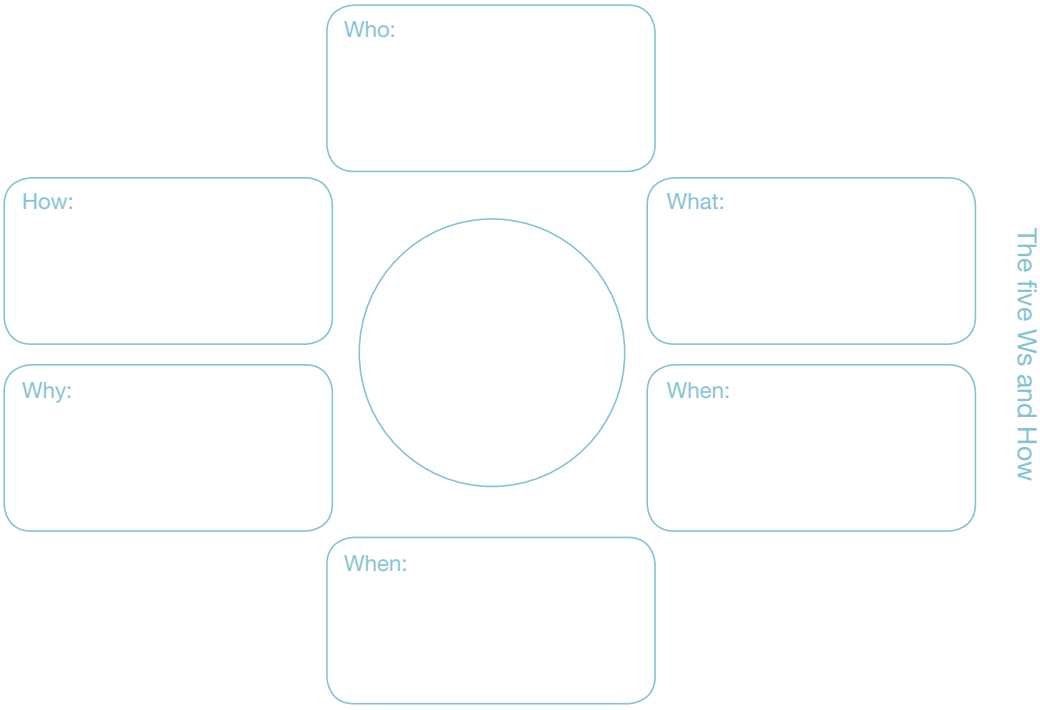
- The population will be 2.5 million residents.
- There is a river that crosses the landscape.
- It is a coastal location with 300-metre-high cliffs.
- The highest point is a mountain 1000 metres in elevation.
- There is a desert inland on the landward side of the mountain.
- The closest large city of 6 million is 100 kilometres away.



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DEVELOPING YOUR UNDERSTANDING 10.5

1 Using the graphic organiser below, copy and complete a summary of what you have learnt about the construction of the planned capital city of Canberra.



2 Identify why the site for Canberra was chosen.

3 Explain the key human and natural features of Canberra.

4 Describe why Canberra is an important city.

5 Using the timeline provided on pages 193–4, construct a line graph to show how the population of Canberra grew over the period 1911 to 2010. Locate the present population of Canberra and add this to your graph.

The future of Canberra as a planned city

The Canberra Spatial Plan outlines a plan that will help to manage the future growth of this planned city. It is a reflection of what the community hopes to see in the city over the next 30 years. It is the ACT's main planning document for directing and managing the urban growth and change that is predicted. The following is a list of the main aspects of this future plan. The aim is to make the city even more sustainable as it grows in the future.

- Higher-density residential areas will be created within existing urban areas. The aim of this is to provide easy access to work, schools and other activities. This will mainly occur in Central Canberra and Civic.
- Future residential areas will continue to grow in Gungahlin, and may grow into the Molonglo Valley if needed.
- Civic will be the focus of employment and growth. There will therefore need to be an improvement in transport. In the future, there will also be growth in employment in the Molonglo Valley.

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- Future industrial and transport will be in the existing areas close to the airport.
- Nature reserves will be managed to protect biodiversity in both urban and rural areas.
- Major transport connections will be kept out of the city centre and link Civic to the Molonglo Valley via upgraded bypasses.
- A bushfire zone will be declared to protect the city from bushfires with the expansion of the suburbs.
- Non-urban areas that are part of the city will be used for sustainable agriculture.
- Water quality in catchment areas will be protected from future developments.
- An aircraft noise-protection corridor will be created to minimise any impact from the increased use of the airport. No new residential zones will be located in this area.



Source 10.12 Aerial view of Lake Burley Griffin, Canberra

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Reflecting and consolidating

Chapter summary

- Cities have diverse employment opportunities, health and education services, cultural activities and vibrant social networks.
- Cities are very complex places that are the result of the interactions between people and the natural and built environments.
- There are both positive and negative impacts of living in cities; these can be classified as economic, social and environmental.
- Urban sprawl is often a result of cities that have grown too fast to meet the needs of growing urban populations. This process has had a negative impact on biodiversity as competition for land for housing and infrastructure encroaches on green areas.
- All levels of government have a responsibility to ensure the sustainability of our cities. This has been achieved to some extent by initiatives such as Local Agenda 21.
- It is important to ensure environmental sustainability so that both present and future generations can have a high quality of life.
- The nation's capital city, Canberra, is a purpose-built city that is important for the identity of our country.

Short-answer questions

1 Construct a concept map that shows your understanding of the definition of urban places.

2 Explain why increasing numbers of people live in urban areas.

3 Describe the impacts of urban sprawl on our cities and surrounding areas.

4 If you had to design your own city, list five of the most important aspects you would need to take into consideration to make the city a better and more sustainable place in which to live. Justify your answers.

5 Explain why it is important to have global sustainability initiatives such as Local Agenda 21 for our urban areas.

Extended-response question

In groups, develop a report that compares and contrasts two cities of your choice. Include images, statistics and diagrams to support your findings. Your report must include the following:

- a world map, including the names and locations of the two chosen cities
- a description of the population characteristics: include the population numbers, density, gender, age structure, growth and ethnic composition
- a description of the main land-use patterns of your chosen cities; include where the industrial, commercial, residential and green spaces are found and also include a sketch map to show your findings
- a brief description of how the cities have changed over time
- a list of challenges these cities face in terms of sustainability in the future; write about air quality, housing, employment, transport, health, water and energy supplies
- an explanation of how the cities you have chosen have responded to three of these challenges
- a plan for the cities in the future to meet the needs of the population.

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Civics and citizenship

Government and democracy

Our rights

It is important to know what our **rights** are as members of the Australian community. It is easy to confuse the concept of rights with **privileges**. A right is a legal entitlement that all people are automatically born with, whereas a privilege is something that is granted by someone else – it is not an automatic entitlement. For example, under Australian law it is a right to have access to education and health care. A privilege is the pocket money you might receive for doing chores for your parents.

right a legal, social or ethical entitlement

privilege a legal, social or ethical advantage



Source 8.1.1 It is a right for all Australians to have access to education.

Under Australian law there are several rights we are automatically entitled to. We have rights which enable us to actively participate in our society without persecution. These rights are the **freedom of association**, **freedom of movement** and **freedom of religion**. These three rights ensure that we are allowed to join any groups we want (within the law), live and travel anywhere we want within Australia, and practise whatever religious faith we choose.

freedom of association the right to join or leave groups of your own choosing

freedom of movement the right to travel

freedom of religion the right to practise your chosen religion

Many of our rights also exist in international law. *The Universal Declaration of Human Rights* (1948) outlines the rights of all members of globe (regardless of the country they are born in).

Article 1

All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.

Article 2

Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.

Article 3

Everyone has the right to life, liberty and security of person.

Article 4

No one shall be held in slavery or servitude; slavery and the slave trade shall be prohibited in all their forms

Source 8.1.2 The first four rights from the *Universal Declaration of Human Rights*

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Freedom of speech

In the United States, the freedom to speak publicly without censorship is included as a right in that country's constitution. The Australian Constitution does not explicitly outline the rights to freedom of speech. However, our constitution does outline the right to political participation, including political communication. In 1991, the High Court of Australia ruled that this entitled all Australians the right to freedom of political speech. According to the federal government:

> Australians are free, within the bounds of the law, to say or write what we think privately or publicly, about the government, or about any topic. We do not censor the media and may criticise the government without fear of arrest. Free speech comes from facts, not rumours, and the intention must be constructive, not to do harm. There are laws to protect a person's good name and integrity against false information. There are laws against saying or writing things to incite hatred against others because of their culture, ethnicity or background. Freedom of speech is not an excuse to harm others.

Source 8.1.3 An extract from *Five Fundamental Freedoms*

Despite this stated law, in 2005 former Prime Minister John Howard enforced a **law of sedition**. A law of sedition prevents a person speaking publicly on an issue that could be seen to disagree with or want to overthrow a government. In the case of Australia, the law was introduced as a way of fighting terrorism and limiting the debates surrounding climate change. This controversial law was changed in 2011 and replaced by outlawing public speaking that encouraged people to use violence.

law of sedition a law that prevents a person or organisation from encouraging others to overthrow or undermine the government

Participating in Australian democracy

Our rights enable us to actively participate in Australian politics without being persecuted. There are many ways in which we can participate in the Australian **democracy**.

democracy a system of government based upon participation of the people; a form of government in which power lies with the people, such as through voting

It is compulsory for all Australian citizens over the age of 18 years to vote in all elections (local, state and federal). Australia is one of only 10 countries in the world in which compulsory voting is enforced. If an Australian citizen does not vote they are punished through a fine. Compulsory voting has many advantages and disadvantages. For example, some people argue that it is important for all citizens to vote in order to have a fair representation of the opinion of the public on which party should be in power. Conversely, some people argue that compulsory voting is unfair as some people do not have an informed opinion on political issues and may be voting without sufficient information.

There are many other ways that you can participate in our democratic political system before the age of 18. You can join a political party or lobby group (such as Greenpeace). Even posting a comment on social media (such as Twitter or Facebook) on a political issue is a form of participation!



Source 8.1.4 Even if you are under 18 you can still be active in politics.

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DEVELOPING YOUR UNDERSTANDING 8.1.1

1 List three of your rights and three of your responsibilities.

2 **a** Outline the reasons why it is important to have a *Universal Declaration of Human Rights*.

b There are 30 rights outlined in the *Universal Declaration of Human Rights*. Create a list of what you think five of them might be.

3 Outline the difference between freedom of speech in Australian and in the United States.

4 Create a mind map that outlines the way a person can participate in Australia's democracy.



Source 8.1.5 In 2011 columnist Andrew Bolt was found guilty by the Federal Court of breaching racial discrimination laws, sparking a national debate on freedom of speech in Australia.

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History



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11 Overview: the ancient to the modern world (c. 650 – c. 1750)

Before you start

Main focus

Between the end of the ancient world (c. 650 CE) and the beginning of the modern world (c. 1750), empires and civilisations rose and fell round the world, changing through contact with others.

Why it's relevant today

Studying the rise and fall of these civilisations helps us to understand changes in the world today, such as the growing importance of Asian powers. Learning about the spread of Christianity and Islam, and their interactions both through peaceful trade and through violent conflict, gives us insight into relations between Muslims and Christians today.

Inquiry questions

- How did societies change from the end of the ancient period to the beginning of the modern age?
- What key beliefs and values emerged and how did they influence societies?
- What were the causes and effects of contact between societies in this period?
- Which significant people, groups and ideas from this period have influenced the world today?

Key terms

- Buddhism
- Christianity
- Columbian exchange
- Crusade
- Empire
- Feudalism
- Globalisation
- Hinduism
- Humanism
- Islam

Significant individuals

- Geoffrey Chaucer
- King Alfred
- Kublai Khan
- Muhammad
- Queen Isabella of Castile
- Zheng He

Let's begin

The Roman Empire, which unified the world around the Mediterranean and across much of today's Europe, finally collapsed at the end of the fifth century. Meanwhile, the Christian Byzantine Empire rose to power in the eastern Mediterranean, and from the seventh century Islam spread widely and gained much influence. The Anglo-Saxon kingdoms in Britain, the Vikings in Scandinavia, the Turkish Ottoman Empire, the Mongol Empire in Central Asia, the Yuan and Ming dynasties in China, the Khmer in south-east Asia, and the Aztec and Inca in Central and South America all became important in their respective regions. Trading zones brought civilisations into contact and also allowed for the movement of people and the spread of disease. The Spanish and Portuguese empires from the late fifteenth century facilitated the 'Columbian exchange' of people, animals, plants, food and disease between Europe and the Americas.

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Timeline

CHAPTER EVENTS

476 CE Last emperor of the western Roman Empire is overthrown	
	c. 550 Japanese adopt Buddhism and Chinese script
570 Birth of Muhammad, who becomes the prophet of Islam	
	793 Vikings attack Lindisfarne, England
800 Charlemagne is crowned Roman Emperor	
	c. 1000 Vikings settle at Vinland, Newfoundland
1095 First European Christian Crusade	
	1206 Temujin takes the title 'Genghis Khan'
1215 Magna Carta is signed between King John and barons in England	
	1271 Kublai Khan, grandson of Genghis Khan, founds Yuan Empire in Beijing
1347 Black Death reaches the Mediterranean Sea	
	1387–1400 Chaucer writes *The Canterbury Tales*
1453 Turkish Ottoman Empire captures Constantinople and overthrows the Byzantine Empire	
	1492 Christopher Columbus reaches the Caribbean, believing he has arrived in the 'East Indies'

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Source 11.1 Map of the eastern half of the Roman Empire

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11.1 Transformation of the Roman World

For centuries both before and after the beginning of the Common Era (CE), the Roman Empire had unified the region of the Mediterranean and much of Europe. But from the late second century CE, the **empire** began to weaken – a slow and complex process that led to its collapse by the fifth century. In the wake of the Roman Empire, zones around the Mediterranean emerged. To the east, the partly Greek-speaking Byzantine Empire centred on Constantinople gained influence and developed a form of **Christianity** that it would later pass on to Russia. By the fifteenth century, the Byzantine Empire gave way to the Muslim Ottoman Empire. From the seventh century CE, in North Africa and the south-eastern areas of the Mediterranean, both the religion of **Islam** and Arab political rule spread westwards.

empire a group of states with a government that is under a single supreme authority

Christianity a religion that is based on the life and teachings of Jesus Christ

Islam a religion based upon belief in one God of whom Muhammad is the chief and last prophet

The law and order that typified the Roman Empire had crumbled into chaos and violence, with local lords asserting regional power. Italy, Spain and other parts of Europe splintered into separate kingdoms that came under the rule of Germanic tribes, who were themselves fleeing the Huns invading from Asia. The Visigoths attacked Rome itself in 410 CE, and established a large kingdom covering much of what is now Spain, Portugal and part of France. The Vandals took control of Corsica, Sardinia and part of North Africa, while the Ostrogothic Kingdom covered Italy, Sicily, Austria, Hungary and much of the Balkan region. Large areas of what are now France (then Gaul) and Germany became the Frankish Kingdom.

In Spain the Visigoths would later give way to an invading Muslim force from North Africa. In central Europe the Carolingian Empire would emerge, with Charlemagne its most prominent leader (being called Roman Emperor by the pope).

From 793 CE, Vikings from the north terrorised areas of Western Europe with their devastating raids from the sea.

The formerly urbanised world of the Roman Empire, connected by a system of good roads, had disintegrated. Cities shrank and trade diminished. As the feudal system took hold across Europe, large landowners became powerful and villagers looked to them for support and protection.

Spread of Christianity and Islam

One of the major developments in the wake of the Roman Empire was a slowly growing division between two expanding religions, Islam and Christianity. Islam grew in the regions we now call the Middle East and parts of South Asia. Muhammad (570–632 CE), the **prophet** of Islam, was born in Mecca on the Arabian Peninsula. Based on his revelations, Muhammad dictated to scribes the holy scriptures of Islam, the Qur'an (or Koran).

prophet a person who claims to be in contact with the supernatural and acts as an intermediary concerning knowledge delivered from the supernatural

Islam spread at first among Arabs, then rapidly in the seventh and eighth centuries through Syria and areas of the then Persian Empire (including contemporary Iraq and Iran) to what is now Afghanistan and Pakistan, and via Egypt across North Africa. By the thirteenth century, Islam had reached Sumatra and Java, and by the fourteenth century it had spread across large areas of Saharan Africa.

Christianity took hold in parts of the Byzantine Empire, as well as in parts of North Africa and across Europe. Its acceptance in the Byzantine Empire was helped by the conversion of the emperor Constantine; Orthodox Christianity would later become dominant in Russia and Eastern Europe. In Western Europe, the Christian church was centred on Rome, under the leadership of the pope. From the fourth century, Christianity spread widely around the Mediterranean; however, by the eighth century Spain, North Africa and areas to the east had largely converted to Islam. Ireland and western areas of Britain became Christian from the fourth to the sixth centuries, though eastern Britain and areas now in Germany did not convert until the seventh and eighth centuries. Christianity spread to Scandinavia in the late tenth and eleventh centuries, as the formerly pagan Vikings gradually converted.

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Trade between regions around the Mediterranean, and between Europe and Asia was an important development in the centuries between the ancient and modern worlds. Relations between people of different regions and religions were often harmonious and based on exchange. But tensions between Christianity in Europe and Islam in the Middle East erupted in 1095 CE into almost two centuries of warfare known as the **Crusades**. Following the Norman invasion of England in 1066 CE, European Christian **knights** turned their focus on the 'Holy Land' of Palestine, which included the city of Jerusalem.

Crusade a military campaign to restore Christianity in regions controlled by Muslims

knight a military servant of a king or other person of rank

pilgrimage a religious journey to a sacred place

A **pilgrimage** was a Christian rite, and included journeys to Rome, Constantinople, Jerusalem and Santiago de Compostela (in Spain). Jerusalem was under Muslim control, and the security of Christian pilgrims was invoked to justify an invasion. The first Crusade was sparked by a speech of Pope Urban II in 1095 CE, and resulted in the capture of Jerusalem by Christians in 1099 CE. Waves of Christian attacks in succeeding Crusades to hold on to captured land met with much resistance, and Muslim forces retook Jerusalem in 1187 CE. Aggressive attacks by Christian forces on these Muslim lands were motivated by the desire for land and wealth, as well as religious goals. The costs of violence were heavy, but the Crusades spurred the introduction to Europe of commodities like soap and pasta, as well as Arab and Islamic science, literature and music.

Britain after the end of the Roman occupation

The British Isles were invaded by the Romans in 55 BCE and became part of the Roman Empire.

Roman rule lasted until about 476 CE. The Romans left important legacies, not least cities such as London and York, as well as roads, buildings



Source 11.2 Map showing the Anglo-Saxon kingdoms in the British Isles, c. 800 CE

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Anglo-Saxons Germanic inhabitants of Great Britain (and their descendants) following their arrival in the fifth century CE

and Hadrian's Wall in the north. The Romans were soon replaced by Anglo-Saxons from northern Germany and Jutes from what is now Denmark, who arrived in large numbers in the last half of the fifth century. **Anglo-Saxons** took control of eastern England and the Celts retreated to the west, establishing the continuing division between the English and the Celtic-descended Welsh and Cornish people.

The Anglo-Saxon kingdoms

England became divided into a number of small kingdoms. These coexisted for centuries, until the House of Wessex emerged as the dominant kingdom under King Egbert in the ninth century. From the late eighth century, England was invaded repeatedly by Scandinavian raiders known as **Vikings**. The invaders took control of an area of eastern England called the **Danelaw**, which later merged back into England. London was attacked in 982 CE and Canterbury in 1012. Egbert's grandson King Alfred ruled from 871 to 899 CE, dividing England into shires and establishing a unified legal system, as well as Anglo-Saxon language and literature. In 1066 CE, following a dispute over succession to the English throne, William of Normandy landed with a large army and defeated his English opponent Harold at the Battle of Hastings, thus becoming King of England.

Vikings explorers, warriors and pirates of Scandinavian descent who raided, traded, explored and settled in wide areas of Europe, Asia and the North Atlantic

Danelaw the parts of Anglo-Saxon England that came under Danish law and where Danish customs were observed, particularly in the late eighth and early ninth centuries

DEVELOPING YOUR UNDERSTANDING 11.1

In 1215, the **barons** of England demanded that King John agree to a long list of principles, such as limits on the levies they had to pay, rights to legal processes, an independent church and a system of weights and measures. Signed at Runnymede near Windsor Castle, this **charter** became known as the Magna Carta, and is considered a step towards a form of government known as 'constitutional monarchy', where the monarch is the head of state but acts within the parameters of the constitution.

1 Examine the Magna Carta in Source 11.3. What strikes you about it?

2 Define the term 'constitutional monarchy'.

baron a nobleman who had been given his land by the king, often in return for military service

charter a written document delivered by the sovereign or legislature, granting rights or privileges, or creating a corporate entity



Source 11.3 One of the rare copies of the Magna Carta on display at Salisbury Cathedral

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Anglo-Saxon institutions and the roots of medieval parliament

The Anglo-Saxons, Jutes and Normans all brought to England social systems of inherited monarchies and aristocracies. From the late eighth century, the Christian church played a role in recognising the king and also participated at the royal court. Shires were the basis of local government, each run by an **aristocrat** ('earl') and an administrator ('shirereeve' or 'sheriff'). Monasteries and cathedrals were the centres of learning. After 1066 CE, William established a feudal system, giving land to his followers (barons) in return for loyalty and service.

aristocrat a member of the nobility

English political institutions evolved gradually. England does not have a written constitution, but rather a body of precedents and practices as well as common law. King Edward I (who reigned 1272–1307) held regular parliaments or council meetings in which he consulted leading subjects (nobles, clergy, knights and town representatives) on political matters. During Edward's reign, parliament came to ratify taxes and to advise the king on his statutes; Edward also revised the court system.

Old English and the foundations of modern English

Written English also evolved slowly. In **medieval** England, the church used Latin for its services and scholars wrote in Latin. The law courts and parliament relied on a form of French. King Alfred's attempts to establish Anglo-Saxon as a written language in the ninth century CE were important; for example, he ordered monasteries to maintain chronicles in vernacular (native) language. The term 'Old English' refers to the early forms of the language used up to the twelfth century, and 'Middle English' refers to the form used from then until about 1450. The fourteenth century politician and writer Geoffrey Chaucer did much to shape Middle English, which is the director ancestor of 'modern English'. Chaucer's most famous writings are *The Canterbury Tales*, completed about 1390 and still in print today. His wonderful stories of individual men and women on a pilgrimage to the shrine of St Thomas Becket captured English as it was spoken in London at that time. The introduction of the printing press in the fifteenth century did much to establish the English language, as also did William Shakespeare's plays and poems written in the decades before and after 1600.

medieval nineteenth-century Latin for 'middle age' (*medium aevum*)

DEVELOPING YOUR UNDERSTANDING 11.2

1. Analyse the map of the British Isles c. 800 CE (Source 11.2 on page 206). Where was the House of Wessex based?
2. Research King Alfred and King Edward I. Discuss why they are considered important kings.

11.2 Key features of the medieval and early modern world

Major civilisations of the medieval and early modern world

During the medieval and early modern centuries, a range of civilisations flourished around the globe. The Byzantine Empire, centred on Constantinople (later Istanbul), was the major power in the eastern Mediterranean following the collapse of the Roman Empire. Christian and largely Greek-speaking, it was finally overthrown when the Turkish Ottoman Empire captured Constantinople in 1453 CE. In the British Isles, alongside the Anglo-Saxon kingdoms, the Celtic culture became established in Wales,

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folklore the traditional customs, traditions and stories of a population, passed down from one generation to another by word of mouth

Scotland and Ireland by at least the second century. With their roots in central Europe, Celts were known for their skills in mining and working with iron, and their **folklore** traditions.

In northern Europe, the Vikings or Norsemen began their raids on other parts of Europe in the late eighth century. From then until the eleventh century these Scandinavian long-distance sailors and warriors conducted raids and established settlements in places ranging from England to Ireland, Iceland, Greenland and even North America. To the east they established bases in Russia and reached parts of the Byzantine Empire. In south-east Asia, the Khmer kingdoms dominated areas now in Thailand, Cambodia, Laos and Vietnam from around 60 CE. The Khmer empire produced large and lavish monuments, especially the temple at Angkor Wat with its carved stone reliefs showing daily life in the twelfth century. Lasting for many centuries, the Khmer empire had very efficient **irrigation** and agricultural systems.

irrigation a system of bringing a supply of water to a dry area, especially in order to help crops grow

contiguous connected without a break

In Central Asia an empire arose on the Mongolian steppes in the thirteenth century. Led at first by Temujin (or Genghis Khan), the Mongol Empire would become the largest **contiguous** land empire ever seen. The horse-riding Mongol tribes wreaked havoc and destruction, reaching as far west as Hungary and Poland, and stretching across China, Russia and Central Asia. In 1271, Kublai Khan, the grandson of Genghis Khan, founded the Yuan Empire in Beijing, extending Mongol rule over southern China, as well as Tibet and Korea.

The Yuan Empire lasted until 1368, and was followed by the Ming **dynasty** that ousted the Mongols and ruled China for three centuries. The Ming dynasty extended its control into Annam in south-east Asia, and became a

dynasty a succession of rulers from the same family

Source 11.4 Angkor Wat at Siem Reap, Cambodia



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maritime empire that sponsored voyages around the Indian Ocean and as far as the east coast of Africa. The Ottoman Empire became the largest Muslim empire in history, reaching its peak in the seventeenth century when it stretched from North Africa to southern Russia, and from Hungary in the west to the Red Sea in the east. The Ottoman Empire was a major naval force in the Mediterranean Sea, and encouraged a rich culture of art, architecture and literature in the Islamic world, particularly in the sixteenth and seventeenth centuries. Cultural attainments were matched by continuing scientific discoveries, and developments in technology, engineering and medicine.

In the fifteenth and sixteenth centuries, the Spanish and Portuguese violently conquered territories in Central and South America, creating their own empires. The areas ruled by these empires are often called 'Latin America' because both the Spanish and Portuguese languages are derived from Latin. Despite the distances involved, the Spanish and Portuguese created these empires through the use of guns, metals and horses for transport. European diseases devastated the Atzec and Maya populations.

Prior to the arrival of the Spanish in 1521, for nearly 100 years the Aztec had dominated central Mexico with their large capital city of Tenochtitlan, which the Spanish would take over as their capital, and today is known as Mexico City. The Aztec empire was based on three **city-states** that first joined together and then expanded outwards. The Maya regions were to their south. The Inca Empire, which was also conquered by the Spanish, lay along the Andes mountains in the western coast of South America in an area that now includes Ecuador, Peru and Chile. The Inca Empire had arisen in the early fifteenth century, conquering neighbouring groups through violent means and establishing their own religion. Their city, Cuzco, was the largest in South America, and they had a vast system of roads, bridges, **aqueducts** and temples. Like the Aztec, the Inca were devastated by the invading Spanish in the early sixteenth century.

city-state a government that rules a small area made up of one city and the towns and countryside around it

aqueduct a structure designed to transport fresh water to cities

Source 11.5 The Sun Pyramid at Teotihuacan, Mexico, built by the Aztec



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Feudalism

feudalism a form of government based on the exchange of land for military service, with a strict hierarchy of status

The term '**feudalism**' comes from the Latin word *feodum*, which refers to lands granted for military service. While the utility and accuracy of the term are now debated, it has been commonly used to describe medieval systems of landholding and military service in parts of the world including Europe and Japan. It is especially applied to the landholding and economic arrangements in Europe from the ninth to the twelfth centuries, and is taken to mean land grants given in return for the expectation of military service to the lord of the **manor**. However, there is evidence that military service arrangements did not fit just one model. The term 'feudal' also has more accurate legal meanings, particularly in relation to landholding patterns. Essentially, it refers to social arrangements in which a privileged class of landowners had rights to land, and the land was worked by peasants. The term is also applied to Japan from the twelfth to the sixteenth centuries, when the ***daimyo***, or lords, formed a rural warrior elite. The knights of medieval Europe are sometimes compared to the samurai in Japan, though knights were defined primarily by their particular class status, and samurai occupied various ranks and were defined by their warrior traditions and duties.

manor the great house and lands of a rich nobleman

daimyo a feudal Japanese lord, roughly equivalent to a medieval European duke or earl

Trading routes

From ancient times, the Mediterranean Sea formed a natural trading zone, where ships and sailors could reach foreign ports without straying too far from land. Constantinople, located between the Mediterranean and the Black Sea, was a major trading centre for goods between east and west. By the eighth century, Venice was a centre for merchant trading and developed commercial relations with the Byzantine empire and Islamic cities such as Cairo. Genoa in north-western Italy also became an important port. Other Mediterranean trading centres in the medieval period included Barcelona in Spain, and Tunis and Alexandria in North Africa.

Another oceanic trading area, requiring longer voyages, was that connecting the Indian Ocean, the South China Sea and the east coast of Africa. Voyages and trading around the Indian Ocean date back to ancient times. Indian sailors developed trade routes westward to the Middle East and eastward to south-east Asia, where they obtained spices, gold and other precious items that could be traded for other commodities. These voyages helped to spread **Hinduism** and **Buddhism** through south-east Asia, while Muslim trading communities developed around the Indian Ocean. Traders, sailors and passengers from China also navigated their way around and across the Indian Ocean, stimulating trade in Chinese silk and porcelain in return for products such as pepper. The 'Silk Road' refers to the vast trading routes that extended across Central Asia, linking Europe and China. Movement and trade along these routes dates back to well before the Common Era, but was especially significant from around 100 BCE to 900 CE, and again from the thirteenth to the seventeenth centuries. The Mongol Empire unified Central Asia in the thirteenth and fourteenth centuries, and brought a stability that allowed merchant caravans to expand. Along with a vast array of trade goods, ideas, religions, cultural practices, knowledge and even diseases travelled both ways along the Silk Road. The terrible plague that became known as 'the **Black Death**' originated in north-eastern China around 1330 CE and quickly moved westwards along the Silk Road. By the 1340s it had taken a devastating toll on the nations around the Mediterranean and throughout North Africa and Europe. The Spanish and Portuguese empires gained great wealth from their colonies in the Americas. Their ships, plying the Atlantic, brought riches in the form of silver, as well as new plants and other goods.

Hinduism a religious tradition of the Indian subcontinent

Buddhism a religion that has a variety of beliefs, practices and traditions based largely on the teachings of Siddhartha Gautama (the historical Buddha)

Black Death the great outbreak of bubonic plague in the fourteenth century

Historian Alfred Crosby has coined the term '**Columbian exchange**' to refer to the two-way transfer between Europe and the Americas of food, animals, goods, plants

Columbian exchange the widespread exchange of people, animals, plants, food and diseases between Europe and the Americas

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and diseases. The tobacco and sugar plantations established in areas of Central and South America were worked by coerced labourers, and increasingly by enslaved Africans. From around 1600 CE the trade in slaves, who were captured in Africa and shipped in terrible conditions across the Atlantic Ocean, would itself become a major economic enterprise of the European **imperial** powers. In this way African cultures became an important part of the Americas.

imperial related to an empire or emperor

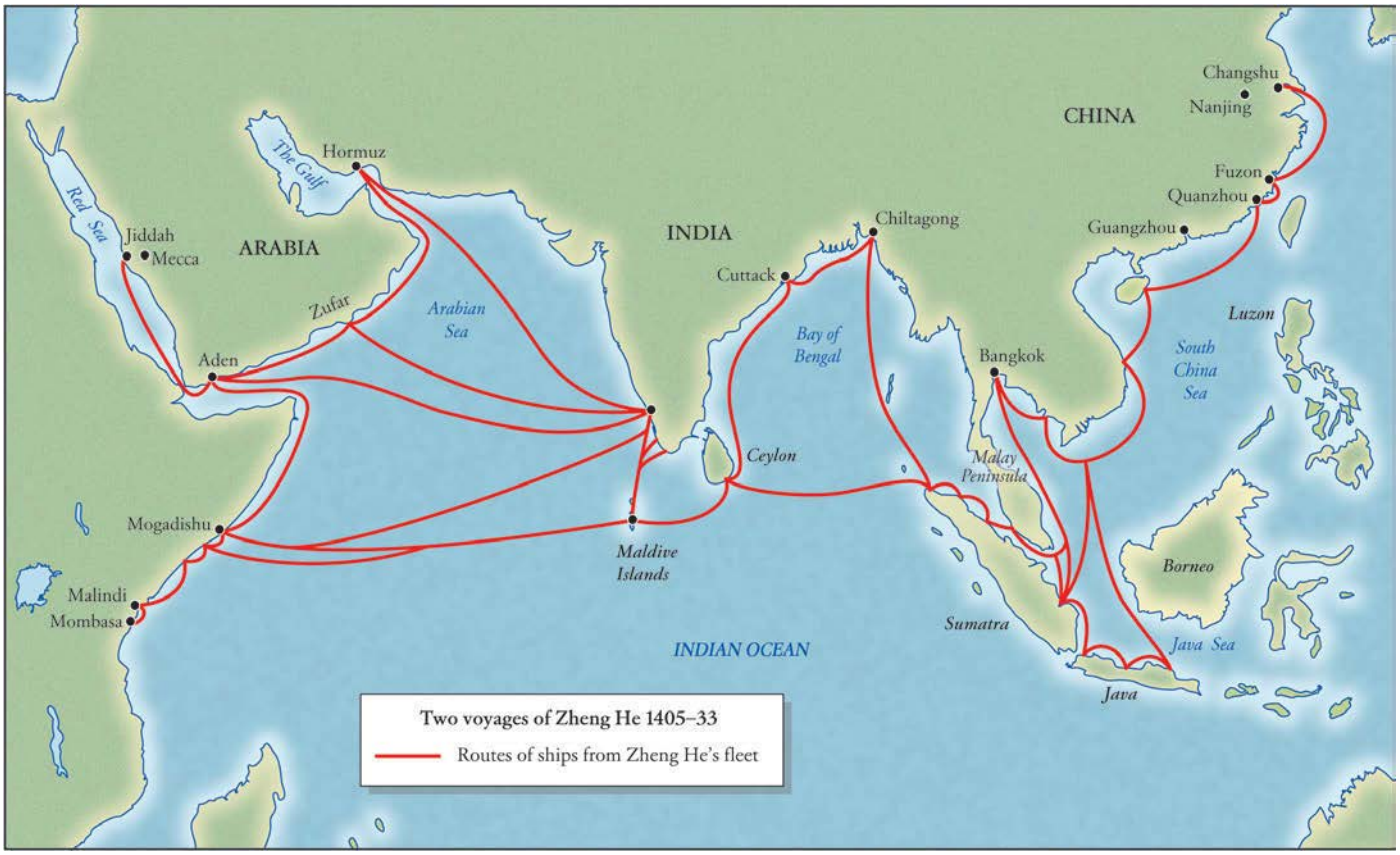
Voyages of discovery

Globalisation is often referred to as a recent phenomenon, but it began in the centuries between the ancient and modern worlds. Advances in the design and construction of ships, and growing curiosity about the world, led to long-distance voyages. The settlement of many of the Pacific Islands from other islands in Melanesia occurred during this period, with Hawai'i settled by Polynesians around 500 CE and New Zealand around 1200 CE. From the late eighth century CE, the Vikings explored northern Europe and the northern Atlantic regions in their dragon-prowed wooden boats, using both oarsmen and sails. Viking ships navigated up European rivers, while some weathered the serious Atlantic storms. The Vikings aggressively sought trade, slaves and plunder on many of their raids, but in the ninth and tenth centuries their exploration led to settlements in Iceland and Greenland. Remarkably, around the year 1000 they established the shortlived settlement of Vinland on Newfoundland, and were thus the first Europeans to reach North America.

globalisation the increasing interconnection of different parts of the world

Chinese navigators undertook a series of naval **expeditions** around the Indian Ocean in the early fifteenth century CE. These voyages were mostly diplomatic in nature, and were led between 1405 and 1433 by Admiral Zheng He, a Chinese navigator of Muslim descent. One expedition included 27 000 sailors and troops. In 1415–16, several Swahili cities on the African coast sent emissaries to China, and Zheng's later expeditions extended as far as the African east coast.

expedition a purposive journey undertaken by a group of people



Source 11.6 Voyages of Admiral Zheng He of China's Ming dynasty, 1405–33

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In the fifteenth century, Europeans began to explore the world around them, and to take Christianity to other regions. Just before 1450, Portuguese mariners began to chart the coast of Africa to their south. In 1497–98, Portuguese navigator Vasco da Gama led an expedition right around Africa and as far as India, with a fleet of ships with specially strengthened hulls and extra sail rigging. Even before that feat of navigation, Queen Isabella of Castile (whose marriage to King Ferdinand of Aragon had united Spain) sponsored a Genoese mariner who believed that he could reach India by sailing to the west. Christopher Columbus, as he became known, continued to believe that he had found the 'East Indies' after he reached the Caribbean in October 1492.

Subsequent expeditions to the Caribbean and the South American mainland did not change his mind, and he insisted on calling the inhabitants 'Indians', a name that has persisted to this day. Others realised that it was a whole new continent, which was named 'America' after rival navigator Amerigo Vespucci. This explosion of European maritime exploration sparked the Spanish and Portuguese empires, and an **era** of Christian missionary evangelising and settlements around the world.

era a period of time in history; for example, the Roman era or the medieval era

Historical thought

The potato is indigenous to South America, and was introduced to Europe only after the establishment of the Spanish and Portuguese empires. It would become a staple crop for Europeans.

11.3 Emergence of ideas about the world

The Renaissance

An important intellectual and cultural movement began in Italy in the fourteenth century and gradually moved north into the rest of Europe. The movement was based on **humanism**, which turned away from a focus on religion and the afterlife, focusing instead on human abilities and life in the world. This period was called the '**Renaissance**' (from the French for 'rebirth') because it involved a rebirth of interest in the ideas of ancient Greece and Rome, and it emphasised philosophy, art and architecture.

humanism the study of politics, philosophy and the human experience of life generally, drawing upon classical Greek and Roman texts for ideas

Renaissance a period of rebirth of interest in the ideas of ancient Greece and Rome, with an emphasis on philosophy, art and architecture

From 1517 onwards, the Christian church in Europe was deeply divided when **Protestant** sects split off from the Catholic Church. The split caused major religious controversy and warfare, with states and monarchs siding with different churches. This division is called the **Reformation** because the Protestants claimed they were reforming the Catholic Church. The Catholic Church's attempts to stamp out Protestantism and regain control are called the Counter-Reformation.

Protestant a Christian belonging to one of many sects that split from the Catholic Church as a result of the Reformation

Reformation a division within the Catholic Church in the sixteenth century, resulting from Protestant sects leaving the church

The scientific revolution

In the sixteenth and seventeenth centuries, discoveries in Europe in the fields of physics, astronomy and **epistemology** created what is considered a 'scientific revolution'. Scientific ideas based on the study of nature and the universe radically altered understanding of the world, and overshadowed religion and philosophy. Discoveries by Copernicus, Galileo, Newton and Descartes were especially significant. In the early 1500s, the Polish scholar Nicolaus Copernicus used mathematical theory to show that the sun (not the Earth) was at the centre of the universe, and that the Earth rotated on its axis once every day, and around the sun once a year. A century later, the Italian astronomer Galileo Galilei built a telescope that enabled him to look at the stars. His careful experimental work showed that

epistemology the branch of philosophy that studies the nature of human knowledge

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other planets were similar to ours. Isaac Newton, in England in the late 1600s, showed that the force of gravity exists in all material objects, and established the universal law of gravity.

In the first half of the seventeenth century the French philosopher René Descartes established principles of mathematics and logic. Famously asserting 'I think, therefore I am', Descartes applied logical reasoning to an array of philosophical questions.

Religion was still important, but the scientific revolution encouraged great interest in the natural world, and – combined with revulsion towards religious warfare – an attitude of secularism, or concern with matters of the world.

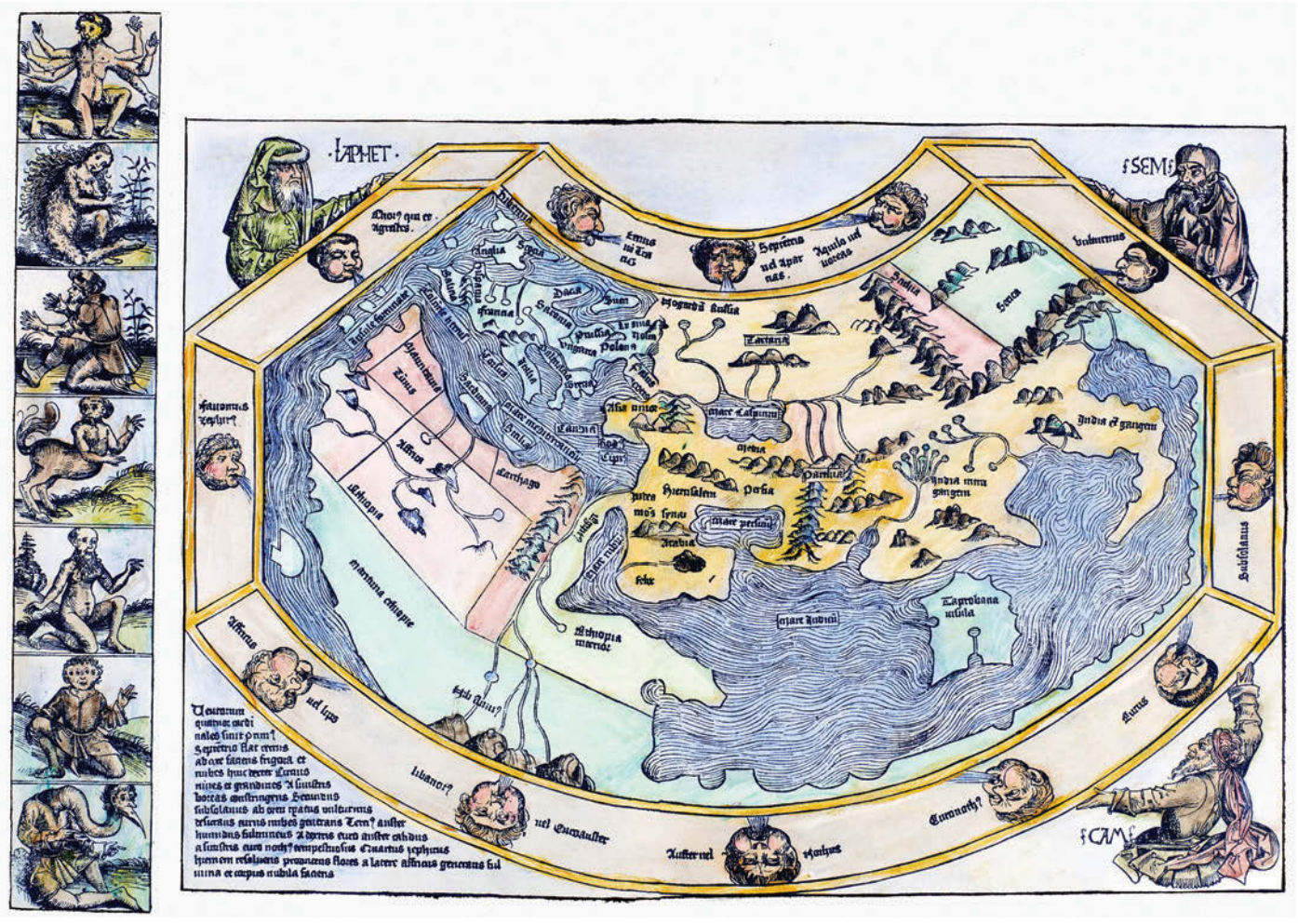
The Enlightenment

In the eighteenth century, there was a great deal of intellectual and philosophical ferment, with France at its centre. The self-styled philosophers who participated in this movement called it 'the Enlightenment', because they saw science and reason as light that would cast out the 'darkness' of ignorance, superstition and intolerance.

The philosophers agreed on five basic principles. The first was reason, which they believed could be applied not only to mathematics and physics but also to law and other aspects of society.

They thought that the world had natural laws (the second principle) that could be discovered through the application of reason. Their third principle was happiness. Linked to the humanism of the Renaissance, the emphasis on happiness in this world led to Enlightenment beliefs in optimism, pacifism and egalitarianism. These thinkers held that their fourth principle, progress, was possible through science and technology.

Finally, influenced by the English political philosopher John Locke, they advocated liberty in political, economic and religious terms. Important



Source 11.7 Map of the world by German cartographer Hartmann Schedel, 1493

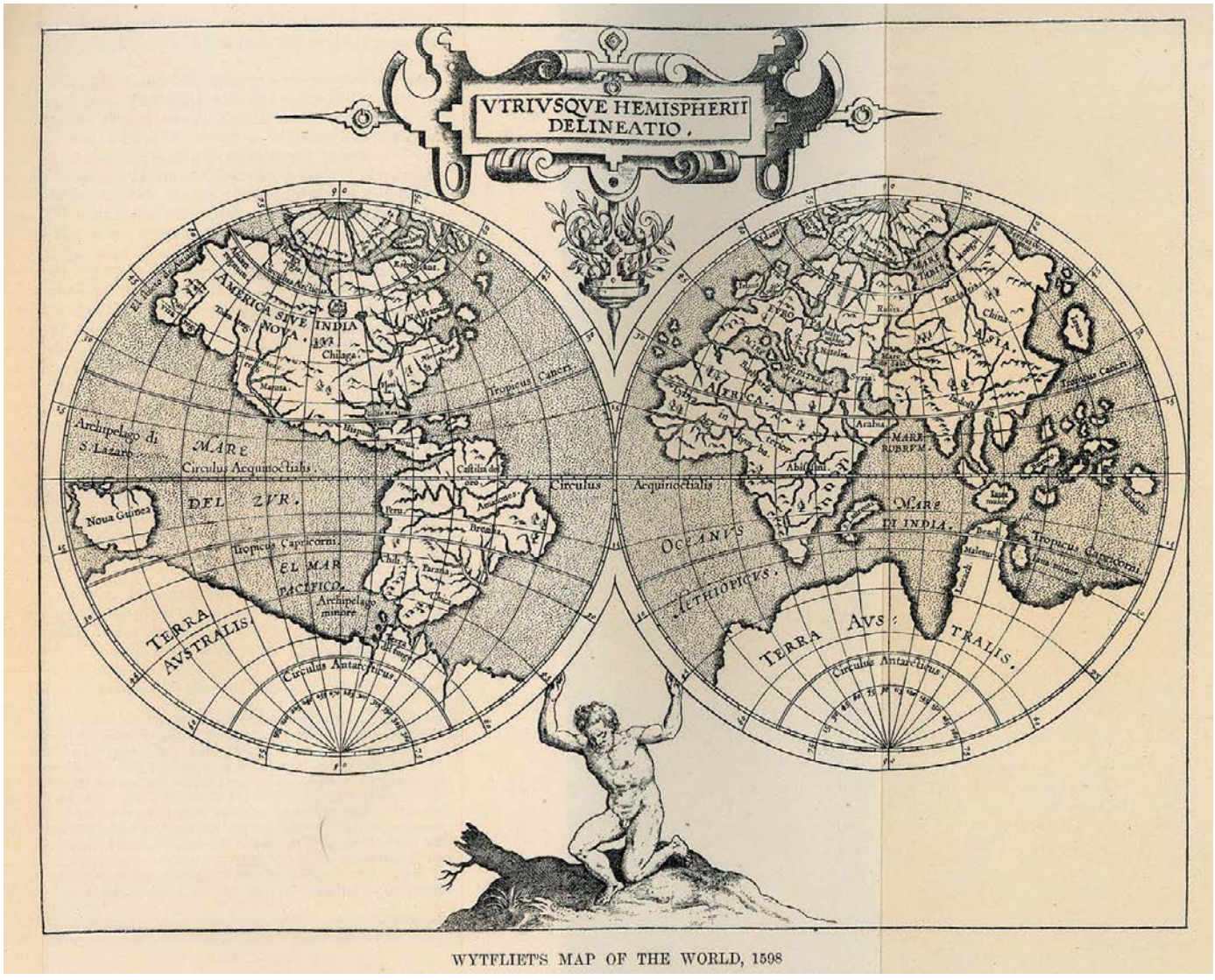
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thinkers of the Enlightenment included Voltaire, whose criticism of the French monarchy landed him in the Bastille, a prison in Paris. Voltaire believed that natural law should guide people's actions more than church teachings, and translated the work of Isaac Newton and John Locke into French. Another influential writer of the eighteenth century was the Swiss Jean-Jacques Rousseau, who argued that civilisation had corrupted human nature, which was inherently good. He argued against privilege and for equality, and theorised about the 'social contract' in which citizens subordinated their individual will to the general good.

Another key figure of the Enlightenment was Denis Diderot, a great believer in the power of science and technology. Diderot's major life work was the *Encyclopedie*, a voluminous reference work that circulated the political and philosophical ideas of the Enlightenment, and also included detailed and beautifully illustrated essays on machinery and manufacturing.

The map of the world changes

With the long-distance voyaging of the Vikings, the Indian Ocean voyages of Chinese fleets in the early fifteenth century, and Christopher Columbus's expedition across the Atlantic in the late fifteenth century, humanity's understanding of the Earth, its shape, and the size and location of continents evolved. Shared knowledge about the Earth's geography is reflected in maps from different periods, as illustrated by Source 11.7 and Source 11.8.



WYTFLIET'S MAP OF THE WORLD, 1598

Source 11.8 Map of the world by Flemish cartographer Cornelius Wytfliet, 1598

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DEVELOPING YOUR UNDERSTANDING 1.3

Compare the 1493 map of the world by Hartmann Schedel (Source 11.7 on page 214) with Cornelius Wytfliet's map from 1598 (Source 11.8 on page 215). What differences can you see between the two?



Source 11.9 Statue of Jean-Jacques Rousseau, an important Swiss Enlightment writer, thinker and philospher

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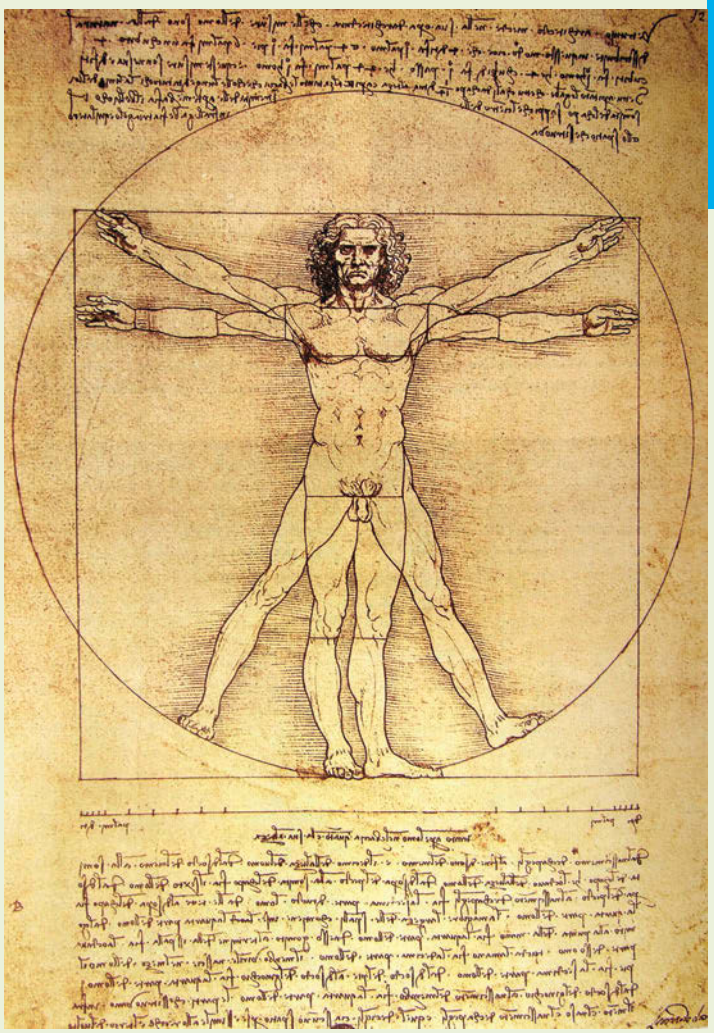
Reflecting and consolidating

Chapter summary

- After the collapse of the Roman Empire, the Christian Byzantine Empire grew in the eastern Mediterranean region and Europe splintered into smaller kingdoms. Orthodox Christianity evolved in the Byzantine Empire and would spread to Russia, while Christianity in Europe was centred on Rome and spread from the fourth century CE.
- Based on the teachings of Muhammad, Islam grew among Arabs from the seventh century, then spread rapidly across Syria and the Persian Empire, and through Egypt across North Africa. Later, it would spread to south-east Asia.
- From 1095 to 1204, European Christian knights attacked Jerusalem and other areas of the 'Holy Lands' in successive Crusades. They ultimately failed to recapture Jerusalem, but they brought new goods and ideas back to Europe.
- Britain became divided between Celtic areas in Wales, Ireland, Scotland and Cornwall and the Anglo-Saxon kingdoms in England. Vikings attacked England from 793 CE, and an area of eastern England called the Danelaw fell under their control.
- From 1206 to 1368, the Mongol Empire became the largest contiguous land empire in history, and from the fourteenth to the seventeenth centuries the Ottoman Empire became the major power between Europe and Asia.
- Journeys and voyages of trade and exploration linked different civilisations and empires, including the Silk Road between Europe and China, the Indian Ocean trading area, the Mediterranean and, from the late fifteenth century, the Spanish and Portuguese empires in the Americas.

Short-answer questions

1. To which countries did the Vikings travel on their raids and expeditions?
2. Consider which of the Khmer, Byzantine, Mongol and Ottoman empires was the most important, and why.
3. Identify which system of government the Magna Carta is considered an important step towards, and why.
4. Explain why the cultural movement that began in fourteenth century Italy was called the Renaissance.
5. What does the term 'the Columbian exchange' mean?



Source 11.10 Leonardo da Vinci's *Vetruvian Man*, which displays the correlation of human proportions with geometry

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Source analysis

Study Source 11.11 below and answer the following questions:

1. Based on your reading of this excerpt from Chaucer's *The Canterbury Tales*, what conclusions can you draw about how far some people in late-fourteenth-century England had travelled?
2. Why do you think the knight and the business woman travelled so far?
3. From his descriptions of the pilgrims, what values does the story teller hold? Does he believe it is good for people to travel? If so, why do you think he believes this?

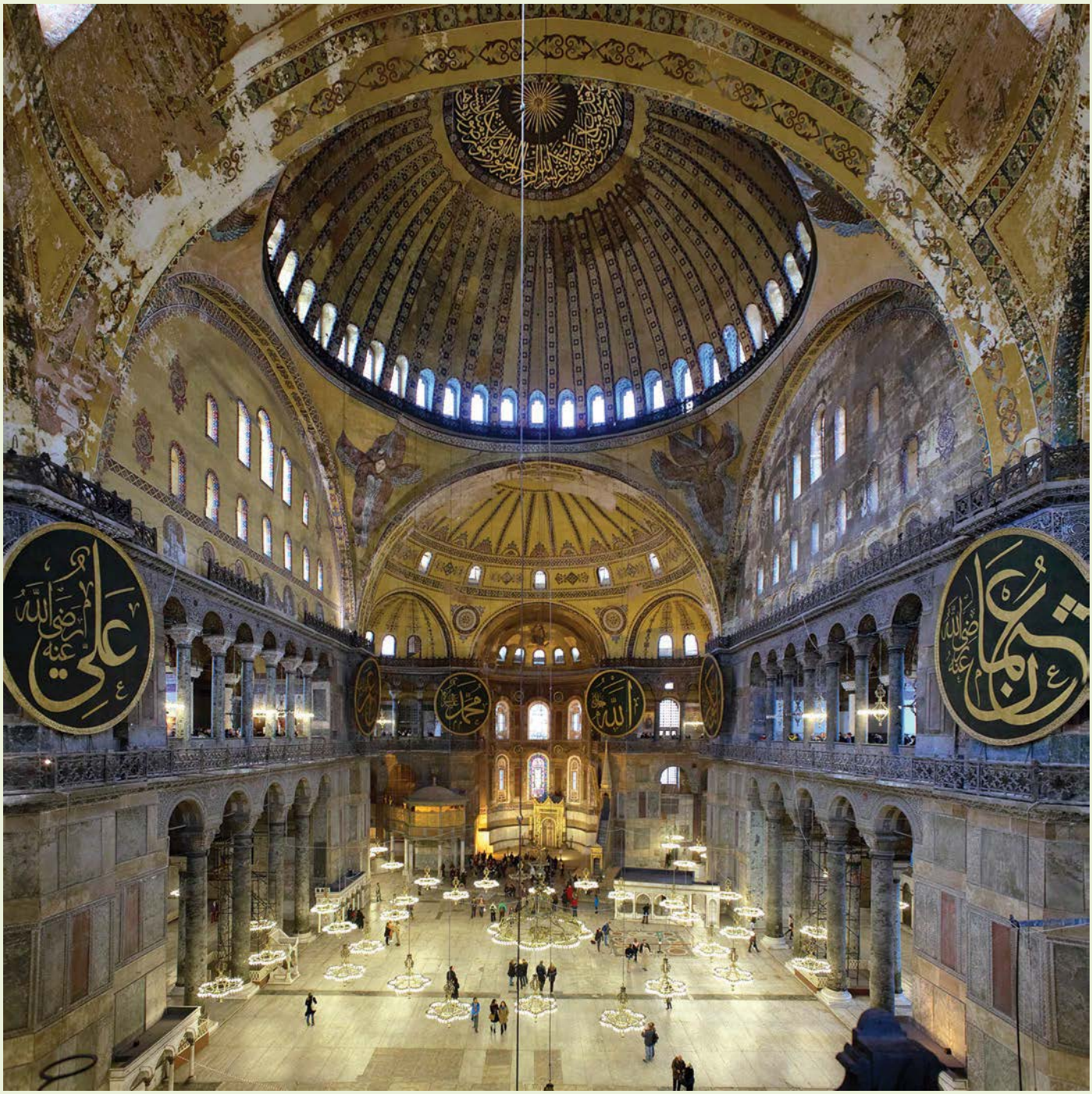
Extended response

Do some research on Zheng He, the Mongolian-born admiral of the Ming dynasty Chinese fleets that sailed around the Indian Ocean between 1405 and 1433. Which countries or places did these remarkable expeditions visit? How many expeditions were there, and how many ships, sailors and troops did they involve? What were the motives for the expeditions? What do you think the Chinese learned from these expeditions and what did the countries they visited learn from them?

When the sweet showers of April have pierced
The drought of March, and pierced it to the root …
Then people long to go on pilgrimages,
And palmers [pilgrims] to take ship for foreign shores,
And different shrines, famous in different lands;
And most especially, from all the shires
Of England, to Canterbury they come,
The holy blessed martyr [St Thomas Becket] there to seek,
Who gave his help to them when they were sick.
It happened at this season, that one day
In Southwark at the Tabard where I stayed
Ready to set out on my pilgrimage
To Canterbury, and pay devout homage,
There came at nightfall to the hostelry
Some nine-and-twenty in a company,
Folk of all kinds, met in accidental
Companionship, for they were pilgrims all …
There was a knight, a reputable man,
Who from the moment that he first began
Campaigning, had cherished the profession
Of arms; he also prized trustworthiness,
Liberality, fame, and courteousness.
In the king's service he'd fought valiantly,
And travelled far; no man as far as he
In Christian and in heathen lands as well,
And ever honoured for his ability …
There was a business woman, from near Bath,
But, more's the pity, she was a bit deaf;
So skilled a clothmaker, that she outdistanced
Even the weavers of Ypres and Ghent …
Her stockings were of finest scarlet red,
Very tightly laced; shoes pliable and new.
Bold was her face, and handsome; florid too.
She had been respectable all her life,
And five times married, that's to say in church,
Not counting other loves she'd had in youth,
Of whom, just now, there is no need to speak.
And she had thrice been to Jerusalem;
Had wandered over many a foreign stream;
And she had been at Rome, and at Boulogne,
St James of Compostella, and Cologne.

Source 11.11 Geoffrey Chaucer, *The Canterbury Tales*. Written 1387–1400; translation into modern English verse by David Wright (Oxford University Press, 1986)

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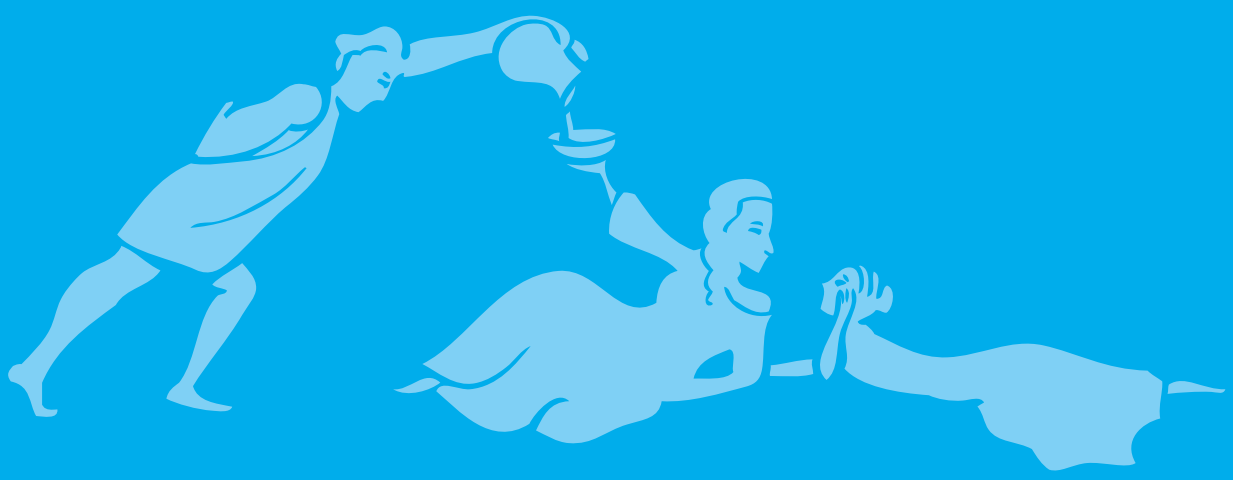


Source 11.12 Interior of the Hagia Sophia, Istanbul, Turkey. Constructed in 537, it served as a church until 1453, when it was converted into a mosque. Today it is a museum.

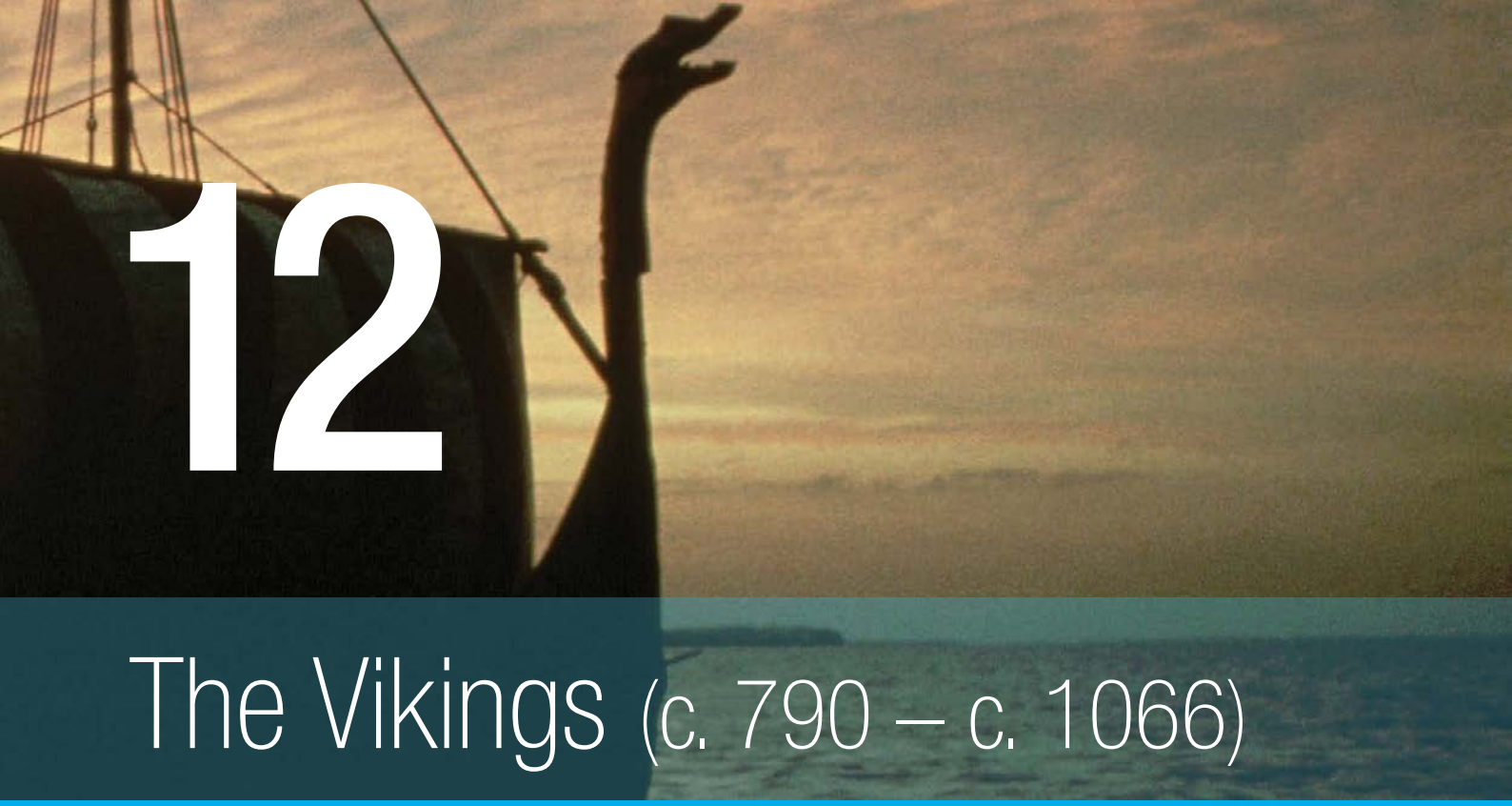
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Depth study 1
The Western and Islamic worlds



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12

The Vikings (c. 790 – c. 1066)

Before you start

Main focus

Between 790 and 1100 CE, the various Scandinavian groups collectively referred to as the Norsemen or Vikings were the most culturally influential in Europe.

Why it's relevant today

A study of the Vikings allows us to appreciate their impact in this period and to assess the accuracy of their reputation as marauding barbarians. It also reveals the continuity over the centuries between their culture and ours.

Inquiry questions

- What do we know about the Vikings and how do we know it?
- Why and where did Viking societies develop?
- How justified is the medieval view of the Vikings as simply pagan barbarians?
- What is the legacy of the Vikings?

Key terms

- Danelaw
- *jarl*
- *karl*
- *knarr*
- runes
- *thing*
- *thrall*

Significant individuals

- Adam of Bremen
- Charlemagne
- Erik 'the Red' Thorvaldsson
- Leif Eriksson
- Snorri Sturluson

Let's begin

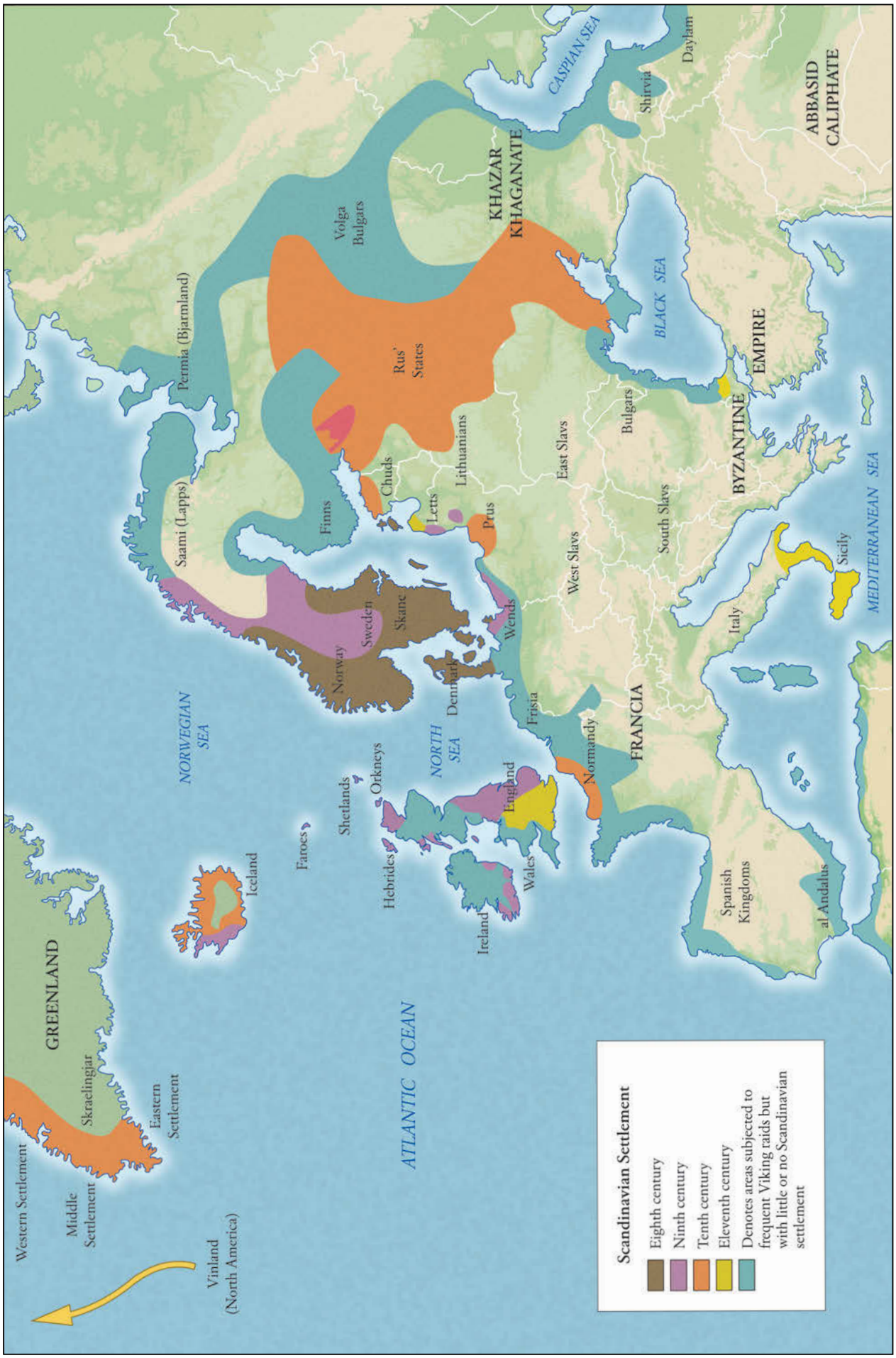
In the centuries following the fall of the Roman Empire, the Vikings, a Scandinavian society of raiders, traders, farmers and explorers had an enormous influence on the development of Europe. Spreading from their cold mountainous homelands of Denmark, Norway and Sweden, they brought war but also great wealth throughout Europe from England and Ireland to the Black Sea, and travelled in their famed longboats as far as Greenland and the eastern islands of Canada.

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Timeline

CHAPTER EVENTS	WORLD EVENTS
	c. 476 CE Rome falls
700 CE	
c. 700–1100 Christianity spreads through runic cultures in northern Europe	
793 Vikings attack Lindisfarne	
800 CE	
c. 800 Norse begin sea exploration and establishment of new settlements	**c. 750–1174** Buddhist Pala Empire in northern India
c. 840 Vikings settle in Ireland	**c. 750–1258** Abbasid Islamic dynasty
866 York is captured by Danish Vikings	**c. 794–1185** Heian period in Japan
870 Iceland is colonised by Norwegian Vikings	**c. 800–1200** Toltec civilisation in today's Mexico
876 Vikings from Denmark and Sweden settle in England	**c. 848–1070** Medieval Chola empire in southern India and south-east Asia
886 Treaty of Alfred and Guthrum establishes the Danelaw in the north and east coast of England	**c. 850–900** Great Mayan cities of central America are deserted
c. 890–1154 *Anglo-Saxon Chronicle* is compiled	**c. 890** Maya produce first book in the Americas
900 CE	
c. 911 Vikings settle in Normandy in northern France	**c. 900** Woodblock books are printed in China, Japan and Korea
c. 922 Ahmad Ibn Fadlan writes account of Vikings in Rus'	**907–960** Era of the Five Dynasties in China
c. 930–1030 Icelandic Age of Sagas	**960–1279** Song dynasty in China
985 Erik 'the Red' Thorvaldsson settles in Greenland	
c. 990s Jelling stones are erected to announce the initial Christian conversion of Denmark	
1000 CE	
c. 1000 Norse settle in Canada; Leif Eriksson settles in North America	
1013 His son Cnut rules	
1015–28 Pagan remnants are eradicated and Christianity is established in Norway	
1016–35 Sweyn Forkbeard invades England	
1066 Normans conquer England	**c. 1071** Seljuk Turks defeat Byzantines at Battle of Manzikert
1100 CE	
c. 1115 Last Viking raid on England occurs	**c. 1100** Inca city Cuzco is founded
1164 Christian archdiocese for Sweden established at Uppsala	
1200 CE	**1300 CE**
c. 1180–1300 Viking sagas are written	**c. 1200–1500** Great Zimbabwe in central-east Africa
1241 Icelandic saga writer and poet Snorri Sturluson dies	**1271–1368** Yuan dynasty in China

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Source 12.1 Map showing area of Scandinavian settlement and raiding activity between the eighth and eleventh centuries

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12.1 Way of life in Viking society

Jarls, *karls* and *thralls*

empire a group of states with a government that is under a single supreme authority

Unlike many of the great **empires** of the past, the Viking society had no system of central government. Instead, the society was made up of small groups of clans, each ruled by a chieftain (*goði*). Within these small clans, the society was divided into three ranks: *jarls*, *karls* and *thralls*.

jarl a wealthy Viking; usually a nobleman or landholder

karl a free Viking person who typically worked as a farmer, merchant or artisan

The ***jarls*** were the aristocracy of Viking society. They were typically wealthy landowners who often owned slaves. The majority of the population were ***karls***. They were free men and women who owned or rented their farms and did most of the work themselves. Craftspeople, traders and warriors were all *karls*. When a *karl* died, his belongings and land were given to his eldest son. *Karls* who didn't have any land were servants or worked on other farms. ***Thralls*** were essentially slaves, and could be either men or women. Some *thralls* were captives or the children of captives from battles or raids, while others were those convicted of offences under Viking laws. They had no political or legal rights and were required to do the heaviest or most difficult labouring work. If a *thrall* worked hard or committed an act of bravery, they could earn their freedom. *Thralls* could be freed by their masters at any time, be freed in a will, or even buy their own freedom. Once a *thrall* was freed he or she became part of an intermediary group between slaves and **freemen** (there was no recognition of women by such a term). A *thrall* could also gain freedom through marriage to a Viking. *Thralls* were sometimes sacrificed or killed and buried with their masters and mistresses.

thrall a bonded Viking serf or slave

freemen individuals who were free to choose whom they worked for, and were not tied to land under medieval serfdom

Farming

Farming occupied the time of the vast majority of Norse people. The climate of Scandinavia and settled islands like Iceland and Greenland meant the people relied heavily on a succession of successful farming years in order to survive. Most people lived on small farms, and in prosperous areas these tended to cluster into small villages or hamlets. Less prosperous areas were characterised by individual farms that were well separated. This was the case in Iceland.

Viking farmers planted grain every year to be harvested for bread and fodder. However, much of their farming activity involved **animal husbandry**. Farm animals included sheep, cattle, horses and goats to supply the farm with meat, dairy products, wool and leather. Some of these became commodities for trade or sale. Horses were kept for transport, but their meat was also prized. In pagan times, it was a common and inexpensive part of the diet.

animal husbandry the branch of agriculture concerned with breeding and rearing farm animals

Because of their versatility, cattle were the most valued of farm animals. Dairy cattle produced milk that was not only a part of the daily diet but was also turned into cheese, butter and *skyr* (a type of yoghurt), which all could be stored during the winter months when cows stopped producing fresh milk. Wealthier farmers included beef from their cattle as a regular part of their diet. Oxen (working cattle) were used as draft animals to pull an early form of plow called an *aror*. These animals were also used to pull sleighs and sledges. Bulls were used as offerings to the gods in pre-Christian **era** sacrifices, underlining the importance of cattle to Viking society.

era a period of time in history; for example, the Roman era or the medieval era

Typically, farm settlements took the form of a central cluster of buildings enclosed by fences. Outside the fenced areas were the fields used for cultivation or grazing. Each homestead typically consisted of a longhouse and multiple outbuildings.

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Source 12.2 Reconstructed Viking farming settlement of L'anse aux Meadows in Newfoundland, Canada

DEVELOPING YOUR UNDERSTANDING 12.1

1. Why were the Vikings mainly occupied with farming?
2. To what extent were cattle valued?
3. Describe the features of a typical Viking farm.
4. What was the difference between a *karl* and a *thrall*?
5. Look at Source 12.2. How does this source relate to what we know about Viking farms?

Kinship

kinship having a relationship by blood or marriage

Kinship or ties with family and community was very important in Viking society. A household might consist of several families, sharing and working the same farm holding. This meant that up to 20 people lived and worked the land together as an extended family unit. Close relationships and family support were very important because of the harsh nature of the Scandinavian environment. Life expectancy was short and at least half the Viking population failed to reach 20 years of age. Social customs therefore emphasised loyalty to family or kinship bonds and values such as honesty and fairness.

In this difficult environment, it is understandable that the Vikings believed in fate. When a baby was born, they believed the three **Nornir** ('women of destiny') chose the

Nornir three female beings in Norse mythology who rule the destiny of gods and men; comparable to the Fates in Greek mythology

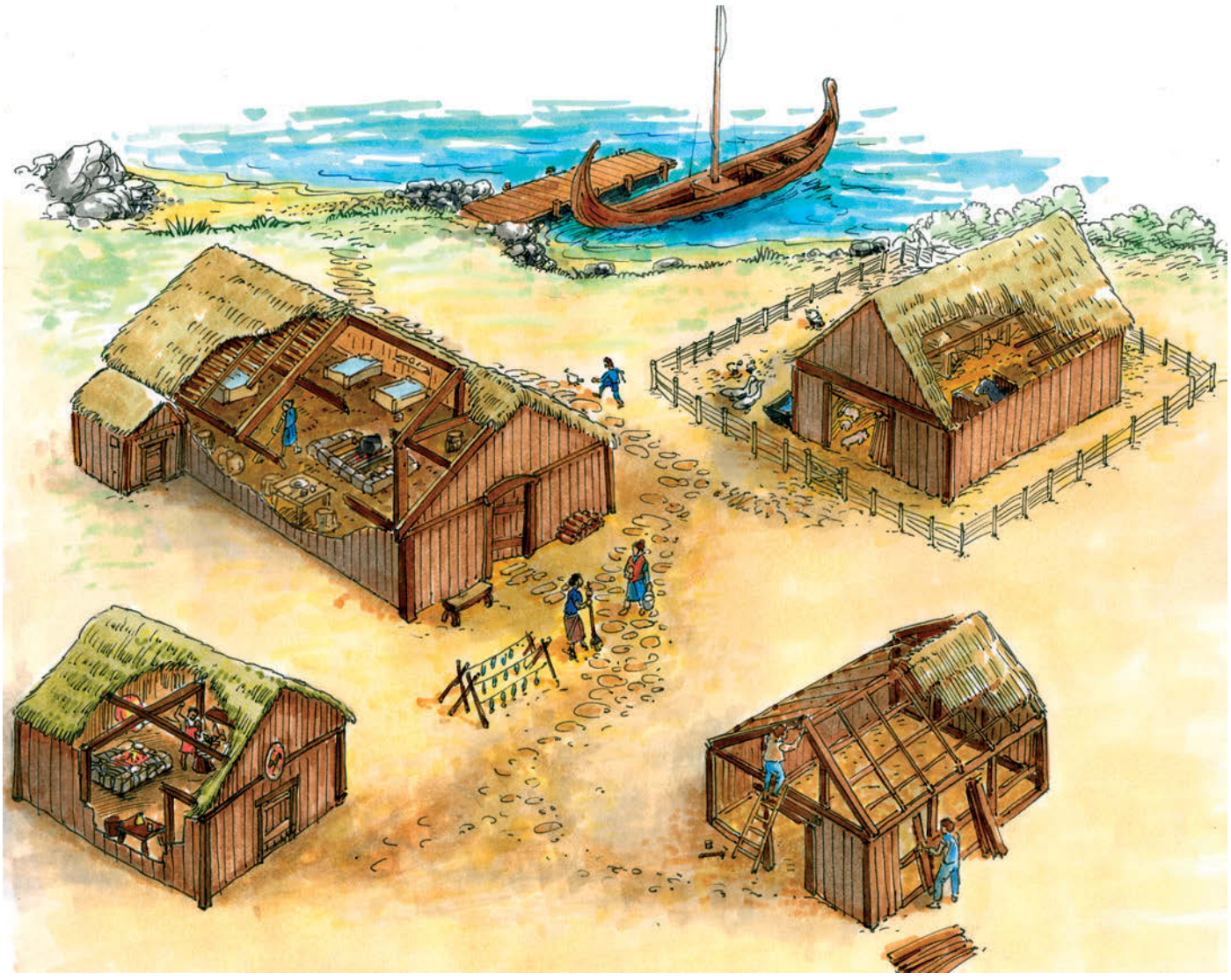
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moment of its death. The Norse people accepted that, while nothing else in life was predetermined, no person could live past the moment of death chosen for them.

Dwellings

The Vikings lived in longhouses, which often housed multiple families. A longhouse was a rectangular building with one room and a central open fire for cooking and heating. There were no windows, although there was a hole in the roof above the fireplace to allow smoke to escape. In winter, livestock were often kept in the longhouse, as access to other buildings could be difficult due to snow and weather. Body heat from the animals also added to the warmth inside.

Buildings were of wooden construction, sometimes with wattle and daub plastered over the exterior. In the later Viking Age, soil and turf were used to cover the outside of the building frame. Examples of these buildings have been found in Iceland and Greenland. External toilets were often holes dug in the ground covered by a wooden shed (privy) and could pose a threat of water contamination if they were dug too close to wells.



Source 12.3 An artist's impression of a Viking farmhouse and associated buildings. This shows a single family farm, typical of those scattered throughout Iceland. The longhouse was simply an extension of this in larger communities.

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Historical thought

Vikings used urine to start fires. They harvested a substance known as touchwood fungus that grew on the bark of oak and beech trees. This fungus was beaten into a flat, felt-like material that was charred by fire and then boiled in urine for days. Urine contains sodium nitrite, which when infused into the touchwood would allow it to slowly smolder but not burn. This meant fire could be transported easily, even by ship.

Clothing and appearance

There is little surviving physical evidence that tells us how the Vikings dressed. This is because the soft fabrics that they wore simply have not lasted. There are some '**picture stones**' with images of Viking dress, plus metal pins and brooches, but most of our information comes from a range of contemporary accounts, such as Muslim emissary Ahmad Ibn Fadlan's firsthand description of Scandinavian traders in Rus' in the late tenth century.

picture stone a large slab of stone engraved and decorated with pictures of ships, animals, gods, weapons and armour; often erected as a memorial

Viking men had finely groomed beards and moustaches. They wore loose-fitting trousers and a long woven or leather tunic that was topped with a cloak. The outfit was held in place by a single brooch. Women had long hair that was plaited or pinned, and wore multiple layers of ankle length clothing held in place by a pair of brooches, one on each shoulder. Garments for both sexes were made from woven fabrics, including wool and linen. Men and women wore lots of jewellery – bracelets, armbands, rings and necklaces – often made from silver or set with precious stones. Both sexes wore woollen or fur hats, woollen socks and leather shoes or boots.

These clothes were mostly produced at home. Women spun sheep and goats' wool into yarn and wove most of the fabrics, using vegetable dyes for colour. Girls assisted their mothers in this work. Weaving looms were a common item in Viking houses. Combs are among the most common objects found in Viking grave goods of both sexes.

DEVELOPING YOUR UNDERSTANDING 12.2

1. What were the practical reasons for kinship ties being important?
2. Who are the Nornir?
3. Consider why our knowledge of Viking appearance is limited.
4. Using your knowledge, describe how and why the Vikings dressed as they did.
5. Imagine you are a member of a Viking family living in Iceland in the tenth century. Write a story about one day in your life on the family's farm. Use Source 12.2 (on page 225) and Source 12.3 (opposite) to provide accurate historical detail. Include references to family members, work done, facilities, the time of year and the fatalistic nature of Viking attitudes towards family and death.

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Role of women

Icelandic sagas histories and narratives of the Viking settlement in Iceland in the tenth and eleventh centuries; these were written in the twelfth and thirteenth centuries

Sources on Viking women are scarce and the most detailed accounts of Norse social expectations are contained in the **Icelandic sagas**. From these it is clear that men and women had distinct roles in Viking society.

By law a woman was under the authority of her husband or father, with only limited freedom to dispose of property belonging to her. She was prohibited from being a chieftain or judge. She was also prevented from acting as a witness in a legal proceeding or giving a speech at a governing assembly. Icelandic law also prohibited women from wearing men's clothes, from cutting their hair short or from carrying weapons. Girls usually married between the ages of 12 and 15. Marriages were often arranged between families and the bride's family had to provide a **dowry**.

dowry an amount of money or property given by a bride's family to her bridegroom or his family upon marriage

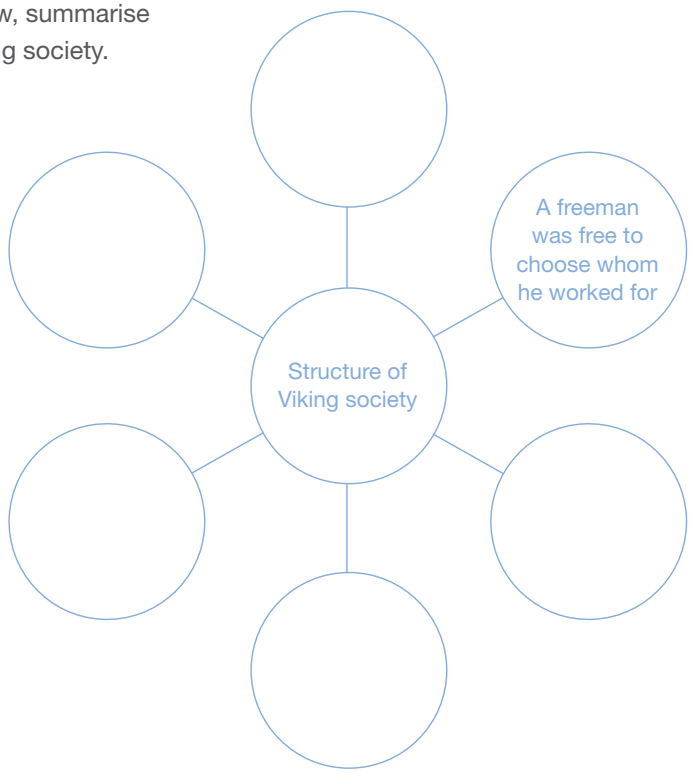
Linen and wool cloth, a spinning wheel, a loom and a bed were commonly part of a Viking dowry. Brides from richer families could also provide silver or gold jewellery, farm animals and even farms in their dowries. Unlike dowry practices in other societies, everything a Viking bride brought into the marriage remained her personal property and did not fully become part of her husband's estate. She could also **bequeath** her property to her children as part of their maternal inheritance.

bequeath to leave personal or other property to somebody after death

Despite many restrictions, Viking women had greater freedom and authority than many others in Europe at that time. Women ran the household, supervised the food supply, managed the finances of the family and ran the farms when their husbands were away on raids. Women were allowed to divorce and remarry. As widows, they could be rich and important landowners.

DEVELOPING YOUR UNDERSTANDING 12.3

Using the graphic organiser below, summarise the different divisions within Viking society.



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The *thing* (*þing*)

A ***thing*** (*þing*) was the governing assembly of the freemen of a particular region. Only men could attend these gatherings. They were conducted throughout the Norse world and met regularly (usually once a year) in an open-air meeting in a place known as the *thingstead* (literally, the place of the *thing*). At these sessions, complaints were heard, disputes were resolved, political decisions were made and laws were passed. Chieftains and kings were elected at these gatherings. Negotiations were presided over by the 'law speaker' (*lögmaðr*) who memorised and recited the law. There were hierarchies of *things*, so the assemblies of small regions could be represented at the *thing* of their country. In theory, each freeman in the assembly had one equal vote, but in practice the assembly was dominated by the wealthiest, most powerful members of the community.

thing the assembly of freemen that governed a Viking community

Icelandic records provide the most detailed accounts of the functioning of these assemblies. In Iceland, the highest ranking assembly was the *alÞing* ('all-thing'). Founded in 930 CE, it met at the *Þingvellir*, ('assembly fields'), situated approximately 45 kilometres east of modern-day Reykjavík. The national parliament of modern Iceland is still called the *AlÞingi*.

Justice and honour

In life, a person's honour and their good name after death were the most important of concerns to a Viking. Perceived wrongs were openly challenged and avenged. Such vengeance was sanctioned and even encouraged by the laws. Duels were an accepted way of satisfying verbal injuries, as people believed the gods would allow only a person in the right to prevail. The less formal type of duelling was known as *einvigi* (single combat) and was decided according to whose blood hit the ground first. The more formal duel, called a *hólmganga* (going to the island), was usually fought on small, deserted islands to ensure no interference from other parties, and might be contested to the death. An imputation that a man showed cowardice was sufficient under the law for him to challenge his accuser in *hólmganga*.

Source 12.4 A modern re-enactment of *einvigi* (single combat) demonstrating the kinds of arms used



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Christianity a religion that is based on the life and teachings of Jesus Christ

As **Christianity** spread throughout Scandinavia during the later Viking age, duels were gradually replaced with 'trial by ordeal'. This involved the accused having to perform a task like walking barefoot on redhot irons; if their feet blistered they were pronounced guilty because God had not miraculously healed them.

DEVELOPING YOUR UNDERSTANDING 12.4

1. Describe the restrictions placed upon Viking women.
2. In what way did social expectations of women enable Viking men to go on voyages and raids?
3. How did the idea of 'honour' affect Viking men and women?
4. Outline the nature of the *thing* and its functions.
5. If you were a Viking and you were accused of a crime, would you prefer trial by duel or by ordeal? Explain your point of view, making reference to Source 12.4 on page 229.

Entertainment

The Vikings' strong sense of community and family, as well as the cramped living conditions forced by the cold winters, meant there were many opportunities for communal socialising and entertainment. Entire villages might congregate in the chieftain's hall for poetry, music and feasting. Professional poets called *skalds* would recite epic poems about heroes and gods for the enjoyment of all. Norse music was made on harps, lyres, pipes and flutes carved from sheep bone or wood. To accompany these entertainments, the Vikings consumed a strong alcoholic drink called mead, made from honey.

Communal athletic or sporting games (*leikar*) were also popular among Viking men and are mentioned in several Icelandic sagas. The Icelandic saga *Bárðar saga Snæfellsáss*, for example, describes a skin throwing game (*hornaskinnleikr*) played in a hall, where four players threw a rolled bearskin around while a fifth player attempted to get the skin. Another game called *knattleikr* ('ball game') was a team game played with a hard ball and a bat. Icelandic sagas suggest that it was a full-contact sport involving many contestants, and occasionally resulted in deaths.

Board games and games of chance were also very common. Boards and gaming pieces have been found in many Viking Age tombs. Chess was extremely popular, along with a game called *hnefatafl*. Unfortunately the exact rules for the game have not survived. *Hnefatafl* spread everywhere the Vikings travelled, including England, Ireland, Iceland and Greenland.

RESEARCH 12.1

1. Using resources found in your school library as well as on the internet, research some of the features of the poetry made by the Viking *skalds*. Define the following terms: alliteration, kenning and eulogy.
2. Many *skaldic* poems were written about heroes of the Viking age, particularly kings and warriors. Using the *skaldic* style, write a short poem about a modern-day hero – for example, a sportsperson, a spiritual leader, a politician or a famous scientist. Make sure you use alliteration and include at least one kenning.

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Gods, Asgard, Valhalla and Ragnarök

polytheist a believer in more than one god

mythology a collection of myths that belong to a particular people or culture and tell about their history, ancestors, heroes, gods and other supernatural beings

pantheon all the deities of a religion considered collectively

Scandinavia was one of the last places in Europe to be converted to the Christian religion. The Vikings were **polytheists**, believing in and worshipping many different deities, and their **mythology** was complex. The Norse **pantheon** was made up of two races of gods – the Aesir (*Æsir*) and the Vanir – both living in the realm of the gods named Asgard. This was joined to the Earth, Midgard, by a burning rainbow bridge (*Bilröst*). The chief of the gods was Odin. Valhalla was an enormous hall located in Asgard, ruled over by the god Odin (*Óðin*). Vikings believed that after a battle, Odin would select half the dead to take up places in Valhalla. The dead would be led there by Odin's battle maidens, known as **Valkyries**. The remaining dead went to a field called Fólkvangr, overseen by the goddess Freyja. Odin assembled the warriors to assist him at Ragnarök (the end of the world), a prophesied great battle between the gods and the forces of chaos, including frost giants, the wolf Fenrir and the giant sea serpent Jörmungandr. Norse gods shared the strengths and weaknesses of humankind. They could fall in love, feel jealousy and go to war. The Vikings took inspiration from and prayed to their gods with rituals and ceremonies, often in fields or in forests. These sometimes involved sacrifices of animals, including bulls and horses. For example, warriors made sacrifices to Odin before battle or to thank him for victory afterwards.

Valkyries 'choosers of the slain' – female figures who decided who would die in battle; from the Old Norse *valkyrja*

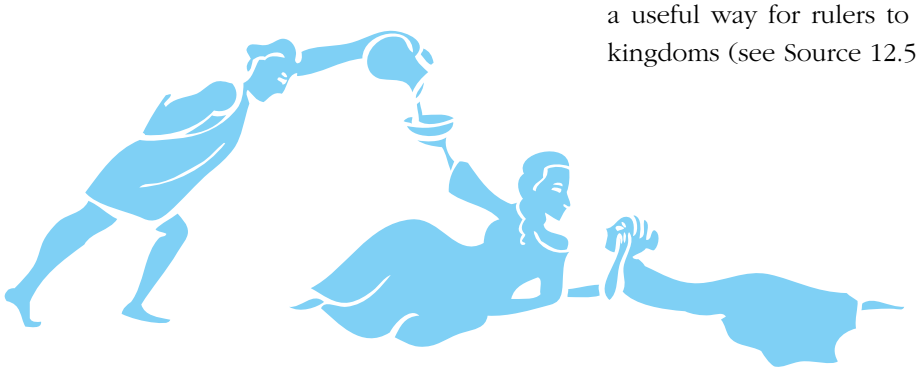
DEVELOPING YOUR UNDERSTANDING 12.5

1 Identify the two classes of Viking gods.
2 Explain Valhalla.
3 What did the Vikings believe happened to them if they were killed in battle?

Christianity

Over the course of the eleventh and twelfth centuries, the pagan beliefs of Scandinavia were gradually replaced by the Christian beliefs of neighbouring realms. Vikings often wore crosses or carried Christian symbols in order to trade in Christian kingdoms.

In the late tenth century, the Danish king Harald 'Bluetooth' Gormsson erected rune stones at the town of Jelling, which include the inscriptions: 'King Harold bade these memorials to be made after Gorm, his father, and Thyra, his mother. The Harold who won the whole of Denmark and Norway and turned the Danes to Christianity.' These inscriptions indicate that Christianity was a useful way for rulers to unite formerly divided kingdoms (see Source 12.5 on the next page).



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Source 12.5 Sometimes called the 'Jelling Stones', these massive rune stones were erected by Danish king Harald 'Bluetooth' Gormsson in the tenth century, and announced the transition of Denmark from paganism to Christianity.

Religious practices

Adam of Bremen was a German medieval chronicler who wrote one of the oldest sources on pre-Christian Scandinavian religious practices. Produced in 1080, the *Gesta Hammaburgensis Ecclesiae Pontificum* (*History of the Archbishops of Hamburg-Bremen*) claimed to recount first-hand descriptions of pagan practices in Sweden. He says that men were sacrificed every 9 years at the Temple of Uppsala, although he did not witness this personally.

> In this temple, entirely decked out in gold, the people worship the statues of three gods in such wise that the mightiest of them, Thor, occupies a throne in the middle of the chamber; Wotan [Odin] and Frikko [Freyr] have places on either side. The significance of these gods is as follows: Thor, they say, presides over the air, which governs the thunder and lightning, the winds and rains, fair weather and crops. The other, Wotan – that is, the Furious – carries on war and imparts to man strength against his enemies. The third is Frikko, who bestows peace and pleasure on mortals.

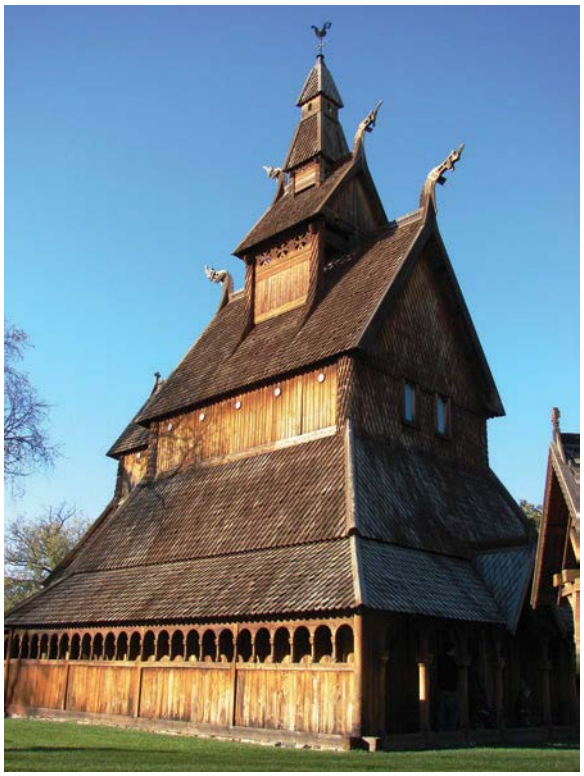
Source 12.6 Extract from *Gesta Hammaburgensis Ecclesiae Pontificum* describing part of the Viking pagan temple at Uppsala in Sweden. No archaeological evidence has yet been found of this temple.

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Historical thought

'Bluetooth' technology is named after Harald 'Bluetooth' Gormsson, who had a reputation for uniting various warring tribes in Denmark and Norway, as Bluetooth is intended to unite various other technologies.

Iceland was converted during the eleventh century, as were some parts of Sweden, although other parts remained unconverted until the eighteenth century. Scandinavian churches built in the early Christian period, known as stave churches, are often decorated with pagan symbols (see Source 12.7).



Source 12.7 A Norwegian stave church in Borgund, Laerdal, built between 1180 and 1250 with later additions and restorations

DEVELOPING YOUR UNDERSTANDING 12.6

1. Why would Harold 'Bluetooth' announce the conversion of his people to Christianity using pagan rune stones?
2. Even after Christianity overtook the Vikings' pagan beliefs, what influence did the old beliefs have? Use both Sources 12.5 and 12.7 to illustrate your view.

12.2 Significant developments and achievements

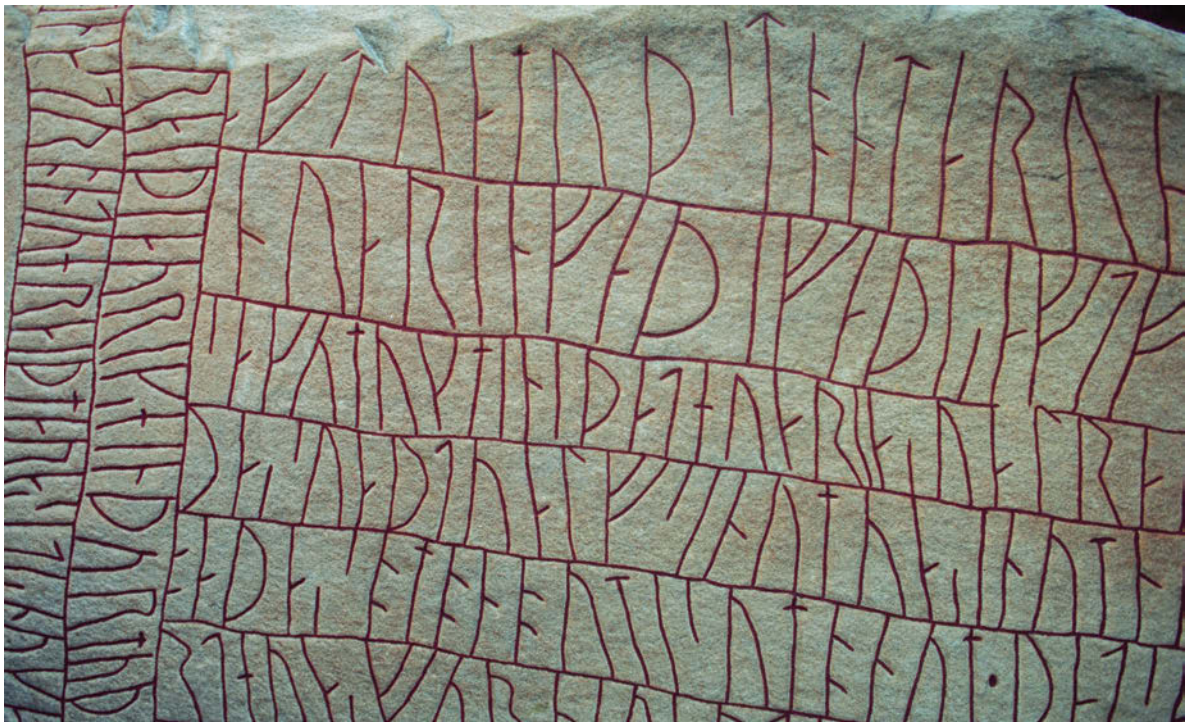
Runes, sagas and archaeology

The cultural achievements of the Vikings, particularly their literary achievements, are an extremely valuable source of information about Viking life.

runes letters within a set of related alphabets dating from the second century CE; they were used to write various Germanic languages before the adoption of the Latin alphabet

Rune stones (see Source 12.8) were often carved as memorials to dead men and were originally brightly coloured. The runic language appears on inscriptions dating from around the year 150 CE. The Scandinavian version is also known as *futhark* (or *fuþark*, derived from their first six letters of the alphabet: F, U, Þ, A, R, K) and has only 16 runes (letters). It is not known how many Vikings could read or carve runes, but they form the only written records left by the Vikings themselves. Usually the text on rune stones tells the name of the deceased, the name of the person who raised the stone and (often) how they and the deceased were related. Most rune stones were raised by men.

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Source 12.8 A ninth century rune stone in Sweden. The rune language was able to be written in various ways: from left to right or right to left, with the first sentence written going one direction and the second sentence going the opposite; as a mirror image, upside down, or bound together.

The best written sources on the Vikings are sagas mainly written in Iceland between the late twelfth and early fourteenth centuries. Most of the sagas describe the period 930–1030, which in Icelandic was called *sǫguold* ('Age of the Sagas'). The sagas cover a wide range of human life, including conflict, games, marriages, migration and the lives of legendary heroes. The ***eddas*** are also Icelandic sources written between the eighth and thirteenth centuries containing Viking legends and **myths**.

eddas collections of poetry and prose containing accounts of Norse myth

myth a sacred narrative, either a song or a poem, explaining how the world and humankind came to be in their present form

The sagas are a particularly good source of information about Viking women, who are less well represented in other forms of evidence. The female characters in the sagas are praised for their beauty, but more frequently for their wisdom.

DEVELOPING YOUR UNDERSTANDING 12.7

1. Name three types of archaeological evidence relating to the Vikings.
2. Consider Source 12.8 and explain how rune stones are valuable sources of Viking evidence.
3. Go to www.cambridge.edu.au/hass8weblinks and research the Icelandic sagas. Pick one of them and write a dot point summary of it. Then review it by answering the following questions:
   - **a** Who are the main characters?
   - **b** Are all the events described believable? Do gods intervene, for example?
   - **c** How does this influence how we should interpret this as a source about the Viking age?

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Ships and seafaring

The trading, raiding and exploring of the Vikings were made possible by advances they made in shipbuilding. Most important was the development of the longboat, which facilitated both coastal raiding and open ocean sailing. Longboats were 'clinker-built', which made the boats comparatively light compared with other ships of the time. They were also easily navigable because they were double-ended and shallow bottomed. The Viking longboat was the most powerful and advanced naval vessel in Viking Age Europe and became synonymous with the 'Viking raider'. Under favourable conditions it could travel at 15 knots (28 kilometres per hour).

Sea journeys could take weeks or months. Vikings slept on their boats, using sleeping bags made of animal skins. Provisions were kept in barrels. Planking inside Viking ships was moveable so cargo could be protected during storms or when under sail. If the ship needed rowing, planks would be moved to create seating for the oarsmen. This was an aspect of most Norse vessels.

mercantile relating to trade or commerce

However, the cultural and practical significance of Viking ships was not limited to warships, as most of their various boats were designed for **mercantile** activity. The earliest known Danish coins have ships as emblems, showing both the importance of naval vessels in the region and that trading was of equal if not greater significance than raiding.

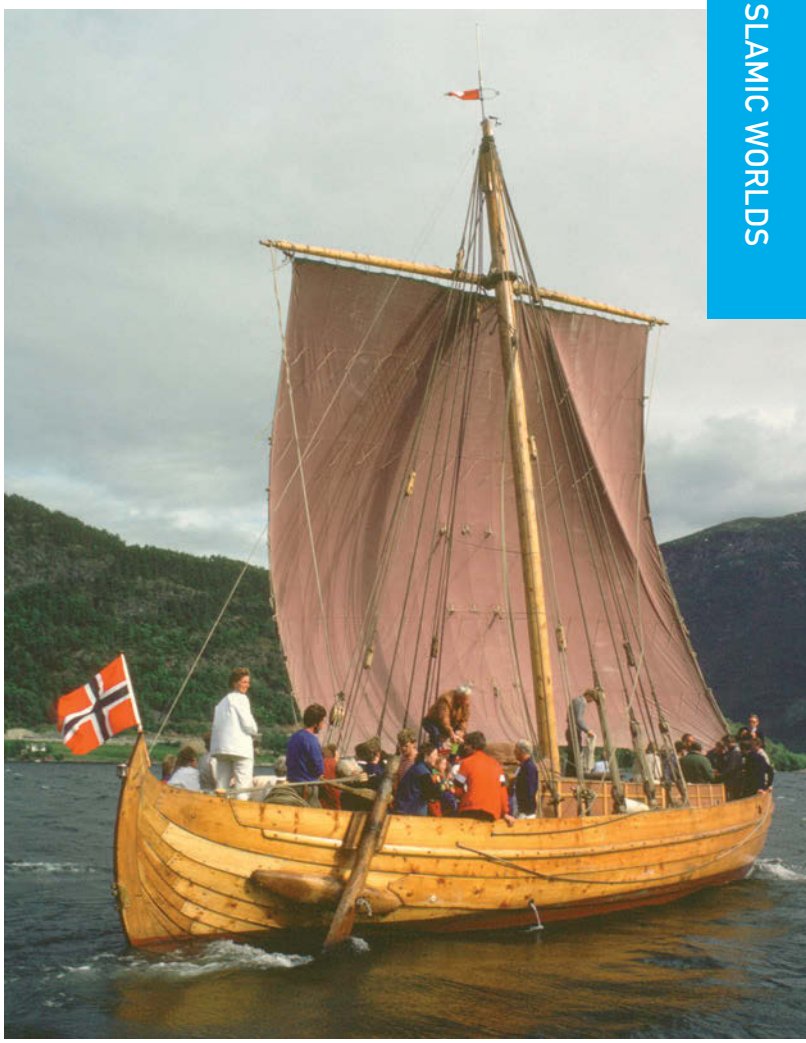
Commerce and transport

Viking trade and exploration for new markets was based around the development of the ***knarr*** (plural: *knorr*). Shorter and sturdier than the longboats designed for war, and dependent mostly on sail power, *knorr* were capable of sailing up to 120 kilometres in a single day. The Viking merchants' ability to navigate the inland web of rivers in Central and Eastern Europe was greatly enhanced by the *knorr*. Oars were used as auxiliaries if there was no wind on the open water. When rivers became impassable, they were light enough to be carried overland to the next accessible body of water. They were sometimes loaded onto wagons and pulled along. *Knarr*-class ships were also ideal for open sea travel. They routinely crossed the North Atlantic from Scandinavia carrying livestock and stores to Greenland from the late tenth century CE.

knarr a Viking cargo ship capable of open sea travel, with a wider, deeper and shorter hull than a longship, and operated by a smaller crew

Ship burial

The importance of shipbuilding was not limited to war and trade. Boats also had important symbolic value. Viking chieftains and noblemen were commonly buried with an intact, luxurious ship to transport them to the afterlife. In some cases they were buried inside the outline of a ship made from



Source 12.9 A modern, full-scale replica of a *knarr* trading vessel being sailed from Newfoundland to Greenland in 1998. These clinker-built wooden ships were undecked and unadorned, but sufficient to carry cargo of up to 25 tonnes, with a displacement of 50 tonnes. This replica is 16.5 metres by 4.8 metres.

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stones. Vikings believed that you would sail to the afterlife if you were not killed in battle and taken there by Valkyries. Vessels, especially longboats, became a common feature in funeral rituals for kings and chieftains. Often the leader was cremated with all his possessions by torching the boat and allowing it to burn down and finally sink.

Ahmad Ibn Fadlan's account of Swedish Vikings in Rus' provides first-hand details of such a ritual in 922 CE, which culminated in the sacrifice of a *thrall* woman whose body was then cremated with the chieftain on the burning ship.

Some prominent Vikings were buried with their possessions in ships. Excavation of these burial mounds has provided enormous information from the largely intact vessels found. These craft were in use prior to burial, giving unique insight into the shipcraft techniques of the time.

DEVELOPING YOUR UNDERSTANDING 12.8

1. Explain a use for a Viking ship other than raiding or trading.
2. How were ships used as cultural symbols by the Vikings?
3. In what ways did *knorr* assist the spread of Viking trading?
4. Identify a type of Viking boat other than the *knarr* and how it might have been used.

DEVELOPING YOUR UNDERSTANDING 12.9

1. For what purposes were longships used?
2. What speed could a longship travel at?
3. Describe two types of Viking funeral practice using longships.

RESEARCH 12.2

Another important Norse vessel found in a burial mound is the Gokstad ship. In small groups research this using the internet and books in the library. Then prepare a PowerPoint presentation on the ship, its excavation, the grave goods and human remains it contained, and what we have learned about Viking maritime technology from it.

Weaponry

Weapons were an integral part of Viking society. Freemen were required to own weapons and be familiar with their use. Social status was reflected by these arms and freemen were allowed to carry them at all times; however, women and unfree men (such as slaves) were prohibited from carrying weapons. Swords were expensive. They were often given names and passed from father to son. In the *Laxdoela Saga* written in Iceland in the thirteenth century there is reference to a sword named Fótbítr ('Leg Biter').

Iron was time-consuming to make, so anything that required a lot of iron in its construction – such as a weapon – was very costly. Steel swords were so difficult to fabricate that only highly skilled smiths could make them, further adding to their value and

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Source 12.10 A selection of steel Viking weapons (the wooden handles are modern) found in the River Thames in London; they were possibly thrown in the river during a battle or in celebrations afterwards.

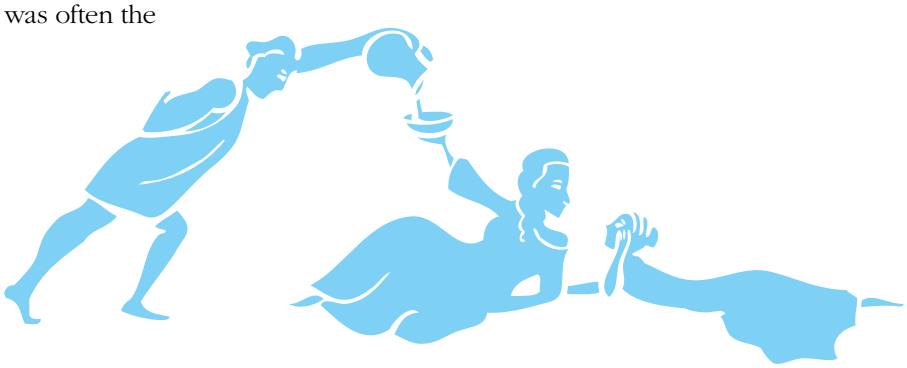
hauberk a shirt of chain mail armour, usually reaching to mid-thigh and including sleeves

prestige. A farmer was likely to be limited to a spear, wooden shield and perhaps a large knife. Only the very wealthy could afford to have a complete rig of a sword, metal helmet, wooden shield, ***hauberk***, animal-skin coat and short sword.

Spears and shields were the basic Viking armaments. Spearheads were made of iron and riveted to wooded poles. Shields were usually round, wooden and brightly painted or covered in leather with the rim strengthened by an iron band. They were typically about 1 metre in diameter, giving protection to the body from shoulder to thigh, and often had a metal **boss** in the centre. An axe was often the choice of poorer men in the Viking Age. Even the poorest farmer had to have an axe for cutting and splitting wood. Axes for fighting developed from these. Some people would also bring their hunting bows to use in the opening stages of battle.

boss a large metal circle in the middle of a shield

Viking helmets did not have horns or wings. They were essentially a bowl with a prominent nose guard and were typically made from several pieces of bronze or steel riveted together. These were easier to make, and required less labour, than fashioning a helmet from a single piece of metal, which may be why they were widely used. Some had elaborations such as partial face masks, or a small spike on top of the helmet.



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Source 12.11 A modern re-enactment of a Viking raiding party using reproduction armaments based on original artefacts and with reference to manuscripts from the Viking Age.

DEVELOPING YOUR UNDERSTANDING 12.10

1. Describe the basic Viking armaments.
2. Explain why swords were uncommon.
3. What does Source 12.10 show us about Viking weaponry?

12.3 Conquests and relationships

Europe between the eighth and eleventh centuries is seen by some historians as a 'Viking Age', even though there was never a single unified Viking society. However, during this period their navigational expertise allowed the Norsemen to range over enormous distances in their raids and trading expeditions. As a consequence, they travelled further than any of their European contemporaries and in some cases it would be centuries before other Europeans would venture so far by sea. Consequently knowledge of, and contact with, the Vikings was widespread. Starting in the eighth century, Vikings launched many sea voyages of exploration. As a result of these journeys, they established new settlements in many areas including Russia, Ireland, Iceland and (for a brief time) North America. The motivations for this expansion and the associated Viking raids remain unclear. One theory is that the expansion of the non-Christian Vikings was partly a response to Charlemagne, the Frankish king and Holy Roman Emperor, and his wars to convert European pagans. Another theory is that the Vikings were attempting to expand trading opportunities as a response to the slump in European trade with the east, following the fall of

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the Roman Empire in the fifth century; and, more immediately, the challenge to Western Europe's trade that was posed by the expansion of the Byzantine Empire in the seventh century. It is because of this expansion that Viking society had such a deep impact on the history of Europe.

Influence

It is arguable that in this period the Vikings were the most influential cultural group in Western Europe. Their navigational prowess meant they explored further than any other Europeans at that time and opened up routes as far as North America and China. Their settlements, such as Yorvik (York) in England, were centres of trade and power. Their art was original and influenced what is now seen as Gaelic and Celtic design.

DEVELOPING YOUR UNDERSTANDING 12.11

1. Outline two theories explaining why the Vikings began their expansion in the late eighth century. Assess which of the theories you have outlined seems more plausible to you, and give reasons for your assessment.
2. Why were the Vikings so well-known in the period up to 1100?
3. Examine three ways in which the Vikings were influential.
4. Look back at the map at the beginning of the chapter (Source 12.1 on page 223) and answer the following questions:
   - **a** In which century was there the greatest amount of Viking settlement?
   - **b** Compare this to a modern map of Europe. Which modern countries had Viking settlements in them?

Anglo-Saxons Germanic inhabitants of Great Britain (and their descendants) following their arrival in the fifth century CE

The combined cultural and political influence of the Vikings is typified by the example of the Normans who invaded England and conquered the **Anglo-Saxons** in 1066. They were descendants of the Viking conquerors of Normandy in northern France. Interestingly, the word 'Norman' comes from the French word for 'Norseman'.

Danelaw

Vikings from Denmark settled in eastern England in the mid ninth century CE. This settlement was generally peaceful, but in 878 the Danes under their warlord Guthum fought with Alfred the Great, the Saxon king of most of England, notably at the Battle of Ethandun. In 886, the Treaty of Alfred and Guthum established an area in the north and east coast of England called the **Danelaw**, which remained under Danish control for about half a century.

Danelaw the parts of Anglo-Saxon England that came under Danish law and where Danish customs were observed, particularly in the late eighth and early ninth centuries

The area covered most of what is today known as the Midlands in England and included the five boroughs of the Danelaw – Leicester, Nottingham, Derby, Stamford and Lincoln – and the kingdoms of Northumbria and East Anglia. Under this arrangement, Viking laws, customs, religious beliefs and language were practised in this area. Yorvik (York) became the centre of Viking trade for the region. Ironically, the prosperity of the Danelaw led to increasing attacks by other Viking raiders, leading to its absorption into the Kingdom of England in the tenth century.

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DEVELOPING YOUR UNDERSTANDING 12.12

1 What was the Danelaw?
2 Suggest why the Treaty of Alfred and Guthum was signed.
3 Why do you think the Danish customs and laws practised in the Danelaw didn't protect it from further Viking raids? Consider the political structure of Viking society.

Trade and exploration

The Vikings were accomplished traders, and many of their explorations were launched to find new products to trade and new people to trade with. Erik 'the Red' Thorvaldsson sailed west from Iceland and founded two settlements in Greenland in 950 CE. Erik's son, Leif Eriksson, probably became the first European to set foot in North America when he established the settlement of Vinland (in Newfoundland, Canada) in c. 1000. Other Vikings founded trading cities like Duiblinn (Dublin) in Ireland and Yorvik in England. They travelled east along river networks through what is now Russia, Belarus and Ukraine to the Caspian and Black seas, establishing trading connections between Scandinavia and Jerusalem, Constantinople and even Baghdad.

The Vikings usually traded fur, animal skins, walrus tusk ivory, farm produce (for example, honey), craftwork (for example, carved-bone combs and leather goods), fish, wool, soapstone pots and slaves. They traded these for Chinese silk, Arab silver, wine and spices, pottery and glassware. They traded in kind or for silver, usually in coins (see Source 12.12).

Swedish Vikings, known as Varangians, established a political state called Rus' that lasted from the late ninth to mid-thirteenth centuries. The most important cities of this state were the cities of Novgorod (today in northern Russia) and

Source 12.12 The treasury of a Viking trader found in 2007 near York. It contains 617 coins and various silver fragments, ingots and rings. Some of the pieces could be traced to Afghanistan. The treasury has been dated to 927 CE.



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Kiev (now the capital of Ukraine). They engaged in trade and mercenary activities and provided the critically important trade link at that time between early medieval Europe and the wealth of the Middle East. Rus' became the means by which most Eastern silver coinage came to the West in this period. The name 'Russia' is derived from Rus'.

DEVELOPING YOUR UNDERSTANDING 12.13

1. Assess what Source 12.12 suggests about evidence of Viking trade.
2. Name two Viking trading cities.
3. List 10 examples of things traded by the Vikings.
4. Who were the Varangians?

Berserkers

One of the most feared weapons of the Vikings were warriors known as berserkers. These were Norse warriors who, according to accounts in some of the Icelandic sagas, entered a trance-like state of rage. In this state of rage, it was thought that they gained nearly supernatural strength and that they didn't feel pain. This condition was referred to as *berserkergang*. Some sagas describe these fighters going into battle without armour, either naked or wearing the pelt of a wolf or bear. There is debate about whether these fits of extreme aggression were simply the result of battle rage. The *berserkergang* may have been induced by consumption of hallucinogenic mushrooms or drinking large amounts of alcohol.

> His [Odin's] men rushed forwards without armour, were as mad as dogs or wolves, bit their shields, and were strong as bears or wild oxen, and killed people at a blow, but neither fire nor iron told upon them. This was called Berserkergang.

Source 12.13 A description of berserkers from the *Ynglinga Saga*, written by Icelandic historian and poet Snorri Sturluson (1179–1241)

Perceptions

The reputation of the berserkers fits neatly into the accepted view of the Vikings as ferocious, barbaric and merciless. However, most of what was written about the Norsemen at the time was from the viewpoint of their victims. The first recorded Viking raid was the attack on Lindisfarne in Northumbria in 793 (see Source 12.15 on the next page). The accounts of this raid had a lasting influence on the perception of the Vikings for the next 12 centuries. As the Vikings travelled through Europe, their deeds were recorded in a variety of **chronicles**. These chronicles are an extremely important record of non-Vikings' perception of Vikings during the Viking age. One of the most famous of these chronicles is the *Anglo-Saxon Chronicle*, which records the Viking activity in England over the two centuries between the reigns of Alfred the Great and Cnut the Great.

chronicle a historical account of facts and events ranged in chronological order; from the Greek *chronos* ('time')



Source 12.14 Various Viking occupations in the form of chess pieces, carved from walrus tusk ivory. The chess piece on the right depicts a berserker warrior, who has bulging, staring eyes and angrily bites his shield ready for battle. Found at Uig Bay on the Isle of Lewis, in Scotland, they have been dated to the twelfth century.

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> This year came dreadful fore-warnings over the land of the Northumbrians, terrifying the people most woefully: these were immense sheets of light rushing through the air, and whirlwinds, and fiery dragons flying across the firmament. These tremendous tokens were soon followed by a great famine: and not long after, on the sixth day before the ides of January in the same year, the harrowing inroads of heathen men made lamentable havoc in the church of God in Holy-island, by rapine and slaughter.

Source 12.15 An extract from the Peterborough Chronicle (part of the *Anglo-Saxon Chronicle*) describing a Viking attack on the monastery at Lindisfarne, a tidal island off the north-east coast of England, in 793 CE

Not until the late nineteenth and early twentieth centuries did scholars outside Scandinavia begin to seriously reassess the achievements of the Vikings, recognising their artistry, technological skills and seamanship.

Archaeology has played a major part in shedding new light on their achievements and abilities. Excavations of Viking burial mounds and the associated discoveries of buried ships and artefacts in the twentieth century have demonstrated a much more sophisticated society than the popular image of the Vikings raiders suggested. In 2011, researchers from Cambridge University stated that new archaeological evidence and analysis of the language, literature and coinage of the Viking period in Britain suggests the Norsemen were 'model immigrants' who lived in relative harmony with the Anglo-Saxon and Celtic locals. In fact, in England they had a reputation for excessive cleanliness, due to their custom of bathing once a week. This was most unlike the local Anglo-Saxons, who generally bathed once or twice a year at best.

DEVELOPING YOUR UNDERSTANDING 12.14

1. In what respects might the contemporary historical accounts of the Vikings be biased?
2. Does the possibility of bias affect the reliability of these sources?
3. Compare the reported cleanliness of the Vikings with that of the Anglo-Saxons.
4. What do Sources 12.13, 12.14 and 12.15 tell us about the reliability of the traditional picture of Vikings as merciless raiders? Make reference to each of the sources in your assessment.

12.4 Role of significant individuals

Erik 'the Red'

Erik 'the Red' Thorvaldsson moved to Iceland from Norway as a child with his family. What we know about him is contained in the *Eiríks Saga Rauða* (*Saga of Eric the Red*) and *Landnáma* (*Icelandic Book of Settlements*). In 982 CE he was sentenced by the *alÞing* to a 3-year exile for several murders arising over a dispute with a neighbouring farmer. The saga says that in the same year he sailed west from Iceland, discovering Greenland and spending 3 years exploring the island.

At the end of his exile, he briefly returned to Iceland to promote a settlement expedition. He gave it the attractive name of Greenland (*Grønland*), possibly to entice prospective settlers. Ironically, Greenland is far less suitable for settlement than the more unappealingly named Iceland. He set out for Greenland in 985 CE with 25 ships, 14 of which reached their destination – some turned back, while others were lost at sea. He and his party founded two colonies on its south-west coast: the Eastern Settlement and the Western Settlement. Erik grew respected and wealthy as chief of the Greenland settlements. Though both settlements initially succeeded, growing to over 3000 inhabitants, both were abandoned during the fifteenth century.

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Leif the Lucky

Leif Eriksson was the son of Erik 'the Red' Thorvaldsson and was born c. 970 CE. The *Grænlendinga Saga* (*Saga of the Greenlanders*) is the source for much of we know about Leif. He is best known for being the first European to set foot in North America. His journeying was inspired by a Norwegian explorer, Bjarni Herjólfsson, who had sailed west from Greenland c. 985 CE and sighted the North American coast. Leif Eriksson later bought Bjarni's boat and set out with a crew of 35 men.

According to the saga, his first landfall was probably Baffin Island (now in the Canadian Arctic Archipelago), which he called Helluland ('land of the flat stones') after the rocks on the coast. He then sailed south, possibly to what is today the coast of Labrador. He called this Markland ('Woodland') because of the forest beyond the beach. He sailed further south and finally landed at a place he called Vinland ('Wine-land') as there were wild grapes growing there. The Vikings built a small settlement that they called Leifsbúdir ('Leif's storage houses') and spent the relatively mild winter there. This **expedition** is now recognised as the first European venture to land in North America. Leif 'the Lucky' (*Leifr hinn heppni*) got his name from the return voyage to Greenland. He rescued an Icelandic castaway named Thorir and his crew, and got to keep Thorir's cargo.

expedition a purposive journey undertaken by a group of people

DEVELOPING YOUR UNDERSTANDING 12.15

1 What was Erik 'the Red' Thorvaldsson's association with Greenland?
2 Research the history of the Viking Greenland settlements. Propose some reasons for its abandonment during the fifteenth century.



Source 12.16 Statue of Leif Eriksson looking over Tunulliarfik Fjord, Greenland

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Reflecting and consolidating

Chapter summary

- The geography of Scandinavia meant that the Viking culture developed along coastal areas in Scandinavia and that they developed prowess as boat builders, navigators and traders. These skills and technologies led to the spread of Viking culture via exploration.
- Viking raiding of Western Europe by boat started in the late ninth century, leading to their reputation for brutality. This coincided with the development of an extensive trading network, and the establishment of new settlements in what is now Russia, France, England and Ireland.
- Erik 'the Red' Thorvaldsson led the Viking settlement of Greenland. His son, Leif Eriksson, led a subsequent expedition to the western coast of Canada.
- Between the eighth century and the eleventh century, the Vikings were arguably the most influential cultural group in Western Europe.
- The Vikings came originally from Denmark, Sweden and Norway, but they established settlements in Iceland, Greenland, many parts of the British Isles and in Russia.
- Their economy was based on trade and agriculture, with each Viking community governed by an assembly of freemen called a *thing* (*Þing*).
- Vikings worshipped many gods, who had humanlike qualities. Odin was the major god and the ruler of Asgard, which contained Valhalla, a majestic hall inhabited by many of those who died in combat.



Source 12.17 Viking ships as part of the Norman invasion force of England in 1066, as depicted in the Bayeux Tapestry (c. 1077)

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Short-answer questions

1 Where did the Varangians trade and what was its significance?

2 Explain Valkyrie.

3 Who and what was Snorri Sturluson?

4 What is the *futhark*?

5 Identify the places Leif Eriksson's journey took him to in the early eleventh century.

Source analysis

Examine Source 12.17 and answer the following questions:

1 What does this source show being transported?

2 How does this source relate to what we know about the success of the Norsemen during the Viking Age?

Extended-response question

Assess the importance of trade to the Vikings. Be sure to include specific examples of Viking activity and make reference to specific sources from this chapter to support your answer.



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13 Medieval Europe (c. 590 – c. 1500)

Before you start

Main focus

The Middle Ages are generally thought of as the period of time between the great civilisations of ancient Greece and Rome and the later culture of the Renaissance in the sixteenth century.

Why it's relevant today

This was a period of great cultural richness with much learning, thinking, writing and building, resulting in many important developments that influence us today.

Inquiry questions

- How did the Christian (Catholic) church come to dominate medieval Europe?
- What were the important developments in medieval societies?
- What were the main features of everyday life for people of medieval Europe?
- How have the achievements of the medieval Europeans contributed to the development of our modern world?

Key terms

- Chivalry
- Christianity
- Crusade
- Feudalism
- Manuscript
- Medieval
- Monastery
- Scriptoria

Significant individuals

- Charlemagne
- Christine de Pisan
- Clovis I
- Fulcher of Chartres
- Pope Leo III
- Pope Urban II
- Robert the Monk
- William the Conqueror

Let's begin

Most societies need a government and a political system. When the Roman occupation came to an end, Britain and France had to create new systems of political organisation, resulting in three new types of power during the Middle Ages.

The first form of authority was religious, based on Christianity, which became the dominant religion for almost all in Europe. The head of the Catholic Church, the pope, ruled with the help of educated officials and a system of monasteries and convents throughout Europe. The second form of authority was political: this was monarchy, or rule by a king. Charlemagne and William the Conqueror are two important examples of the power of monarchy in the Middle Ages. The third main form of authority was economic. In Europe's feudal system, landowners let other people use their land, in return for their support and work. When a king gave land to a baron, that baron became his vassal and promised to be loyal and to fight for him. The baron then gave land to a knight, who gave land to a peasant farmer. This arrangement locked people into agreements, and increased security for all.

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Timeline

CHAPTER EVENTS	WORLD EVENTS
c. 410 CE Romans leave Britain	**c. 632 CE** Muhammad dies
The 'Dark Ages'	
c. 476 End of Roman Empire	
c. 481–511 Clovis I rules the Franks in Gaul	
Early Middle Ages	
c. 771 Charlemagne becomes King of the Franks	
c. 800 Charlemagne is crowned Holy Roman Emperor	**c. 846** Arab armies attack Rome
High Middle Ages	
c. 1066 William the Conqueror invades England	
c. 1096–1270 Crusades move through the Holy Land	**c. 1099** Jerusalem is taken by the Crusaders
	c. 1187 Jerusalem is recaptured by the Arabs
Late Middle Ages	
	c. 1300 First Ottoman Turkish state is created in Anatolia



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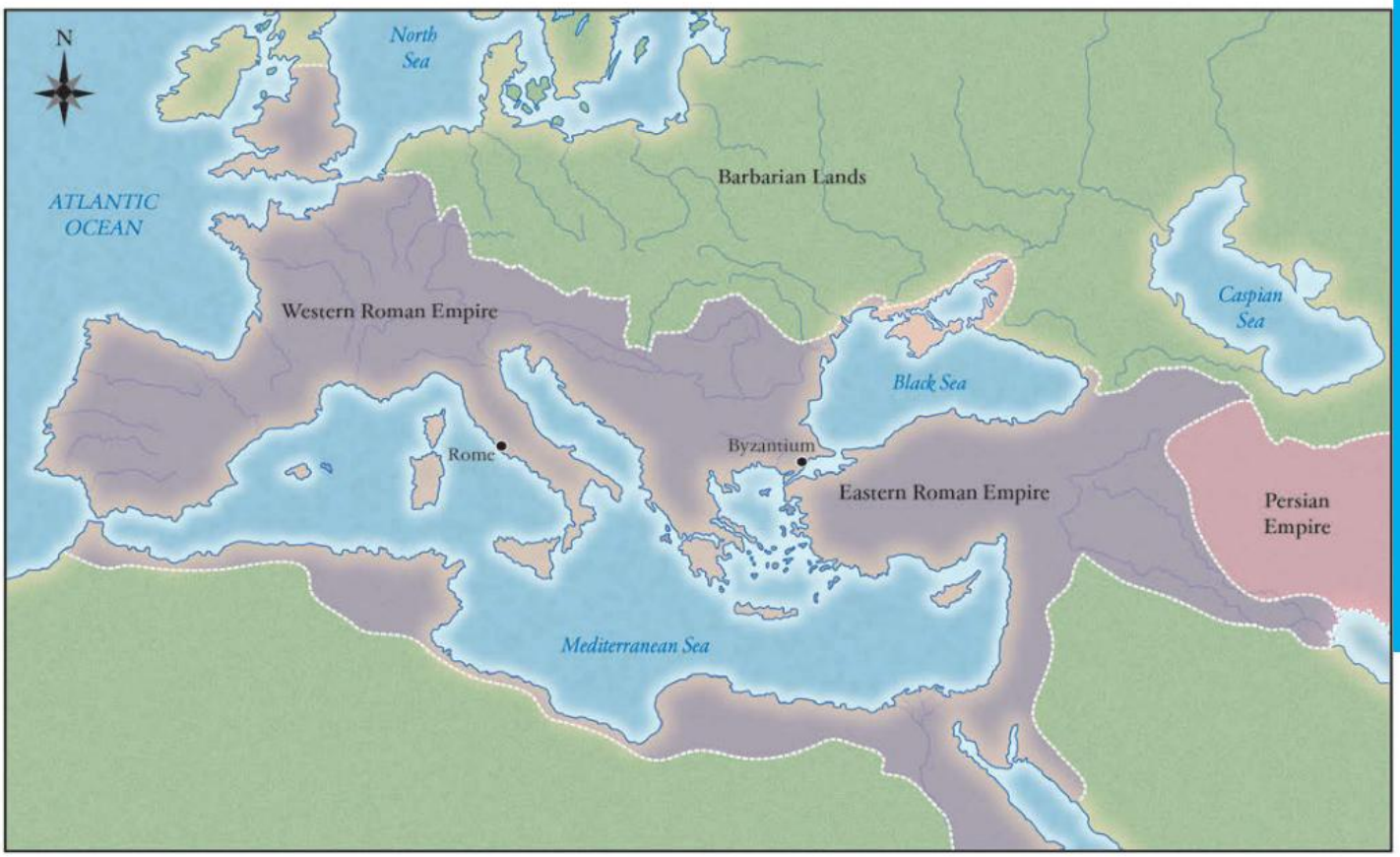


Source 13.1 Medieval Europe

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13.1 Death of an empire, birth of modern Europe

For 500 years, most of Western Europe and the Mediterranean area were ruled from Rome (see Source 13.2). However, the mighty Roman Empire began to weaken in about 200 CE. Several problems caused its final collapse. First, the empire was weakened by the constant attacks on its borders by peoples whom the Romans called 'barbarians', tribes who lived outside the Roman Empire.



Source 13.2 Map of the Roman Empire, c. 117 CE

Second, it was weakened by the poor leadership of several bad emperors. This in turn allowed further fighting between various governors and officials in parts of the empire. In 476 CE it collapsed completely; the 'barbarians' took over its lands and changed them dramatically within a century.



Source 13.3 A carved stone coffin shows the Roman army fighting Germanic tribesmen in the area of the Danube in about 180 CE.

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Troubled times

'Barbarian' tribes invade Europe

As the Germanic tribes swept in from the north, the peoples of Roman Europe saw their towns and homes destroyed. The occupants of Roman Europe might have hated their Roman leaders, but they had adjusted to Roman rule. It had brought them nearly 500 years of peace, called the Pax Romana. After 476 CE, everything changed as the 'barbarian' invaders created new societies. The Germanic tribes of Angles, Saxons and Jutes invaded England in the fifth and sixth centuries. The Franks, Lombards, Vandals, Visigoths, Ostrogoths and the Huns invaded other parts of Europe. These invasions occurred in many waves, each one stronger than before. The Lombards, Visigoths and Vandals even attacked Rome and the Italian peninsula. Their destructiveness is remembered in our use of the word 'vandal' today. Although the invaders were violent and destructive, they did intend to settle in the new lands and to build their own societies. While Roman society was not destroyed, its power lessened as Western European society evolved and adapted.

13.2 The medieval world and Christian kings

The people who lived in Europe between 500 CE and 1500 CE probably did not *feel* that they were living in a 'middle' age, and would not have understood the term if they ever heard it. Although historical names like this can be useful, they can also give us the wrong idea about a period of time. The term 'Middle Ages' was made up later, by people living in the 1500s. These later people were discovering knowledge about Greek and Roman times that seemed to have been 'lost' for almost 500 years; they thought that the people before them must have been less interested in this knowledge, and so less civilised. In particular, they thought that between 500 CE and 900 CE people must have lived in the 'Dark Ages'; that is, at a time when the 'darkness' of the Germanic invasions shut out the 'light' of the Greek and Roman civilisations.

In fact, civilisation continued steadily during the Middle Ages, and learning and culture continued to grow. After the fall of the Roman Empire, many people worked to save the knowledge of the past in their libraries for future use. Knowledge was therefore valued, and never ignored. It is true that few people outside the **monasteries** had the education to read the books that had been saved. This skill came from the **medieval era** itself and was developed by the Germanic invaders and the church scholars. In modern times, historians have also used the term 'Middle Ages', but many now think that the term is misleading.

monastery a place of residence of a community of monks or nuns living under religious vows

medieval nineteenth-century Latin for 'middle age' (*medium aevum*)

era a period of time in history; for example, the Roman era or the medieval era

When we look more carefully at this period of time, we can see that there were some important developments during the so-called 'Middle Ages'. For example, the old Roman province of Gaul (modern-day France) was, by the sixth century, divided between tribes such as the Franks, Burgundians and Visigoths. It was here that the powerful king of the Frankish people, Charlemagne (742–814 CE), went on to conquer large parts of present-day France, Germany and Italy to create his own great empire. Once he had done so, he created a completely new system of government and organisation of society to improve education and learning in his lands. The emergence of the great Christian kingdom of Charlemagne proved that people in the Middle Ages could develop their own form of civilisation very effectively.



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DEVELOPING YOUR UNDERSTANDING 13.1

1 Account for why some historians in the past have underestimated the Middle Ages by labelling them the 'Dark Ages'.
2 Explain how bias can affect our view of history.
3 Discuss how modern historians try to understand the medieval era.

The Frankish Kingdom of Charlemagne

This strong kingdom began when a group of tribes of Germanic origin called the Franks moved into the lands now known as France. They were good soldiers, but also had the skills to build villages and farms. King Clovis I (466–511 CE) was an early king who made the important decision to convert to Catholic **Christianity**. From then on, the king's authority would be backed by the church, which in turn was protected by the **monarchy**. He was poorly educated, could barely read and write, and was a particularly cruel ruler. Nonetheless, he did start the **dynasty** that ruled Frankland for 300 years. He also, however, started the tradition of dividing the kingdom between his sons on his death. This often led to civil wars between the sons, causing death and destruction to their people.

Christianity a religion that is based on the life and teachings of Jesus Christ

monarchy a style of government where a king or queen rules a society

dynasty a succession of rulers from the same family

The Frankish kingdom became powerful when Charlemagne ruled from 771. His father, Pepin, had divided his kingdom between Charlemagne and his younger brother Carloman, hoping they would cooperate to rule the land. Carloman inherited the most important lands and the two brothers resented each other. Carloman died suddenly in 771, allowing Charlemagne to rule as the sole Frankish king.

Charlemagne was a Germanic king. His biographer, Eginhard, states that he was able to 'converse in Latin and he understood Greek; but his native language was German [not the German language we know today but a dialect that has evolved over time]. He could not read and write.' He was competent in mathematics and astronomy. Charlemagne surrounded himself with **scholars** who knew Christian teachings, and others who studied the works of ancient Greece and Rome.

scholar a specialist in a particular branch of study, such as history



Source 13.4 This small bronze statue from the Louvre Museum, Paris, shows the emperor as a soldier and man of action on horseback. He is holding the orb of royal power. The figure may be Charlemagne or one of his successors, Charles the Bald.

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A powerful friendship: king and church

The Frankish kings' royal authority was strengthened when they won the support of the Catholic Church. The later kings of Frankland also converted to Christianity, and were crowned by the church in Paris. By Charlemagne's time, there was a strong relationship between the church and the monarchy of Frankland. Charlemagne valued his role as protector of the church in his kingdom. Another ruler, Charles the Bald, actually commissioned a painting of himself on his throne, with the hand of God pointing down to him, indicating he was in power by **divine** right.

divine relating to a god or gods

The relationship between king and church was not, however, always smooth. Charlemagne would even interfere with the pope's ambitions if it would help his aims. He felt that the only authority he had to obey was God's alone.

Charlemagne's greatest achievements

A new political system

As Frankish King, Charlemagne developed a strong political and social system that became the basis of Europe during the Middle Ages. To strengthen his control over the kingdom, he divided his lands between his closest and most trustworthy supporters. He appointed some as **bishops** of the church, and others as counts, or heads of noble families. He created teams of officials to carefully check the loyalty of these supporters. This process of granting land and status in return for support produced the feudal system (or **feudalism**), which spread throughout medieval Europe.

bishop the senior member of the Catholic Church in a particular diocese

feudalism a form of government based on the exchange of land for military service, with a strict hierarchy of status; also a system under which peasants were granted use of farming land and, in return, were obliged to provide services and loyalty to the lord of the manor



Source 13.5 This painted page shows us what Charlemagne's efficient army looked like. Although the scene is meant to depict a battle in the Bible, the artist has shown the soldiers as he knew them in his own time. We can clearly see the stirrups, the chain mail, the spears and the dragon flag used by the soldiers.

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Learning

Although Charlemagne himself could not read or write, he wanted to revive learning and culture in his kingdom. He built a magnificent palace and church in his capital, Aachen (Germany). He ordered old books to be brought to his capital at Aachen to be copied carefully and accurately. Some were translated from largely forgotten foreign languages. He also ordered a new and clear form of writing called the Carolingian minuscule script.

War and conquest

As king, Charlemagne also wanted to increase his status and power by increasing the size of his kingdom. He did not ask his counts, **knights** and **vassals** *whether* to fight, but *where* to fight. He fought more than 50 wars. The people he conquered had to convert to Christianity; any who refused were executed. For example, he killed 4500 people in Saxony because they refused to convert. He fought the Saxons for 10 more years before they gave in. Later, in 774 CE, when the Lombards invaded the pope's lands, Charlemagne attacked them and took their land. He also conquered part of Spain.

knight a military servant of a king or other person of rank

vassal a slave or servant within the feudal system who received land in return for their service

Charlemagne was successful because he was a good organiser. First, he introduced new weapons into warfare. For example, he introduced **cavalry** into his army. He also used the **stirrup**, an invention recently arrived from China. Second, he used clever tactics. In battle, he divided his army into two columns that worked together to trap the enemy between them in a **pincer movement**. Third, he used **military intelligence**; that is, a network of spies to gather information about his enemies and the area of the battle. Before battle, he informed his followers what size army to bring, which weapons to use and how the enemy forces were composed.

cavalry soldiers who fight on horseback

stirrup a metal device that holds the foot of a horse rider steady, allowing the rider to use weapons while riding

pincer movement when two parts of an army close in on the enemy from either side

military intelligence information about the size, location and tactics of enemy forces

International affairs

Pope Leo III was grateful to Charlemagne for helping him defeat the Lombards, and proclaimed him 'Emperor of the Romans' in 800 CE. This title later became 'Holy Roman Emperor' and was used by powerful **Catholic** kings in Europe for centuries.

Catholic a Christian who belongs to the original church led by the pope; also Roman Catholic

Death of Charlemagne and the slow collapse of his empire

Charlemagne died in 814 CE and was buried in his cathedral at Aachen. The empire was again divided between his sons. By the time his grandsons ruled, these kingdoms were weakening. By 900 CE, his great empire was divided into smaller kingdoms with Christian rulers.

DEVELOPING YOUR UNDERSTANDING 13.2

1 Outline the evidence you can find regarding whether Charlemagne thought Pope Leo III was his equal.
2 Explain how Charlemagne firmly established control over his kingdom.
3 Discuss why Charlemagne was considered to be a good organiser.

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13.3 Living in the medieval Christian world

The Catholic Church

Christianity became the official religion of the Roman Empire in 391 CE, and spread out across Europe. After the fall of the Roman Empire, the Catholic Church dominated Europe. By the eleventh century the Christian faith and the Catholic Church were central to the lives of all people in medieval society.

Roles of the church

By the eleventh century CE, the church was very important in Christian kingdoms because it carried out many roles. It ran courts of law, built bridges and roads, published books, educated the rich, cared for the sick and the poor, and organised festivities to entertain local populations.

Historical thought

The word you love to celebrate – holidays – comes from the various 'holy days' that the church would celebrate with festivities.

Beliefs about heaven and hell

The church's greatest power was its control over people's beliefs about life and, especially, death. For most medieval people, life was short and death could come quickly and unexpectedly. The church first taught you about the life of the soul after death: **heaven** was God's reward for having lived a good, Christian life. Everybody knew that they must be baptised to become a member of the church. They were also expected to take Holy Communion. They must be married by a **priest**. They must donate money to the church. Finally, at death, if a person's soul was judged to be not good enough to enter heaven, but not bad enough to go to **hell**, the soul was purified in **purgatory** before going to heaven. In 1275 CE, the German Mechetilde of Magdeburg wrote a book that shaped how people understood the promise of heaven and the threat of hell.

heaven the paradise to which the souls of good people go after death

priest one who conducts church services for the people in each parish

hell the place of punishment and torture to which the souls of evil people go after death

purgatory the place that souls of the people go to be purified and made ready for heaven

beguine a member of a special society or Catholic sisterhood devoted to doing holy works, such as the care of the poor

Mechetilde was not a nun but a **beguine**. Unlike a nun, a beguine did not have to make lifelong promises to join the church, and could leave the sisterhood to get married if she chose to do so.

Great achievements in architecture

The Catholic Church had built places of worship from the earliest days, but the first churches were small and built of wood or stone. By the eleventh century CE, important churches, especially



Source 13.6 Statuary from Notre Dame of Chartres

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cathedrals, had grown in size. The builders were limited, however, by their techniques because they could only support a roof with simple rounded arches. The walls also had to be very thick, and could not have large windows. In England, these solid churches with round arches were called the Norman style; in France, they were later called the Romanesque style. These great buildings towered over their local communities, impressing ordinary people with the wealth and power of the church. The church used money from rental of its lands and from donations by the faithful to keep up its campaigns of building, which often continued over decades or centuries.

In the years between 1150 and 1250, new building techniques allowed the construction of much taller cathedrals, with much larger windows that could be filled with stained glass. At the time, this was referred to simply as the New Style; later, historians called this the Gothic style in architecture. One of the earliest examples of the new architecture was the Cathedral of St Denis, located outside Paris. There, the architects developed the Gothic style arch on the inside of the building, and the **flying buttress** on the outside. The most famous Gothic cathedral in Europe is Notre Dame of Paris, but the greatest example of the style is the cathedral of Notre Dame of Chartres (see Source 13.6), about 80 kilometres south-west of Paris.

flying buttress a stone arch designed to support the main wall of a large church

DEVELOPING YOUR UNDERSTANDING 13.3

This exercise requires you to research a significant building of the Middle Ages. In consultation with your teacher, choose an important medieval building that interests you.

When you have chosen, go to www.cambridge.edu.au/hass8weblinks and explore the websites there.

After careful research, construct a model of one of the following:

1. a medieval manor
2. a medieval castle
3. a cathedral in the 'New Style' (later known as Gothic), such as Notre Dame of Paris or Notre Dame of Chartres.

Note that the first two might require a team of people to work with. Also keep accurate records of all research resources you use.

Great achievements in art

During most of the Middle Ages, there were no printing presses. If you could read and wanted a book, such as the Bible, you had to borrow one and copy it out by hand. This was called a **manuscript**. People also took the time to paint beautiful scenes on the pages, showing events such as the crucifixion of Christ, called **illuminations**.

manuscript a book written by hand

illumination the painting of beautiful scenes on pages, especially in manuscripts

An illuminated manuscript had beautifully decorated borders, capital letters and illustrations. These books were the art masterpieces of the Middle Ages during Passover.

The **Islamic** community also created beautiful manuscripts that clearly show the depth of its knowledge in fields such as mathematics and medicine. In a manuscript called *The Surgery of Abu'l Qãsim Halaf Ibn*, we see the great Arab surgeon checking a patient and performing a surgical operation. It is possible that the holy books of the Jews and Muslims first gave Christians the idea of writing

Islam a religion based upon belief in one God of whom Muhammad is the chief and last prophet

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such works to show their faith. There were strong Jewish and Islamic communities in Iberia (modern-day Spain) until the mid-fifteenth century CE. Christian pilgrims travelling in Spain may have seen their beautiful manuscripts and copied the idea when they returned to their Christian communities.

At first, medieval manuscripts were produced in monasteries, where monks worked in **scriptoria**. The hard work was a form of prayer – a way of doing God's work. They produced large copies of the Bible, as well as other books for use in church services, such as lectionaries, from which prayers could be read during a church service.

scriptoria rooms where monks created or copied illuminated manuscripts

How illuminated manuscripts were made

The process of making a book was lengthy. First, an expert created pages by cleaning and cutting lambskin, until it formed a dry material called **vellum** or parchment. In large cities, a whole street was taken up just with the workshops of parchment makers. There is still a Street of the Parchment Makers in Paris today, although their workshops disappeared centuries ago.

vellum sheets of material used for writing, which were made from thinned animal skin; also known as parchment

The scribe first ruled lines on the page, then wrote the text in black ink. The book was then passed to the illuminators, who painted pictures on the page. One Bible took about a year to make.



Source 13.7 This illuminated manuscript shows the workshop of a parchment maker in Italy during the fifteenth century. You can see the two parchment makers carefully scraping and smoothing the skin to make pages. There are bundles of parchment or vellum on the shelves above, ready for sale.

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Historical thought

The Duke of Berry was so keen to get a new manuscript that he often went into the workshop of the Limbourg brothers to take it before it was finished. The three brothers wondered how they could politely tell their rich employer that he had to learn to wait until the book was finished. Finally, they carved a copy of a book out of wood, painted it so that it looked exactly like a real book, and left it on their bench. The Duke of Berry rushed in, grabbed the book and tried to open it. The three artists roared with laughter at the trick, and the duke got the message and learned to wait until the brothers had fully finished their work.

The Church and the Crusades, 1096–1270 CE

Medieval people wanted to show their commitment to their Christian faith. By 1066 CE, a new expression of faith became common. Thousands of Europeans, of all social backgrounds, travelled to Jerusalem and waged war to free what they called 'the holy lands' from the Muslims who then occupied the area. Understandably, the Muslims hated the savage attacks by the Europeans. To this day, the **Crusades** are remembered in the Islamic world as a terrible example of religious intolerance and violence.

Crusade a military campaign to restore Christianity in regions controlled by Muslims

From a European and Christian point of view, Jerusalem was the centre of the holy lands because Jesus Christ was born, lived and preached, and died there. Christian pilgrims often travelled to Jerusalem to visit the holy sites, and returned with stories of being attacked and robbed by the Muslims. There may well have been incidents like this, but such stories may have also been made up. Pope Urban II called church leaders and nobles to meet in Clermont, France, in 1095, where he urged them to capture the holy lands. Fulcher of Chartres said that the pope promised sinners forgiveness for their sins. Robert the Monk recorded that the pope promised that the war was 'the will of God!' Part of the attraction was probably that Crusaders would be allowed to keep the treasures they captured.

In Europe, nobles gathered their soldiers for their '**holy war**'. They paid for their own supplies and transport to the holy lands.

holy war a war fought in the name of a god

Some nobles sold their lands to raise the money. The Catholic Church also gave money, while kings raised taxes to support the armies of 34 500 soldiers.

The armies travelled overland through foreign countries, fighting with local armies as preparation for fighting the Muslims in Jerusalem. They lost troops and used up food, so they had to steal more supplies along the way. Arriving in the holy lands, they prepared for battles with those they saw as the representatives of Islam. They recaptured Jerusalem after many battles. Some proudly justified their violence, recalling that 'they did not [even] spare the [Islamic] women and children'.

Many Crusaders stayed in the holy lands and continued to fight Islamic armies. Some built mighty fortresses, such as the Krak des Chevaliers. After their victory in 1099, generations of crusaders returned six times between 1147 and 1270 in a sustained attack on Muslims by Christian Europeans, but they failed to recapture Jerusalem.

Richard the Lionheart and Saladin

King Richard I is one of the most famous crusading kings. He ruled England (1189–99 CE) from France. He led the Third Crusade (1189–92) with King Philip II of France and Frederick Barbarossa of

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Germany (the Holy Roman Emperor). The Crusade started badly: Frederick drowned on the way, and Richard and Philip squabbled. Philip withdrew his army, leaving Richard to fight the great Muslim commander, Saladin.

Richard tried to capture Jerusalem and place it in Christian control, but failed. In 1192, he and Saladin signed a truce. In recognition of Richard's courage, Saladin allowed Christian pilgrims safe travel in the city of Jerusalem.

Effects of the Crusades

From a Muslim point of view, the Crusades were unprovoked attacks by infidels who used their religion as an excuse for bloody warfare, destruction and looting.

From a European Christian point of view, the Crusades were justified by the religious aim of recapturing the holy city of Jerusalem. They were expensive: 173 years of warfare did not capture Jerusalem, armies were devastated, nobles were killed and the feudal system weakened. As a result, European kings had more power over their nobles.

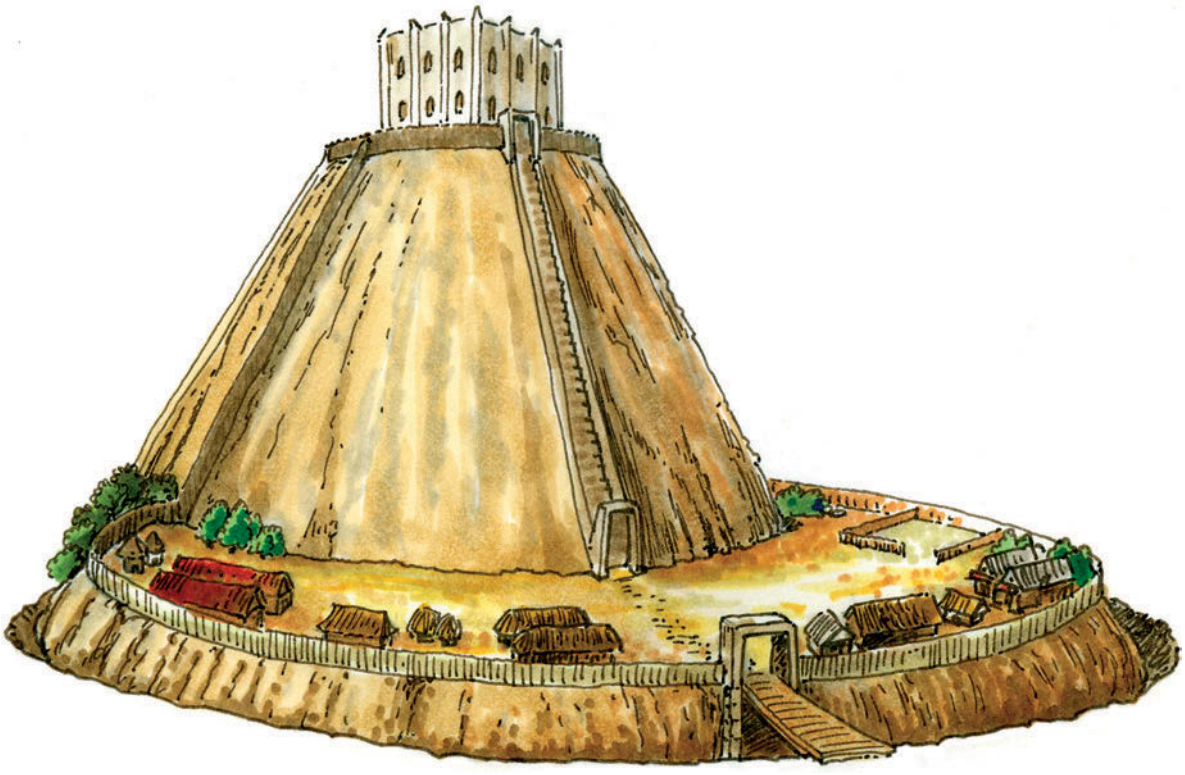
When civilisations come into contact, they are changed by the experience. As a result of the Crusades, the Europeans became aware of new products such as silk and spices. Trade between Europe and the regions to its east increased, and European towns grew rich. European markets now traded products such as lemons, apricots, sugar, nutmeg, cinnamon, melons, exotic carpets, slippers, cosmetics and glass mirrors. A new merchant class appeared, which did not fit into the groups of the old feudal system.

The Europeans also discovered new ideas and knowledge. The Muslims had a rich civilisation – far more advanced than that of Europe – with excellent knowledge in medicine, mathematics and astronomy. For example, Arab mathematics influenced the system of numbers used in Europe. New words also appeared in English, such as lemon, syrup, muslin, arsenal, admiral, almanac and alchemy.

Barons, knights and castles

Just as the church built cathedrals to inspire faith, so kings and **barons** built great castles to express their wealth and power. A castle was a home and a safe place for the

baron a nobleman who had been given his land by the king, often in return for military service



Source 13.8 A motte and bailey castle

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baron, his family, his knights and servants. The European castle began quite simply, but by the later Middle Ages it had developed into a large and impressive building.

Kings such as William the Conqueror introduced castles to keep control of the land they had conquered. William introduced the simple **motte and bailey castle** to England (see Source 13.8). These were made quickly with wooden walls and banks of earth. William's first castle was the Tower of London. It was a royal palace, and later became a prison. William built what is now called the 'white tower'. It is a number of buildings developed over two centuries and set within two rings of walls, surrounded by a moat or ditch. By the fifteenth century it was used as a general storage building and a prison. Today, the Crown Jewels of England are displayed there.

motte and bailey castle an early and simple form of the castle, made up of a bank of earth with a stone or wood wall on top of it

Technological developments

By the twelfth century, motte and bailey castles were replaced by stronger stone fortresses. The wooden castles were cheap to build but could be easily set on fire. Kings and nobles knew that they needed stronger castles that could endure attacks and to express their power. Stone resisted burning and was easier to defend. Stone castles began as a single multi-storey tower, called a keep, with thick walls, few windows and often only a single room per level. As they developed, walls connected several towers. The single tower became a series of fortifications, enclosing a wide area.

By the thirteenth century, concentric castles – a castle within a castle – developed. However, they could still be attacked. As castles became more advanced, new technologies threatened their defences. Devices such as the mangonel, the trebuchet, the siege tower and a variety of battering rams were all used to attack castles. These stronger castles were seriously threatened in the thirteenth century when gunpowder was brought to Europe, allowing cannon fire to smash massive stone walls. Castles were then much harder to defend.

Historical thought

Legend tells that the Venetian traveller Marco Polo discovered gunpowder when he visited China on a trade mission in the thirteenth century. He returned to Europe in 1299 with the discovery. However, the Arabs also knew about gunpowder long before Europeans did. Historians are still arguing as to who invented it first.

Medieval knights

Knights were the warriors of the medieval world. They crushed rebellions, protected the property of their king and nobles, protected the church and went on crusades. They differed from common soldiers because they fought on horseback, while others fought on foot. The cost of a knight's fighting armour and his horse was more than a peasant could earn in a lifetime's work, so only the wealthy could become knights.

We imagine knights as proud, devoted to their king and prepared to follow their orders to fight and to compete in tournaments. In the earlier part of the Middle Ages, though, knights fought for their king or baron against their enemies. They fought wars of conquest that brought fear and horror to the peasants and townspeople who were caught in the middle of the fighting.

By the twelfth century, however, knights had developed a code of behaviour called **chivalry**. They promised to protect the weak, defend the church and assist women.

chivalry a set of rules or code of conduct for knights, which obliged them to fight bravely and fairly, to act honestly and to defend the rights of others, especially women

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There were secular knights and religious knights. The secular knights were those attached to barons and kings. The religious knights included:

- Knights of the Temple, formed in the twelfth century to protect pilgrims in holy places, especially Solomon's Temple in Jerusalem
- Teutonic Knights, formed in the thirteenth century to protect German pilgrims to the holy lands
- Knights of Saint John, formed in England in 1099 to protect pilgrims in the holy lands.

Becoming a knight

page a boy who began his training as a knight by serving in the home of a nobleman

Becoming a knight involved skill, courage and a knowledge of chivalry. You started with an apprenticeship. At the age of 7 years, you were sent to live in the baron's castle as a **page** for 7 years. Your knight taught you appropriate behaviour, horse riding and care of horses.

You also learned hunting and fighting skills, using wooden weapons. This involved physical training in riding and wrestling to build your strength and to provide a tactical sense. At age 15, you became a **squire** and the knight's personal servant.

squire a young man who has become the personal servant of a knight

You had many tasks. You served his food at the table, cared for his horses, cleaned his armour and weapons, and helped him at tournaments. You rode with your knight into battle, carrying extra weapons, holding the knight's horse if he dismounted, and guarding prisoners if he captured them.

At age 21, you were promoted to a knight. This process involved some humiliation. In early days, the young man's knight slapped him on the back of the head, knocked him roughly to the ground and said, 'I dub you knight!' Later, the process was longer and more religious. The ceremony lasted for 12 hours, and then his knight simply touched his shoulders with his sword.

RESEARCH 13.1

Use the internet and resources in your school library to do some follow-up research into:

- Saladin
- Prince John of England
- Robin Hood.

Your focus for the research is to establish the links between Richard the Lionheart and the other three men. Present your findings to your teacher as a podcast of no more than 10 minutes.

Historical thought

A knight's armour had many pieces, all of which had to be cleaned. Pages learned to put them all inside a barrel filled with sand and roll it downhill. The tumbling action of the sand worked to clean every small part of the armour, with much less effort than cleaning by hand.

DEVELOPING YOUR UNDERSTANDING 13.4

1. Outline the role the Knights of the Temple played in the Catholic Church.
2. Recall who the Teutonic knights were.
3. Explain the term 'chivalry'.

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Weapons and weaponry

All knights had a ceremonial sword. It was made just for them, and was crafted to last a lifetime. Some might have precious jewels or family heirlooms placed into the handle. Often a family motto would be etched on the blade, or perhaps lines from the Bible that the knight had requested. This sword was never taken into battle.

flail a weapon made up of a heavy metal ball with sharp spikes hung on the end of a rope; the weapon would be swung in the air and brought down heavily to crush the skull of an enemy

The knight took into battle his battle sword, his helmet and body armour, his mace, his battle-axe and a weapon called the morningstar **flail**.

He also carried his shield with his own markings on it, and a dagger for close fighting. From the fourteenth century, an English knight's body armour weighed about 33 kilograms and his helmet an additional 5 kilograms. Later in the Middle Ages, knights had armour made for their horses, adding another 70–100 kilograms. A knight in full battle dress was a powerful warrior.



Source 13.9 Two knights train for war in a sporting event called a joust.

13.4 Lives and experiences of women

During the Middle Ages, many people had negative attitudes towards women, partly because of the misreading of some Christian writings. Late in the fourteenth century, one woman, Christine de Pisan, spoke out against negative attitudes to women. In one book, *The City of Women*, she told stories that showed the great strengths of women. In another, *The Book of the Three Virtues*, she explained to women their responsibilities in life, according to their rank in society.

Lady of the manor

manor the great house and lands of a rich nobleman

Women of the upper classes, such as the lady of the **manor**, are often seen in paintings and stories. The lady of the manor had many responsibilities. She also had many skills in managing the large household, including the kitchens, the farms and the castle. There were activities everywhere, all the time. She had to check the bakehouse to oversee the baking of bread, the brewhouse for the making of beer, and the dairy for the making of butter and cheese. She had to check the larder to see that meat was salted properly and that bacon was smoked so that it would last. Elsewhere, there was the production of the hundreds of candles needed to light the castle. Medieval ladies also did large amounts of 'laying in' of stores, or shopping. They had to plan ahead to buy goods from the local market or from the nearest large town. In

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particular, they had to buy large amounts of spices, which were used to give flavour to meat, as well as fish and wine.

Many lords saw their wives as valuable and trusted partners. Eileen Power found evidence for this in the wills that people wrote when they were dying. In England in 1418 CE, for example, Stephen Thomas of Lee wrote his last wishes to his wife with strong feeling: 'I will not write any more to you, but may God keep you, dear and trusty wife. Here I come to my end, and so I ask you, as I trust you completely, that my last will be fulfilled, as well as everything I have ordered at home, for all the love that ever was between man and woman.'

Working women in the towns

Medieval women in the towns were free to go into business. A married woman could open a shop or a market stall without permission from her husband. Evidence has been found in the taxation records of Paris in the thirteenth century showing that women worked in many trades, including schoolteachers, doctors, chemists and in the arts. Others were bookbinders, painters or the artists who copied and illustrated manuscripts. Many found jobs as plasterers, possibly even builders. For example, we can see one woman who seems to have an entire workshop as a business in a painting called *Artist in Her Atelier* (see Source 13.10). It is clear that she has two skills: she can create paintings in a frame, as well as carve statues. On one table, we see the pots of colour that she would have prepared herself by grinding the paint into a powder. On another table, we see the hammer and chisel she used to make the sculptures we see behind her.



In this painted page we see a woman who is running her own workshop and producing both paintings and sculptures. This scene was painted in France in about 1470.

Source 13.10 *Artist in Her Atelier*

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This manuscript illumination suggests that many rural women were equal to men in doing the really heavy tasks of farming. It was painted in France in 1450.



Source 13.11 *Carrying a Sack of Grain to the Mill*

Working women in the fields

Attitudes to women might have been much simpler among working people in the countryside. The peasants probably had little time to worry about the position of women in their family. Women were given jobs like climbing a ladder to collect eggs from the high chicken coops.

However, women did not simply do the light jobs. Some paintings, such as *Carrying a Sack of Grain to the Mill* (see Source 13.11), show women doing heavy tasks. This woman, dressed simply in a red robe, supports the weight of the heavy sack on her bent back by resting one hand on her hip. She treads carefully while she crosses a broken bridge over the river.

13.5 Life in towns

Origins of towns

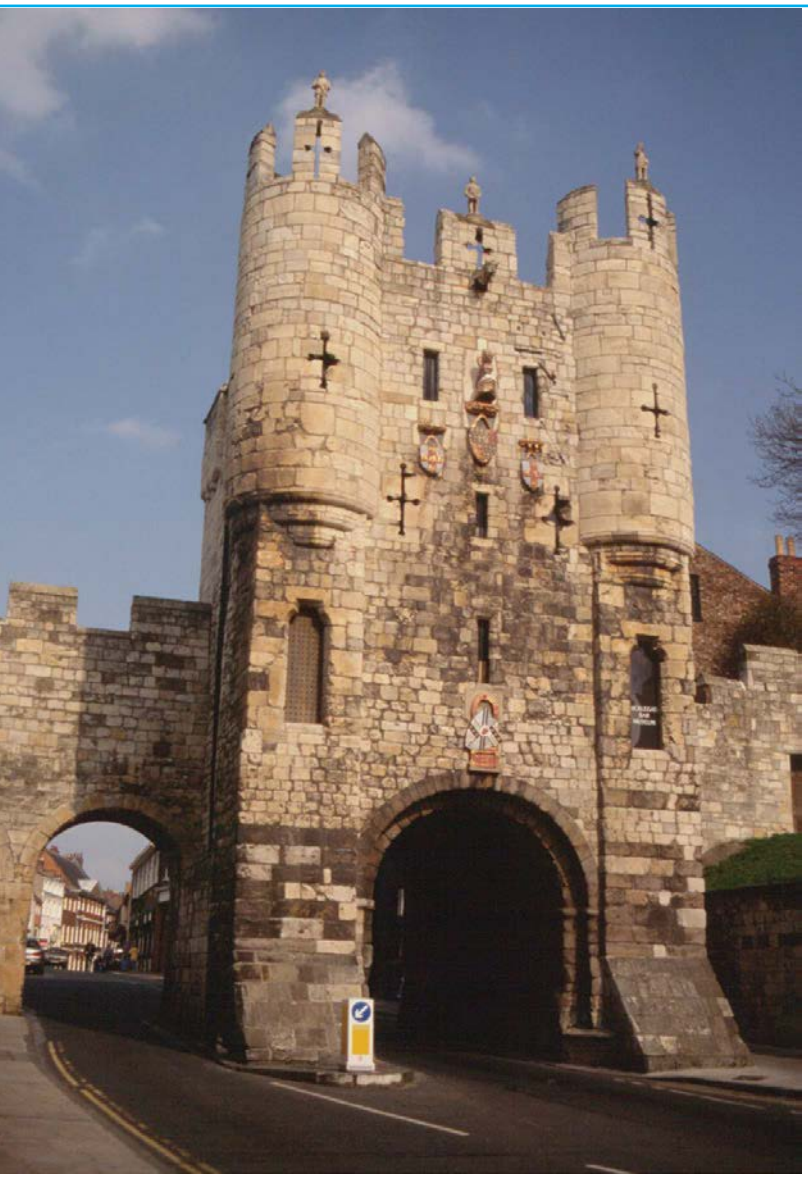
The earliest towns in medieval Europe grew around the castles or monasteries, so their people could seek safety inside their stone walls in times of trouble. Some towns developed by the coast, where foreign traders anchored their ships to sell the cargoes they had on board. Small towns also developed along the rivers and the major tracks in which traders crossed Europe.

The town charter

At first, towns developed on land owned by the king or his nobles, and so its people had to obey them. As a town developed, its people wanted to be free of outside authority and to govern themselves. Some paid the powerful landowners a large sum of money and a yearly tax to buy their freedom and a legal agreement called a **charter**. In England, towns that had been granted a charter were called a 'borough'. In Germany they were called 'burg'. Their citizens did not have to do service to the local lord: they were free men and women, allowed to marry whoever they chose and to work as they wished.

charter a written document delivered by the sovereign or legislature, granting rights or privileges, or creating a corporate entity

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Security through walls and gates

There are many medieval walled cities surviving in Britain and Europe. In France, for example, the town of Carcassonne was surrounded by massive rings of walls (see Source 13.13 and Source 13.14). These provided protection in times of war.

In times of peace, the city government raised money by taxing all the goods that came into the city. The Micklegate Bar at the City of York in England is a perfect example of a town gate (see Source 13.12). The citizens of York and the king were the only people not required to pay on entry.

Source 13.12 Mickelgate Bar, York, England



Source 13.13 The town of Carcassonne, France, with its ringed walls

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DEVELOPING YOUR UNDERSTANDING 13.5

This activity will challenge you to learn about the beliefs, lives and experiences of a key person in the Middle Ages.

Start by exploring the sites at www.cambridge.edu.au/hass8weblinks.

After careful research, develop one 10-minute radio or television interview with one of the following:

- William the Conqueror, discussing his tactics before the Battle of Hastings
- a medieval tailor, discussing medieval fashion
- a lady of the manor explaining what she has to do to run the home efficiently
- a medieval knight, discussing his win in a tournament
- Pope Leo III, discussing the importance of Christianity in Europe
- a parish priest, discussing the plague in England in 1349
- a monk in a monastery (or a nun in a convent), discussing their daily routine.



Source 13.14 Walls of castle Carcassone, France

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Reflecting and consolidating

Chapter summary

- The Christian Catholic Church was the only organised structure uniting Europe after the Roman Empire collapsed in c. 476 CE. Followers of the Christian Catholic Church tried to live their daily lives according to church teachings to ensure their place in heaven.
- The church expressed its wealth and power by building great cathedrals in many important towns of Europe. The two main styles, later known as Romanesque and Gothic, still influence architecture in our own times.
- Medieval societies experienced the trauma of invasions and occupations by Germanic tribes, but out of this chaos evolved strong centralised kingdoms under the rule of Germanic Christian converts.
- Most people of the medieval era lived in rural areas as towns were small. Village life was all that peasants knew. Their life was tied to the demands of their baron.
- Towns did grow, but on lands owned by barons, kings or the church. The prime focus of the towns was trade. Towns that grew larger could buy their freedom by paying for a charter.
- Conditions of life in towns and in the villages were simple and basic. Disease, fire, hunger could affect all equally badly.
- The European societies of the Middle Ages were strongly influenced by other cultures, especially Arab culture with its advanced techniques in mathematics and medicine.
- Medieval societies developed customs, traditions and practices that would all impact on the world beyond c. 1500 CE.



Source 13.15 Typical armour and weaponry for knights at war

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Short-answer questions

1 Explain the chaos in Europe after c. 476 CE.
2 Consider why the Germanic invaders were so important to the future formation of the countries of Western Europe.
3 Examine why Charlemagne was such a powerful force in medieval Europe.
4 Assess why the building of the cathedrals served to increase the power and authority of the church.
5 In what ways did the failures in the Crusades benefit Europe?

Source analysis

Study Source 13.15 and answer the following:

1 Explore what this image tells you about what it was like for knights going into battle.
2 What does the equipment used by knights tell us about the style of their warfare?
3 Evaluate how likely it was that a knight would die young.

Extended-response question

Describe two ways that the Catholic Christian religion shaped the European medieval world. Be sure to include some examples of how it influenced the beliefs and everyday lives of people, as well as its influence on architecture and the arts.



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14 The Ottoman Empire (c. 1299 – c. 1683)

Before you start

Main focus

The Ottoman Empire was one of the greatest civilisations of the modern world and illuminated the strength of Muslim religion, architecture, arts and statecraft.

Why it's relevant today

At its peak, the Ottoman Empire, which linked Asia and Europe, provided a model for people of different ethnic groups and religions to live peacefully together. Its successor, the Republic of Turkey, is now emerging as an international power.

Inquiry questions

- How did the Ottoman Empire change from the end of the ancient period to the beginning of the modern age?
- What key beliefs and values emerged and how did they influence the empire and its subject peoples?
- What were the causes and effects of contact between societies within the empire in this period?
- Which significant people, groups and ideas from this period have influenced the world today?

Key terms

- Caliph
- Grand vizier
- Islam
- Janissary
- Mosque
- Muslim
- Qur'an
- Sea of Marmara
- Sultan

Significant individuals

- Hurrem (Roxelana)
- Mimar Sinan
- Osman I
- Sokollu Mehmed Pasha
- Sultan Bayezid I
- Sultan Mehmed II
- Sultan Murad IV
- Sultan Selim I
- Sultan Suleiman I

Let's begin

The Ottoman Empire occupies a critical historical position through both time and space. It was an empire that stretched from the fourteenth to the twentieth centuries. It marked a transition between the medieval world and the modern world – and also linked the continents of Asia, Africa and Europe. At its peak, it was the crossroads of those continents and represented the flowering of Islamic culture, arts, economy and politics. Its distinctive form of government and processes of law offered different models from those of the West. At times its tolerance for different ethnic groups and religions provided an example of harmonious living. Its famous leader Suleiman the Magnificent (who reigned 1520–66) represents the strength and reach of the empire through both his military and cultural achievements.

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Timeline

CHAPTER EVENTS	WORLD EVENTS
1200 CE	
c. 1299 CE Osman I declares himself leader	**1271–95** Marco Polo's travels from Europe to China
1300 CE	
c. 1324 Orhan succeeds his father	**1348–50** Black Death sweeps through Asia and Europe
1362 Murad I becomes sultan	
c. 1365 Edirne is declared Ottoman capital	**1368** Ming dynasty begins in China
1389 Battle of Kosovo	
1394–1402 Siege of Constantinople	
1400 CE	
1453 Mehmed II conquers Constantinople	**1452** Leonardo da Vinci is born in Vinci, Florence
	1492 Practising Jews are forced to leave Spain: many go to the Ottoman Empire
	1493 Columbus returns to Spain from America
	1498 Portuguese open sea route to Asia
1500 CE	
1517 Selim I conquers Egypt and Mecca	
1520–66 Suleiman I reigns	**1558–1603** Queen Elizabeth I reigns in England
1571 Battle of Lepanto and capture of Cyprus	**1577–80** Sir Francis Drake sails around the world in an English galleon
1683 Ottomans are defeated at Vienna	**1642** Civil war in England; Dutch navigator Abel Tasman reaches what is now Tasmania



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Source 14.1 Areas shown in pink and mauve were ruled by Osman I and Orhan, 1300–59

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14.1 Ottoman beginnings 1299–1389

Emergence of the Ottoman dynasty

The Ottoman Empire was a successor to the Byzantine Empire. The Byzantine period can be dated from 330 CE when the Roman Emperor Constantine the Great established a new capital on the site of the ancient Greek city of **Byzantium**.

The city that he called New Rome became known as Constantinople and was the capital of the mostly Greek-speaking eastern portion of the Roman Empire, which included the **Balkans** and the area that is now modern Turkey. To distinguish it from the empire based in Rome, the eastern Roman Empire is described as the Byzantine Empire.

Byzantium a Greek city, later called Constantinople; capital of the eastern Roman Empire

Balkans an area in south-eastern Europe, from the Balkan mountains and Danube River to the Aegean, Mediterranean and Adriatic seas

The story of the Ottomans begins with a local ruler named Osman. He started a **dynasty** that was to remain in power for more than 600 years. Osman came from a family of **nomads**, originally from Central Asia, which settled in **Anatolia** in the second half of the thirteenth century. Anatolia, also known as Asia Minor, had been an important part of the Byzantine Empire until a powerful local group, the **Seljuk** Turks, defeated the Byzantine emperor and set up their own dynasty. By Osman's time **Mongol** invaders (see Chapter 19) had

dynasty a succession of rulers from the same family

nomads people who move from place to place

Anatolia the area from the Black Sea on the north, Aegean Sea on the west and Mediterranean on the south; sometimes called 'Asia Minor'

Seljuk a Turkish–Persian (Iranian) dynasty originating in Central Asia

Mongols a powerful tribe from Central Asia who set up a great empire



Source 14.2 A portrait of Osman I, the first leader of the Ottoman Empire, from a miniature held in the Topkapi Palace Museum, Istanbul

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overpowered the Seljuks and Anatolia was broken into tribal units.

In about 1281, Osman became chief of a small group of Turkish settlers on the Sakarya River in north-western Anatolia. A great warrior, Osman used a strong force of archers on horseback to conquer his neighbours (see Source 14.3) and spread his influence to the coast opposite the city of Constantinople. Around 1299, he declared independence from Seljuk control and in 1302 defeated the Byzantine army in a key battle. Europeans knew this warrior as Othman, and the empire that he established was named after him. In Ottoman history he is known as Osman **Gazi**.

gazi a Muslim warrior fighting for Islam

Islam and the Ottoman Empire

The Ottoman clan, like the Seljuks, followed the religion of **Islam**, which was revealed to the prophet Muhammad. He lived from 570 to 632 in what is now Saudi Arabia. Followers of Islam (**Muslims**) believe in a single God (Allah). Their holy book, the **Qur'an (Koran)**, is a collection of Muhammad's teachings. There are two branches of Islam. The majority of Muslims (about 85%) belong to the **Sunni** denomination. The Ottomans were Sunnis, as are most Turks today. About 15% of Muslims are **Shi'ites**, followers of the Shia branch of Islam (including most people today in Iran). The growth of the Ottoman Empire spread the Islamic faith widely through military conquest.

Islam a religion based upon belief in one God of whom Muhammad is the chief and last prophet

Muslim a follower of Islam

Qur'an (Koran) the holy book of Islam

Sunni a Muslim who believes that the leader of the Muslims after Muhammad should be elected from among the people close to him, not necessarily a family member

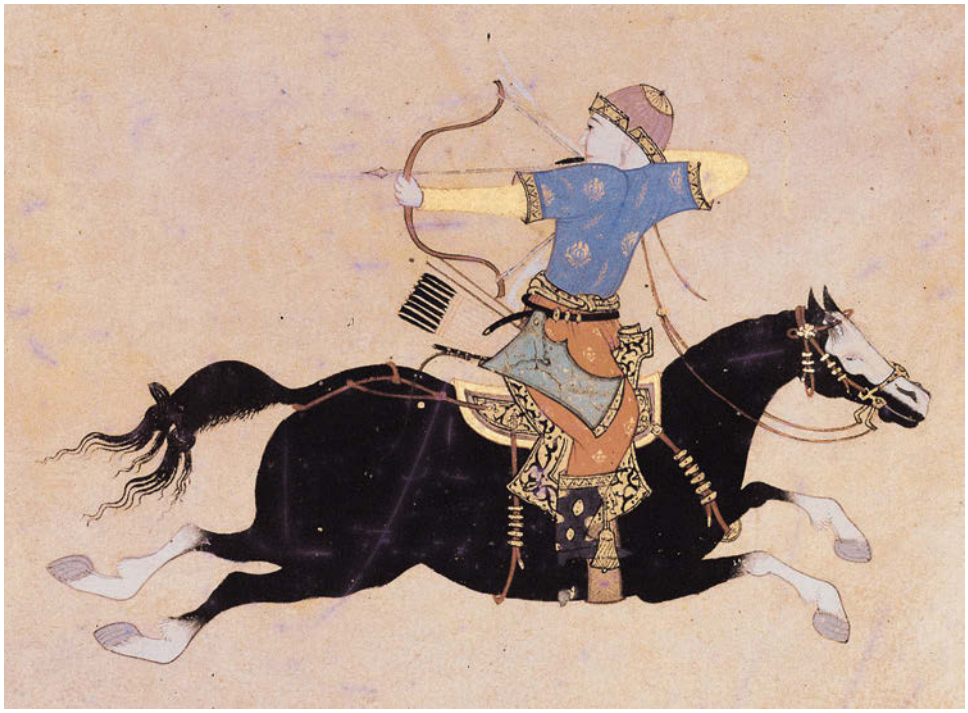
Shi'ite (or Shia) a Muslim who regards Ali (Muhammad's cousin and son-in-law) as his first legitimate successor

The growth of the military

Osman and his descendants claimed that God chose their family to rule and to extend the Islamic faith by **holy war**. In the early Ottoman Empire, the **sultan** held personal power because he belonged to the imperial family and was a successful warrior. To emphasise that role, on taking office each new sultan was presented with Osman's ceremonial sword. The empire was, above all, a military organisation, and its commander had absolute authority. In the early centuries, he was prominent on the

holy war a war fought in the name of a god

sultan the leader or emperor of the Ottoman Empire



Source 14.3 An Ottoman mounted warrior (cavalryman) or horse archer

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battlefield and knew personally his individual unit leaders and even many of his soldiers. Each of the first 10 Ottoman rulers personally led his armies in battle.

In return for absolute obedience, the ruler promised that he would wage holy war and reward his followers with public works. Ottoman rulers built **mosques**, **medreses** (colleges) and roads, and protected their subjects. The ruler was responsible not only for physical protection but also for justice. He appointed local judges to decide disputes. All Ottoman subjects had the right to appeal directly to him for protection of their legal rights, by submitting a petition or sending a delegation to the capital. Ottoman leaders were superb military planners, adjusting their strategy (plans) to the region they were attacking. They usually took power in two stages. The first stage was the use of force. Once defeated, the local leaders were often permitted some independence – but they were required to provide troops for the following military campaigns.

mosque a Muslim place of worship

medrese an institute of Muslim education; *madrasah* in Arabic

The second stage of conquest was to remove the local leaders and take direct control of the region. Ottoman rulers were careful and thorough administrators. Until the 1600s, regular detailed surveys of the wealth of different regions were carried out, and an efficient **timar** (land-holding system) was instituted to pay for the protection provided by the military troops in the provinces. The right to a share of the income from this taxation was granted to loyal supporters of the regime, who were described as timar-holders and in return provided military service to the central government. In this way a **gentry** class that was loyal to the sultan was created. The system differed from European **feudalism**, however, in that timars were not acquired by inheritance and the central government exercised firm central control throughout the empire. An additional difference was the Ottoman use of slavery.

timar an area of land on which taxes were gathered and partly shared by local officials, who in return provided military service to the empire

gentry a reasonably wealthy landed class below the nobility

feudalism a form of government based on the exchange of land for military service, with a strict hierarchy of status

DEVELOPING YOUR UNDERSTANDING 14.1

1. Recall who founded the Muslim religion and the name of its chief book.
2. Describe the main responsibilities of the Ottoman leader.
3. Discuss how the Ottoman social system differed from European feudalism.

Expansion under Orhan and Murad I

Osman's son Orhan captured more territory. In 1354 CE he took Ankara, in central Anatolia, and Gallipoli, on the European side of the Dardanelles (the entrance to the **Sea of Marmara**). Gallipoli became the main centre for the Ottoman navy for centuries. Orhan set up his capital at Bursa in western Anatolia. On Orhan's death in 1362, his son Murad I became ruler. Murad extended the area under his control to the European region north-west of Constantinople, capturing the important city of Adrianople. From 1365, under its new name, Edirne, it was the Ottoman base as they captured southern Bulgaria and the major Greek city of Salonica. As European regions were taken over, immigrants from Anatolia poured in to settle on the conquered territory. Ottoman expansion was temporarily halted in 1389 by Serbian forces in a bitter battle at Kosovo where the leaders of both sides lost their lives. This ancient battle is still vividly remembered in the historical imagination of Serbs and Turks. During Murad's reign, coinage began to refer to him as sultan. He also began to capture and enslave Christian children. Many were trained to become soldiers known as Janissaries.

Sea of Marmara the sea in Turkey that divides Asia from Europe

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DEVELOPING YOUR UNDERSTANDING 14.2

1. Identify who was the first Ottoman leader to describe himself as Sultan. How do we know this?
2. Recall where the main centre for the Ottoman navy was.
3. Outline why the Battle of Kosovo in 1389 is important.
4. Copy or trace the map at the start of this chapter. Using different colours, add the areas conquered by the Ottomans as the empire expanded. Start by shading the area conquered by Murad I by 1389.

Janissaries

Janissary the Ottoman sultan's permanent military corps of infantrymen, many of which were recruited by the *devshirme*

The **Janissary** corps was raised by Sultan Murad I in about 1365 and became the elite, full-time soldiers of the Ottoman Empire. They were devoted personally to the Sultan's service, so supported the ruling family's hold on power. In contrast to free-born Ottoman warriors on horseback, Janissaries were infantrymen; that is, they fought on foot. After muskets were introduced in the mid-1400s, Janissaries wielded firearms. The most disciplined military corps of the time, with a strong team spirit, its soldiers wore special uniforms and tall and cumbersome headgear, which set them apart from other troops. Janissaries were forbidden from wearing beards but were allowed moustaches. They were paid salaries, marched to distinctive music provided by ***mehters***, lived together in barracks and received pensions when they retired. At first Janissaries were not permitted to marry, but later sultans relaxed this restriction. They comprised a distinct social class, being neither free men nor slaves. Most were conscripted into the corps through the ***devshirme*** system.

mehter an Ottoman military band

devshirme the forced collection of Christian children to train for positions in the Ottoman sultan's palace or army

Devshirme

The Janissary corps was first formed from captured prisoners of war. Soon, however, a system of special tax collection (*devshirme* is Turkish for 'collect') was set up. Under this system the sultan's men would enter a Christian town in a captured region, such as Greece or Albania. They would demand that the town and surrounding villages assemble boys, generally one in every 40 households,



Source 14.4 A Turkish postage stamp issued in 2003, showing a Janissary corps member. Note the distinctive headwear.

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between the ages of eight and 18. Fathers brought their sons for inspection and records were kept of the names of those selected. The collected boys were dressed in special clothing and taken away. The cleverest and strongest 10% were sent to the Sultan's palace where they were soon converted to Islam. They received a thorough education to train them for the highest administrative positions in the Empire, some rising to become **grand vizier**, the Sultan's most powerful official, and marrying into the royal family. The 90% not selected for palace training were hired to Turkish farmers from whom they learned the Turkish language and where they customarily converted to the Islamic faith. When they were about 22, they would be summoned to Istanbul to serve in the Janissary corps.

grand vizier the sultan's chief advisor or prime minister

Military marching bands

Turkish units before the Ottomans had drums and military bands. Under the Ottomans, however, Janissary bands encouraged by the sultans reached new heights. *Mehters* often consisted of bass drums and kettledrums, trumpets, horns, bells and cymbals. A special Anatolian folk woodwind instrument, the *zurna*, had a penetrating, shrill sound that could be heard over the noise of battle. In warfare, the musicians were at the heart of the fighting: when the music ceased, the troops would stop fighting. The bands also provided a rhythm for marching in formation, while larger bands played for state ceremonial occasions. Beginning in the 1700s, many European countries introduced military bands, based on the Janissary example, into their armies.

DEVELOPING YOUR UNDERSTANDING 14.3

1. Explain what is meant by the terms *devshirme* and *mehter*.
2. Discuss why Janissaries had a strong team spirit.
3. Imagine that you are a young Christian boy taken from your family in the *devshirme*. Write a letter home to your parents describing how your captors have treated you.

14.2 Setbacks and recovery 1389–1444

Sultan Bayezid I

After the Battle of Kosovo, Bayezid I became sultan. A cruel man, known as 'the Thunderbolt' because of his swiftness in war, Bayezid quickly defeated many of the Balkan states (such as Bulgaria and Serbia), and fought successful campaigns in Anatolia. By the end of his rule, Ottoman territory was 40 times greater than a century earlier.

In 1394 and again in 1395 he laid siege to Constantinople. The last outpost of the Christian Byzantine Empire, Constantinople controlled the crossroads between east and west; that is, between Europe and Asia. The Byzantine Emperor sought European help to defend the city and a new **Crusade** was organised. Bayezid defeated the crusading army at Nikopolis on the Danube in 1396. The siege of Constantinople continued.

Crusade a military campaign to restore Christianity in regions controlled by Muslims

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Source 14.5 *Sultan Bayezid Imprisoned by Timur*, by Polish artist Stanislaw Chlebowski (1878), showing the lame Mongol leader Timur and his prisoner Sultan Bayezid I

Attack from the East

At this point a threat from the East saved Constantinople. In 1400, the Central Asian Mongol warlord Timur (sometimes known as Tamerlane) attacked Anatolia. Bayezid was defeated in the battle of Ankara in 1402 by Timur. He was captured and died in captivity.

Civil war and recovery

After Bayezid's death, the Ottoman state broke apart and civil war followed. Bayezid's four sons fought between themselves for control of parts of the Ottoman lands. After much bloodshed, Mehmed finally prevailed and in 1413 crowned himself sultan in Edirne.

Edirne

The city of Adrianople, named after the Roman emperor Hadrian, was occupied by the Ottomans about 1361 and renamed Edirne. Located in the north-western part of the empire, close to the border with Bulgaria, it became the capital of the Ottoman Empire. It was from Edirne that Sultan Murad II, who ruled from 1421 to 1451, was eventually to play a key role in restoring Ottoman fortunes. In Edirne he built a monastery for the Mevlevi Order, an Islamic sect that cultivated spiritual, cultural and artistic excellence. Its members were known as whirling **dervishes** as they danced in a trancelike state as part of their devotions.

dervish a member of a Muslim ascetic order, some of which performed whirling dances as acts of ecstatic devotion

Edirne played a key role in Ottoman Turkey and is rich in architectural treasures – such as the Selimiye Mosque, several other ancient mosques and a synagogue – an old quarter and several museums.

Religious tolerance

The majority of people within the Ottoman Empire were Islamic. However, due to the mixed heritage of the Ottoman state in the many lands and cultures that contributed to it, significant groups of Christians and Jews coexisted with Islam. In Anatolia, there were Orthodox Christian groups who differed from Byzantine Christians. Where they were treated well by Turkish *beys* (governors), Christians supported their Ottoman rulers against the Byzantines.

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There was also much intermingling of culture and history. There was, for example, significant merging of Christian and Turkish saints, leading to shared pilgrimage sites and shared festivals. There were also conversions to Islam such as in the case of the Janissaries. Many Ottomans supported debates between Islam and **Christianity**. Lands conquered by the Ottomans, such as Bulgaria, were usually allowed religious freedom, although Christian or Jewish populations paid a special tax or tribute.

Christianity a religion that is based on the life and teachings of Jesus Christ

DEVELOPING YOUR UNDERSTANDING 14.4

1. Recall the name that was given to Sultan Bayezid I.
2. Discuss why the empire almost collapsed after 1402.
3. Look at an atlas and mark Edirne on your map. Explain why it was important in Ottoman history.

14.3 Conquest of Constantinople 1444–81

The boy sultan

abdicate to give up rule

In 1444 , Sultan Murad II **abdicated** in favour of his 12-year-old son Mehmed. Three weeks later, a large Christian army attacked the empire. Murad returned to the battlefield to defeat the enemy and again retired. A revolt by Janissaries, however, brought him back and he resumed the throne in 1446. Young Mehmed was forced to stand aside. The experience made him bitter, but he left the capital to bide his time.

Mehmed the Conqueror 1451–81

When his father died suddenly in 1451, Mehmed became sultan again at the age of 18. He was to rule the empire for 30 years. He resolved to pursue a career of conquest that would wipe out the failure of his earlier reign. First he ordered that his 15-month-old half-brother be strangled. With this rival eliminated, he began to plan the conquest of Constantinople.

Although defended by strong walls, the great city was half-abandoned. With the threat of a final onslaught obvious, its Greek inhabitants had fled in their thousands and the population had fallen to about 50 000. Mehmed organised his siege carefully. First, he constructed a fortress north of the city, on the European side of the **Bosphorus**, directly opposite another on the Asian side. He equipped both with cannons, giving him control of the narrow channel. Second, his troops constructed a road from the Bosphorus over the hills and down to the Golden Horn (the inlet that provided Constantinople's protected harbour). Ottoman vessels were hauled up the road and down to the Golden Horn, evading the chain that the defenders had stretched across the harbour. Third, his men undermined the city walls. But it was not until Mehmed introduced an enormous cannon that could blast a hole large enough for soldiers to pass through, that he broke the city's resistance.

Bosphorus a narrow strait that connects the Black Sea to the Sea of Marmara

On 29 May 1453, Mehmed's troops, with the Janissary corps in the lead, broke through the walls and in a bloody battle captured Constantinople. The Christian Roman Empire had finally fallen. Mehmed had won the title of Fatih ('the Conqueror').

Importance of the conquest of Constantinople

Mehmed's conquest of Constantinople was a turning point in modern history, ending the Middle Ages in several ways. With the capture of the

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capital of the eastern Roman Empire, the Muslim empire now had a powerful and secure base from which to spread throughout Eastern Europe and threaten the dominant philosophy of Christianity. Second, the successful use of cannon, gunpowder and siege changed the way European warfare had been conducted. Third, the Ottomans now blocked the main overland trade link between Europe and Asia, stimulating the exploration of a sea route and leading to the Portuguese navigator Vasco da Gama establishing a direct link with India by the end of the 1400s. Fourth, Mehmed's victory meant that the Kingdom of Russia was now the chief base of the Orthodox Church in Europe and its prince saw himself as heir to the Byzantine emperors: Ivan the Great now called himself tsar or caesar. Finally, the conquest had a significant effect on the city itself, which Mehmed revitalised.

Istanbul under Mehmed

In Byzantine times, Romans and Greeks had usually referred to Constantinople as 'the city'. Under Mehmed, it came gradually to be known as Istanbul: a Turkish version of the Greek phrase 'to the city'. Mehmed quickly repopulated it. Families from all over his realm were ordered to move to his new capital, where there were plenty of vacant fields and houses for them to occupy. A remarkable policy of tolerance saw Christians, Muslims and Jews return in large numbers, assured of their lives, liberty and the free exercise of their religions.

When a new Greek Orthodox patriarch was elected, Mehmed performed the ceremony himself. The great church Hagia Sophia, completed by Roman Emperor Justinian in 537 CE, was converted into a mosque (it is now a museum), although other Christian churches were allowed to continue. Greek Christians were permitted to govern themselves through their own legal and administrative authorities under a system of tolerance known as the millet system (see below). In 1463, Mehmed began to build the Fatih (Conqueror's) mosque. Among the outer buildings were religious colleges, a library and a public kitchen to provide food for the poor, as well as a primary school and hospital. In addition, following the example of the Seljuks and Persians, the complex contained a ***caravanserai***.

caravanserai an inn or hotel where travellers and traders could rest on their journey

The Grand Bazaar in Istanbul

Mehmed gave central importance to bringing merchants and **artisans** into the city. One of the highlights of a tourist's experience of Istanbul today is a visit to the crowded and vibrant Grand Bazaar, one of the largest and oldest in the world. Although enlarged in subsequent centuries, this great covered marketplace had its origin in a domed stone structure built under Mehmed's orders between 1455 and 1461.

artisan a skilled tradesperson

Most merchants were Muslim, although Jewish shopkeepers also had premises in the marketplace. The central building of the commercial part of Istanbul, the bazaar had three main roles. It was a place where resident merchants housed and sold their wares (mostly textiles), conducted financial transactions and safely stored their valuables. So the bazaar combined the roles of marketplace, bank and financial exchange.

The millet system

Under the Ottomans, individuals were grouped by religion rather than by nationality. At the top of the pyramid was the Muslim community. Other religious groups, each with its own religious leader, were organised into communities known as **millets**. The main categories were Greek Christians, Armenian Christians and Jews. Each millet was responsible for tax allocations and collection, education and legal relationships with other communities, and matters relating to marriage, divorce and inheritance. The result was that although Islam was the dominant faith, there was a remarkable degree of religious tolerance in the Ottoman Empire.

millet an Ottoman system of national communities, based on religion

Mehmed II extends the empire

Mehmed saw himself as the heir of the Roman emperors and the equal of contemporary European monarchs. The Venetian artist Gentile Bellini was invited to the Ottoman capital to record for future generations the image of the new caesar. But though he took on the trappings of a Renaissance prince, Mehmed was involved in constant warfare throughout his reign. In Europe he captured large areas of Greece, including Athens, as well as

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Serbia and Bosnia. He also engaged the powerful state of Venice in a long naval war, and by 1479 he controlled the whole eastern coastline of the Adriatic Sea.

In Anatolia, Mehmed conquered regions that had long held out against Ottoman rule, and dominated the Black Sea southern coastline. Finally, the Crimean peninsula on the northern coast was brought under his control when the **Tatar khan** accepted the status of a vassal (inferior subject) in 1475.

Tatar khan the leader of the Tatar group in the region of Crimea

As a result of Mehmed's conquests, his empire covered an enormous area, controlling trade routes into Russia and Central Asia, as well as westwards to Europe. However, the cost of his warfare was heavy. By the time of his death in 1481, and the accession of his son Bayezid II, there was widespread opposition to the exhausting military campaigns and crippling taxation.

DEVELOPING YOUR UNDERSTANDING 14.5

1. Explain why Constantinople's name was changed. What is the name by which the city was previously known and by which it is known today?
2. Discuss who is known as 'the Conqueror' in Ottoman history and explain why the personal qualities of the sultan were so important in the growth of the Ottoman Empire.
3. Clarify what is meant by the term 'millet'.
4. Describe how the Ottoman Empire encouraged religious tolerance.

14.4 Height of Ottoman power 1481–1566

Conquests of Selim I

Selim I came to the throne after his father Bayezid II abdicated in 1512. Selim's major achievements were to lead the main Sunni branch of Islam against the Shi'ites of Persia (Iran) and enlarge the empire to twice its size. His conquest of Persia and then of Syria, Palestine and Egypt – and his power over the Holy Cities of Mecca and Medina – gave the Ottoman Empire supremacy in the Middle East. Egypt's wealth, its vast resources of land and water, and its central location made it a key province of the empire. Selim's conquests meant that the Ottomans now controlled the world's richest centres of the transit trade. Ottoman state income doubled, and the reserve treasury in the palace was overflowing, enabling his son Suleiman I to continue Selim's conquests.

Adoption of the title 'caliph'

After his defeat of Egypt, Selim I forced the last in the line of Abbasid **caliphs** in Cairo to surrender the title of caliph (spiritual leader of Islam) and its emblems: the sword and the mantle of Muhammad. Selim claimed the impressive titles 'King of the two lands' (Asia and Europe), 'Grand Khan of the two seas' (the Mediterranean and Indian seas), 'Conqueror of the two armies' (European and Persian) and 'Servant of the two Holy Shrines' (Mecca and Medina). Selim then turned his attentions westwards and set out to conquer Hungary, but he became ill and died.

caliph a civil and religious leader of the Islamic world

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Rule of Suleiman the Magnificent (1520–66)

Suleiman I, son of Selim I and a Crimean mother, was the tenth and one of the greatest sultans of the Ottoman Empire. Known in the West as 'the Magnificent', he is generally known in Turkey as Kanuni ('the Lawgiver'). His long and successful reign coincided with the full flowering of the Renaissance in Europe. He was widely acknowledged as a great leader not only within his own dominions but in Europe as well. Suleiman was a complex character. Like several other sultans, he wrote poetry and encouraged the arts and educational reform, as well as undertaking bold military campaigns.

During Suleiman's reign, the Ottoman Empire again expanded significantly. Suleiman aimed for even greater European conquests and in 1529 the Turks laid siege to Vienna but were unsuccessful. Nevertheless, Suleiman added to his realm Belgrade, Rhodes, Budapest, Temesvar (in Hungary), Tabriz, Baghdad, Nakshivan and Rivan (in the Caucasus), Aden and Algiers. His reign is considered the golden age of the Ottoman Empire.



Source 14.6 Suleiman the Magnificent

The Ottoman harem

As in many Muslim societies, women in Ottoman Turkey were usually veiled and separated from men. They did not frequent the coffee houses, for example, as men did. They lived in separate women's quarters called the **harem**. Europeans were fascinated by the exotic nature of the harem and often exaggerated the position of women. Although women were secluded within the home, they could purchase and inherit property, make contracts, appear in court and divorce an unsatisfactory husband. Ottoman women also frequented the world outside the harem, attending **hamams** (bath houses), markets and picnics, usually accompanied by female relatives or slaves.

harem women's quarters in Muslim dwellings, sometimes used to describe the female occupants

hamam a Turkish public bath house, usually segregated for men and women

polygamy having more than one wife at one time

eunuch a civil servant who has been castrated; often employed in Ottoman harems

Harems contained not only the wives of Ottoman men (a very small proportion of the nobility practised **polygamy**) but also their mothers, sisters, daughters, young sons, slaves and **eunuchs**.



Source 14.7 These shoes (nalin) were used in women's hamams to avoid contact with wet, soapy floors. Their ornate, decorated nature was a sign of status.

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concubine a female slave cohabiting with a man without marriage; in Muslim society often a secondary wife

kadin a most favoured concubine

Women and girl slaves valued for their beauty could become **concubines** of a sultan and senior officials, as a reward of battle. Their presence in a household was a sign of status. The most favoured concubines were called ***kadins***. They were treated like legal wives. A few even reached the highest levels of Ottoman society by marrying a sultan, bearing his children and wielding considerable power and influence.

The Kadinla sultanate

valide sultan the mother of the sultan

For a period from the reign of Suleiman the Magnificent to approximately 1680, a small group of women known as **valide sultans** (mothers of sultans) wielded a strong influence over Ottoman politics. This was known as the Kadinla Sultanate, as some of the women had been *kadins*. The first and best known was Hurrem Sultan, also known as Roxelana (the Russian).

Originally Aleksandra Lisowska, a slave girl from Russia, Hurrem was eventually freed and became the legal wife of Suleiman. As well as advising her husband, Hurrem engaged in many public works, building mosques, bath houses, inns and hospitals.

Hurrem's daughter Mihrimbah Sultan became very wealthy and powerful, and an advisor to her father Suleiman. Nurbanu, the wife of Selim II, and her daughter-in-law Safiye, wife of Murad III, also played key roles in Ottoman politics. They were able to do so partly because neither Selim II nor Murad III was a strong leader. At these times, the harem was an important site of political power.



Source 14.8 The beautiful and powerful Hurrem, or Roxelana (the Russian)

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DEVELOPING YOUR UNDERSTANDING 14.6

1 Recall where the women who became concubines came from.
2 Investigate how we can find out about the lives of Ottoman women.
3 Explain why the reign of Suleiman the Magnificent is considered the golden age of the Ottoman Empire.

Ottoman art and architecture

calligraphy the art of formal handwriting

Repeated geometric patterns and **calligraphy** form the main subjects of Ottoman art. As with other Islamic cultures, the Ottomans did not encourage the painting of the human figure, because many Muslims regarded this as a form of idolatory; that is, turning people into gods. An exception to this was the more private art of miniature painting for the court, and these provide us today with images of Ottoman sultans. Suleiman encouraged this form of art. A notable court painter in the early 1700s was Abdulcelil Levni. A major artistic achievement of the Ottoman Empire was architecture that employed massive yet airy domes to confine large spaces. The great mosques in Istanbul and Edirne are today among Turkey's glories. Mosques were major religious and cultural centres of Ottoman life. They consisted of a complex of a mosque, hospital, school, library, baths and sometimes soup kitchens and medreses. The elements that exemplify Islamic mosques include the characteristic dome and **minarets**, large courtyards and central prayer halls, and interior fountains for ritual washing. The interiors are adorned with bright colours, beautiful mosaics, calligraphy and tile work. The minaret provides a high point from which the call to prayer is made.

minaret a tall, thin turret connected to a mosque

Historical thought

The novel *My Name is Red*, by 2006 Nobel Prize winner Orhan Pamuk, is about Ottoman painters of miniatures.

aqueduct a structure designed to transport fresh water to cities

The mid-sixteenth century was the great age of classical Ottoman art and architecture. Under Suleiman, his wife Hurrem and his son-in-law (and grand vizier) Rustem Pasha, an extensive building program was begun. Suleiman built roads, bridges and **aqueducts**, palaces and mosques, employing the great architect Mimar Sinan to adorn his capital. Sinan (1490–1588), the son of Greek Orthodox Christian parents, was drafted into the Janissaries through the *devshirme* system and converted to Islam. He trained as a military engineer, later using those skills to construct many religious and civic buildings, including the Selimiye mosque in Edirne and the Suleymaniye mosque in Istanbul (see Source 14.9). Sinan was one of the world's great architects.

Medreses

Medreses (sometimes spelled madrasahs), colleges for both religious and general education, were usually built as part of the mosque complex. Students could progress through junior grades to advanced levels. Students studied the Qur'an, Islamic law, the sayings of the prophet Muhammad and logic. Some advanced medreses offered Arabic literature, foreign languages, science and world history. The highest ranking medreses were those established by sultans such as Suleiman.

Turkish glazed tiles

In many Ottoman buildings, large quantities of tiles from the famous potteries at Iznik, a small town on the north-west Anatolian coast, were used to decorate the walls. The Sultan Ahmed Mosque in Istanbul (the Blue Mosque) contains 20 000 tiles. These beautiful Iznik tiles in cobalt blue, turquoise, green and red, finished with a transparent glaze,

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Source 14.9 Suleymaniye Mosque in Istanbul, Mimar Sinan's most famous work

depicted mainly plant designs, endlessly repeated. Abstract designs of tulips, roses, carnations and hyacinths are typical motifs. The Rustem Pasha mosque is another sumptuously tiled building.

DEVELOPING YOUR UNDERSTANDING 14.7

1. Outline what is meant by the term 'harem'.
2. Recall what other buildings you would see in a mosque complex.
3. Discuss why Suleiman adopted the title 'caliph'.
4. Visit the Topkapi Palace Museum online at www.cambridge.edu.au/hass8weblinks. From your virtual tour, identify 10 items that help you to understand Ottoman society. Write a sentence about the importance of each one.

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Orientalism

Orientalism comes from the term 'orient', or east. From the sixteenth century, many Europeans travelled to the East, often to areas in the Ottoman Empire, and their accounts led to artists, writers and musicians imagining the East. It became very popular in wealthy European society to depict eastern scenes, to decorate houses with 'eastern' furniture or textiles and even to wear 'eastern' clothing. Many adopted an attitude we call orientalism. They viewed the east as different and exotic – and often as backwards or sensual. Inevitably, this portrayed Europe (or the West) as superior and the East as inferior. In the case of the Ottoman Empire, such travellers, artists and writers focused on aspects such as concubinage, slavery, veiled women or the harem as representing eastern society. Such views prevented a more balanced approach that could have focused on the positive aspects of eastern society, such as its art and religious tolerance, plus the possibilities it offered for talented ordinary people, even slaves, to rise to high levels in the society. Writers who lived in the centre of Ottoman society for some years, such as ambassadors and their wives, or the boy slave Giovanni Antonio Menavino, portrayed a more favourable view. Menavino was a captured Italian boy who escaped after 9 years as a page to Sultan Bayezid I and later wrote about his experiences.

Slavery in Ottoman times

Islamic law did not permit enslavement of Muslims, so most slaves came from outside the Muslim world: from Eastern Europe, Southern Russia (the Crimea and the Caucasus) or North Africa. Many were Christian. Whereas two-thirds of the enslaved Africans taken to North America were male, two-thirds of the slaves in the Ottoman Empire were female.

Slaves in the Ottoman Empire had more legal protection than in other parts of the world. For example, mothers and young children were not separated, as happened elsewhere. Many were educated and trained by their masters and eventually freed. It was a pious act for a Muslim master to free a slave and he might do so to make amends for a sin. Children born to a slave mother (a concubine, perhaps, in a wealthy family)



Source 14.10 An imaginary scene in a harem, painted by Jean-Baptiste van Mour (1671–1737)

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galley slave a slave, often a prisoner of war, who was forced to row in galley ships, sometimes chained to his oars

were often acknowledged by the Ottoman father and freed. On the other hand, those captured and put to work as **galley slaves** generally had a miserable life.

It was possible for slaves to achieve high status in Ottoman society. They were involved in all facets of Ottoman life. Slaves rarely undertook manual labour in the fields but were in domestic service as trusted personal servants and bodyguards, in the army (Janissaries, for example) or in administration. African slaves, particularly eunuchs, became harem or mosque guards, teachers and administrators. Female slaves became servants, cooks, nursemaids and entertainers within the harem. A small proportion became concubines. It was not uncommon for a master to marry a concubine and some, such as Hurrem (Roxelana), became very powerful. The children of such unions often became high officials or even sultans.



Source 14.11 Miniature by Abdulcelil Levni showing non-Muslim slave-girl musicians of the sultan's harem

DEVELOPING YOUR UNDERSTANDING 14.8

1. Recall where Ottoman slaves came from.
2. Look through this chapter and find the stories of two or three slaves (men or women) or members of the Janissary who rose to high rank in the Ottoman Empire during the fifteenth, sixteenth or seventeenth centuries. Write a blog explaining how he or she managed to move upward in Ottoman society and whether they had someone who helped them.
3. Identify when Turkey abandoned the institution of slavery. Compare this with the European abolition of slavery.

14.5 Way of life in the Ottoman Empire

Social and cultural features

The great majority of people in the Ottoman Empire were peasants. Very few could read or write. Religion was an important part of life in the towns, where the mosque, with its attached medreses and public baths, was a gathering place for all Muslims. From the mosque's minarets, the call to prayer rang out five times each day. Similarly, for Christians and Jews the church and the synagogue were powerful influences. In the countryside, most of the population engaged in

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agricultural activity and lived in villages. In the cities, men gathered in coffee houses to smoke and talk. Food preparation for Muslims and Jews was governed by religious rules. Neither ate pork, while alcohol was forbidden for Muslims. Reflecting their origin as nomads, Ottoman Turks enjoyed walking on beautiful carpets, and using them as hanging room partitions. In the homes, people generally removed their shoes.

Economic features

The economy of the Ottoman Empire was based on farmers cultivating small plots of land, growing cereal crops, fruits, vegetables and olives for their own consumption and raising animals for their milk and for their wool and hair to weave into cloth. Members of the family also sold homemade goods in their villages. The need to feed and clothe the people of Istanbul made the capital the centre of an integrated agricultural system. For example, wheat, rice, sugar and spices came from Egypt, fish and hides from north of the Black Sea, sheep and cattle from the plains of Bulgaria, Macedonia and eastern Thrace, cotton from Anatolia, and wine and olives from the Mediterranean regions including Greece. Wheat, the main cereal crop, also came from other areas such as Thrace and the fertile land at the mouth of the Danube. Women contributed to agriculture and also played a major part in the production of embroidery and carpets.

Political features

In the Ottoman political system the sultan was the absolute ruler. He appointed a council of advisers, and the grand vizier. The sultan's subjects were divided into two classes: the rulers (***askeri***), who were Muslim; and the ruled or the subjects (***reaya***), who included both Muslims and non-Muslims. *Askeri* included warriors, court officials, local governors (*beys*) and religious leaders. The most important court officials were Janissaries, based in Istanbul, who owed absolute obedience to the sultan and were neither slaves nor free. In the provinces, local governors were timar-holders of the *askeri* class, appointed by the sultan. *Askeris* were permitted to ride horses or carry and use weapons, but the *reaya* were not. In addition, strict dress regulations were imposed. *Reaya* had the important role of providing food and goods. They consisted of three main groups: townspeople (including merchants and craftsmen), peasants (families who worked in agriculture) and nomads.

askeri the Ottoman military class, which was exempted from tax

reaya lower-ranking, tax-paying people in the Ottoman empire

Although women did not have a public role in Ottoman society, at times the wives and mothers of the sultans came to wield significant power. As explained earlier, despite their origins as enslaved concubines (*kadin*), the women of the sultan's family were important politically, particularly during the reign of Suleiman I and his wife Hurrem, and in the following century.



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Role of key groups in Ottoman Society

<table>
<tr><td colspan="4">Head of state: sultan, sultan's wife, concubines and family</td></tr>
<tr><td rowspan="4">The rulers (askeri) and their households (Muslim)</td><td rowspan="2">Men of the Pen</td><td>Administrators</td><td>Janissaries</td></tr>
<tr><td>Religious establishment</td><td>Freemen</td></tr>
<tr><td rowspan="2">Men of the Sword</td><td>Military men</td><td>Freemen</td></tr>
<tr><td></td><td>Janissaries</td></tr>
<tr><td rowspan="4">The ruled (reaya) and their households (Muslim and non-Muslim)</td><td rowspan="2">Men of Negotiation</td><td rowspan="2">Tradespeople, artisans, etc</td><td>Muslim</td></tr>
<tr><td>Non-Muslim</td></tr>
<tr><td rowspan="2">Men and Women of Husbandry</td><td rowspan="2">Peasants, herders and nomads</td><td>Muslim</td></tr>
<tr><td>Non-Muslim</td></tr>
<tr><td colspan="4">Slaves and eunuchs</td></tr>
</table>

Source 14.12 The Ottoman social hierarchy

Roles and relationships

Each community had a head man of the *askeri* class who held a timar. As villages were liable to be plundered, the local military leader provided protection and summoned others to help repel attackers. He was also required to answer the call of the sultan to defend the empire. All *reaya* paid taxes to the *askeris*, who passed on to the sultan any funds remaining after covering their expenses. In addition, non-Muslims paid a separate tax directly to the sultan. Under the millet system, non-Muslims were permitted a large degree of self-government.

The sultan was the empire's religious leader, especially after the reign of Selim I. As the Sunni branch of Islam does not have clergy, local religious officials, called **imams**, were more like teachers and prayer leaders. Most people in the countryside were farmers gathered in villages. Peasants did not own their holdings, but the land was generally passed from father to son. In larger towns and cities, the majority of the population consisted of merchants and craftsmen.

imam an Islamic religious official

Villagers would come to the town to shop in the markets, where blacksmiths, shoemakers, masons, carpenters, bakers and many others sold their produce. Muslim and non-Muslim merchants and craftspeople belonged to the same class (*reaya*), had similar rights and worked together, although they lived in separate districts. Craftsmen in each speciality belonged to a **guild**.

guild an association of all the people in a particular trade or business, which sets standards for that particular industry

Turkish baths

As ordinary homes in the Ottoman Empire had no running water, one of the traditional practices of the Ottomans was public bathing, which they inherited from Turkish tribes of Central Asia. In this, the Ottomans were similar to other peoples such as those of Imperial Rome or Arabic cultures. In the Ottoman culture, however, public baths had a religious origin, being linked to requirements in the Qur'an for ritual washing. In the early Ottoman Empire, therefore, these structures were built as additions to mosques. Later separate buildings housed the hamam.

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Public baths either had separate quarters for men and women, or men and women bathed at different times. They were more than simply hot baths; they were also social centres at which food and entertainment were available.

Turkish gardens and tulips

Mosques also featured courtyard gardens, as did the private homes of wealthy families. The Ottoman sultans built gardens in their palaces and encouraged gardening. Following the capture of Constantinople, Sultan Mehmed included formal gardens in his design for Topkapi Palace.

Later in the empire, an important part of the gardeners' responsibilities was preparing for the annual tulip ceremonies. Commercial cultivation of tulips was a feature of Ottoman gardens. The name comes from the Turkish word for turban (*tulban*), which the flower resembles. Originally found in Turkey, Iran and Central Asia, the tulip became a favourite of the Ottomans and is now the floral symbol of Turkey. Its cultivation spread to Europe during the reign of Suleiman I.

Coffee houses

By the mid 1600s, the drinking of coffee was widespread throughout the Ottoman Empire. In the reign of Suleiman the Magnificent, the first coffee houses arrived in Istanbul. These became favourite places for men to gather to drink coffee, play chess and cards, and smoke (after the arrival of tobacco in the early 1600s). They also became places where literary and political opinions were exchanged. Sultan Murad IV banned coffee drinking and tobacco smoking, demolished coffee houses and executed some coffee drinkers and sellers. However, the ban was subsequently withdrawn and in later centuries coffee houses under Janissary ownership were centres of political discontent.



Source 14.13 Tulips were popular in traditional Ottoman tile designs.

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DEVELOPING YOUR UNDERSTANDING 14.9

1 Discuss what eating and drinking restrictions there were for Ottoman Muslims.
2 Recall where the name for the tulip flower comes from.
3 In 2011 Evliya Celebi was UNESCO's Man of the Year. Explore the website at www.cambridge.edu.au/hass8weblinks and write a short account of his travels.

14.6 Challenge and change 1566–1683

Crisis or decline?

For centuries historians have described the Ottoman Empire after the death of Suleiman I as being in decline. This theme can even be found among Ottoman chroniclers themselves. The causes they identified can be summarised as personal, military, economic and administrative:

- Personal command by the sultan was seen to have weakened after Suleiman, shown by the sultans' reduced military role and the increased power of grand viziers and of the women of the palace.
- Military superiority was lost at the end of the sixteenth century, when unified European armies prevailed in the use of handheld firearms and when wind-powered galleons (ships of war) proved superior to galleys (vessels using both sails and oars).
- Economic factors – such as the inflation caused by the flooding of American silver in to Europe and the cost of paying the expanded Janissary force – led to the devaluing of the Ottoman coinage, which in turn led to widespread unrest.
- The most important administrative failure was the breakdown of the timar system. Detailed surveys of regions ended. The military role of timar-holders became less important when firearms, wielded by Janissaries, began to dominate warfare and *reaya* were able to join the military. Poorer timar-holders left their lands or imposed harsh taxation on the agricultural workers. The result was an increase in rebellion and revolt throughout the Empire.

For these reasons, many historians describe the Ottoman Empire as being in decline after 1600. Other historians, however, point to its continuing strength, including military successes, cultural achievements and political reforms. Modern historians have argued that the Ottoman Empire remained significant until World War I, although it did lose some territory. While 1683 saw the end of Ottoman expansion, the continued existence of the empire for more than two and a half centuries indicated the strength and resilience of a remarkably successful political, religious, cultural and administrative structure.

Sultanate power after Suleiman

Selim II, the son of Suleiman and Hurrem, became sultan in 1566. He had a peace-loving personality and did not enjoy the business of government. As a result, during his reign, his wife Nurbanu (1525–83) was a powerful influence and his grand vizier Sokollu Mehmed Pasha (see Source 14.14) held more power than had any previous advisor to the sultans.

Born in 1506 in Bosnia, the son of a Christian Orthodox shepherd, Sokollu Mehmed was taken from his family under the *devshirme* system to be converted to Islam and educated in the Sultan's palace in Istanbul. He served as a Janissary and rose to be an admiral, provincial governor and council member. In 1562, he married a granddaughter of the sultan. Three years later, Suleiman appointed him grand vizier. He held that position during the entire reign of Selim II (1566–74) and for 5 years during the reign of Murad III. The former slave became fabulously wealthy. He paid for mosques and medreses and other public works, including a bridge in his home town. He was murdered in 1579.

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Source 14.14 Grand Vizier Sokollu Mehmed Pasha, from a book published in Innsbruck, Austria, in 1601

Naval defeat at Lepanto and the capture of Cyprus

Sokollu Mehmed was a successful warrior and administrator. On land he built up Suleiman's empire, usually favouring negotiation over warfare. However, at sea he presided over a decline in Ottoman power. For centuries, Mediterranean warships had been galleys, powered by slaves manning oars. The most efficient galleys were built at the Ottoman shipyards at Gallipoli. By the late 1500s, however, English and Dutch galleons, powered by sail, appeared in the Mediterranean, where they revolutionised naval warfare.

Soon the Venetians were building their own galleons and equipping them with rows of iron cannons. Ottoman shipyards were unable to produce superior vessels. Nor could the Ottoman admirals match the naval tactics of their rivals. At the battle of Lepanto in 1571, the Ottoman fleet was crushed. The fleet was quickly rebuilt and the Ottomans soon captured Cyprus, but that was to be their last major success in Europe.

Renewed land warfare

Sokollu Mehmed's successors pursued an aggressive war policy, rekindling hostilities with Iran (Persia). The struggle see-sawed until 1639. Warfare against Austria also dragged on in the reigns of Murad III and his successors, but no new territory was gained. For the first time, the Austrians and their allies proved superior to the

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Ottoman army in weapons and tactics. Meanwhile, the growth of the Russian Empire was a new threat.

At the same time, a series of rebellions broke out in Anatolia, which indicated that the empire was experiencing deep social and financial problems. Sultan Ahmed I's troops suppressed the uprisings in 1610, and in celebration he erected a great mosque in Istanbul, now known as the 'Blue Mosque'. His death, however, led to further revolts.

The last warrior Sultan

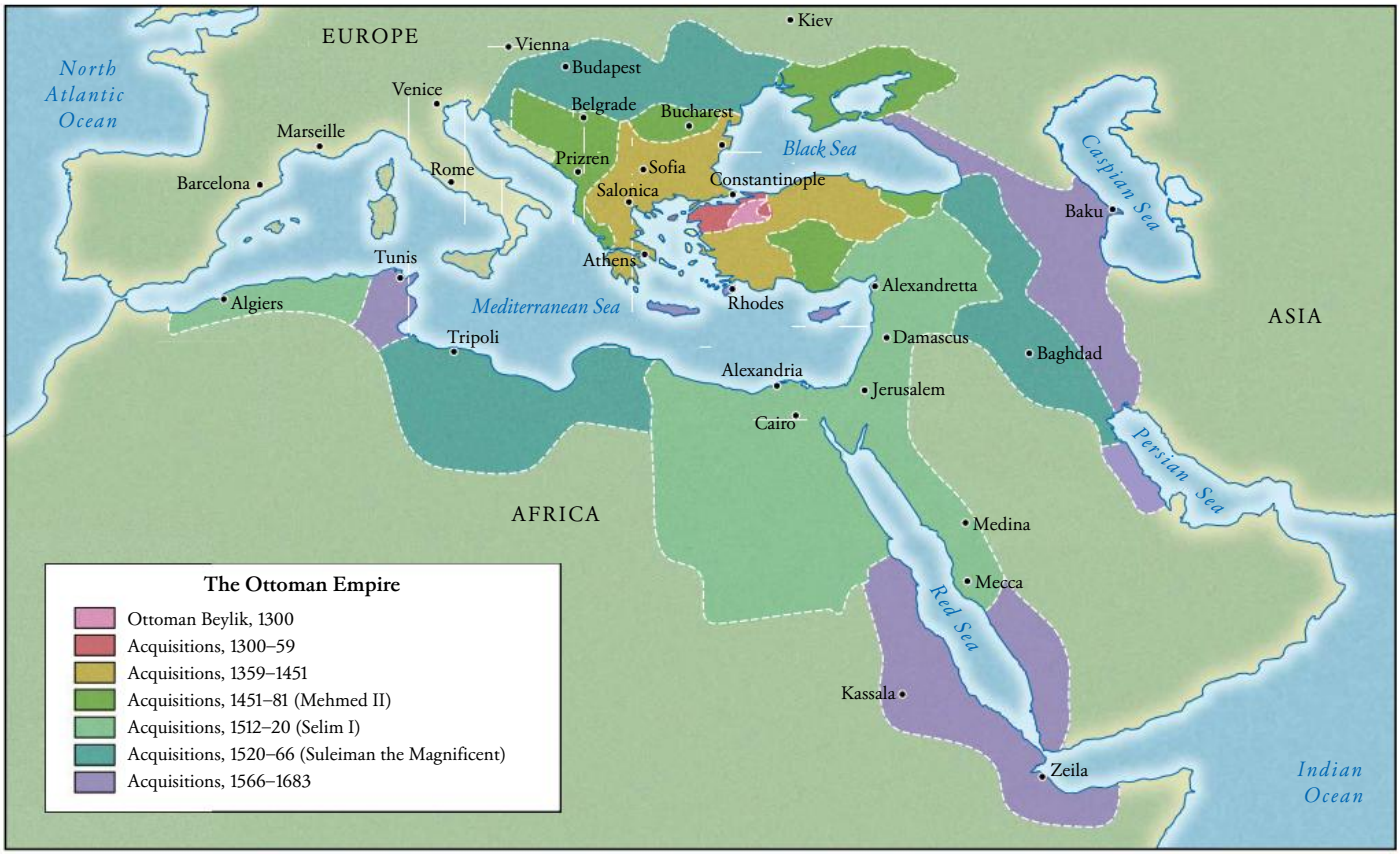
In 1623, Murad IV came to the throne at the age of only 11 years. He followed three weak rulers and found the empire in serious danger. He became, however, a vigorous and fearsome warrior: tall, strong, cruel and ruthless. Like all sultans up to and including Suleiman, but unlike later sultans, Murad personally led his troops in the field of battle. He resumed war against Iran and recaptured Baghdad in 1638 (it was to remain under Ottoman control until World War I). However, Murad died aged only 27 and without a son in 1640.

Murad's early death plunged the empire into disarray once more, partly because he had murdered three of his brothers. Once again power came to rest with the women of the court, first with Murad's mother Kosem, and then with Turhan, the mother of Sultan Mehmed IV.

The end of fratricide

In the early Ottoman Empire, the ability of an individual ruler was vital to the success of the state. For this reason the male sons of each sultan received a special education. Each was sent away from the capital for schooling and was appointed governor of a small province, where loyal officials helped him to learn the principles of leadership. This meant, however, that every prince was a potential sultan. Rivalry between brothers led to bitter warfare. A new sultan needed to rid himself of his brothers to secure his hold on the throne, a practice known as **fratricide**.

fratricide the killing of a brother



Source 14.15 The Ottoman Empire 1300–1683

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Suleiman I ended the training of sons in the provinces. From then on, princes were kept in the harem, living a life of luxury among women and eunuchs. Known as the 'golden cages' system, this did not train future sultans in leadership. Nor did it end the murder of princes. When Murad III's coffin emerged from the palace in 1595, 19 more, carrying the bodies of the new sultan's brothers, followed it. Fratricide continued until the 6-year-old Mehmed IV was enthroned in 1648, when he spared his two brothers. When he was later deposed, first one and then the other brother succeeded him. In turn, they spared Mehmed's sons, two of whom later became sultans. From then on, the oldest living male of the family was usually designated the next sultan.

Final siege of Vienna

Two wise grand viziers, who were unusual in that they were not Janissaries, reversed some Ottoman losses and conquered the island of Crete in 1669. They were Koprulu Mehmed Pasha and his son Fazil Ahmed. But their successor over-reached. In July 1683, a huge Ottoman army again laid siege to the Habsburg **imperial** capital, Vienna. Two months later, Austrian, German and Polish troops, led by King John III Sobieski of Poland, attacked the Ottomans and drove them from their camps. This humiliating defeat led to years of damaging warfare and a treaty in 1699 that saw Hungary, Croatia and Transylvania (central Romania) return to Christian control. Four hundred years of Ottoman expansion had come to an end.

imperial related to an empire or emperor

DEVELOPING YOUR UNDERSTANDING 14.10

1. Discuss the reason fratricide was so common amongst ruling families.
2. Explain how the practice of dealing with the threat of brothers as potential rivals changed in the later years of the Ottoman Empire.
3. Look up the valide sultan Nurbanu on the internet and write a short account of her life. Why was she important?
4. Research, at a library or on the internet, the area controlled by the Ottoman Empire in 1914, and write a short presentation comparing it with a map of Turkey today.
5. Turkey today is a modern state seeking to join the European Union. Although most of the population is Muslim, religious law no longer dominates the government. Who was the man responsible for changing the face of modern Turkey in the early twentieth century? Why did he turn away from religion in government?

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Reflecting and consolidating

Chapter summary

- One of the greatest civilisations of the modern world, the Ottoman Empire illuminates the strength of Muslim religion, architecture, arts and statecraft.
- The Ottomans set up a centralised political system based on talent rather than birth. They were unusually tolerant of rival religions such as Christianity and Judaism. Powerful sultans such as Selim I and Suleiman I expanded the empire and Ottoman influence deep into the heart of Europe and also in the Middle East and northern Africa.
- The Ottomans were Muslims and saw their conquests as a way to spread their religion, using techniques of control such as the *devshirme* and a unique force of infantry: the Janissaries. The family of Osman spread its influence by military conquest in the 1300s in the region of Anatolia and other parts of the weakening Byzantine Empire.
- In 1453, Sultan Mehmed II conquered Constantinople. Renamed Istanbul, it became the capital of the empire and a major influence on the politics and culture of Europe in the following centuries.
- The Ottoman Empire reached its peak in the late sixteenth century. Although it remained powerful and important until World War I, it was no longer an expanding empire or a significant threat to Christian control of Europe. Its legacy, however, remains in the rivalry between Christianity and Islam and in the fractured relations between them, especially in the Balkan peninsula.

Short-answer questions

1 Explain the role of Islam in the spread of the Ottoman Empire.

2 Why was the city of Edirne important in Ottoman history?

3 Justify why Suleiman I was called 'the Magnificent'.

4 Who were the Janissaries and what was their role in the Ottoman army and administration?

5 Outline some of the legacies of the Ottoman Empire in the world today.

Source analysis

Study Source 14.16 and answer the following questions:

1 How can you tell from this painting that Mehmet II was an Ottoman sultan?

2 Consider why he had an Italian artist paint this image.

3 Portraits of previous Australian prime ministers are today held at Parliament House in Canberra. Assess why political rulers are keen to preserve their images for posterity.



Source 14.16 Sultan Mehmed II by Gentile Bellini (1479)

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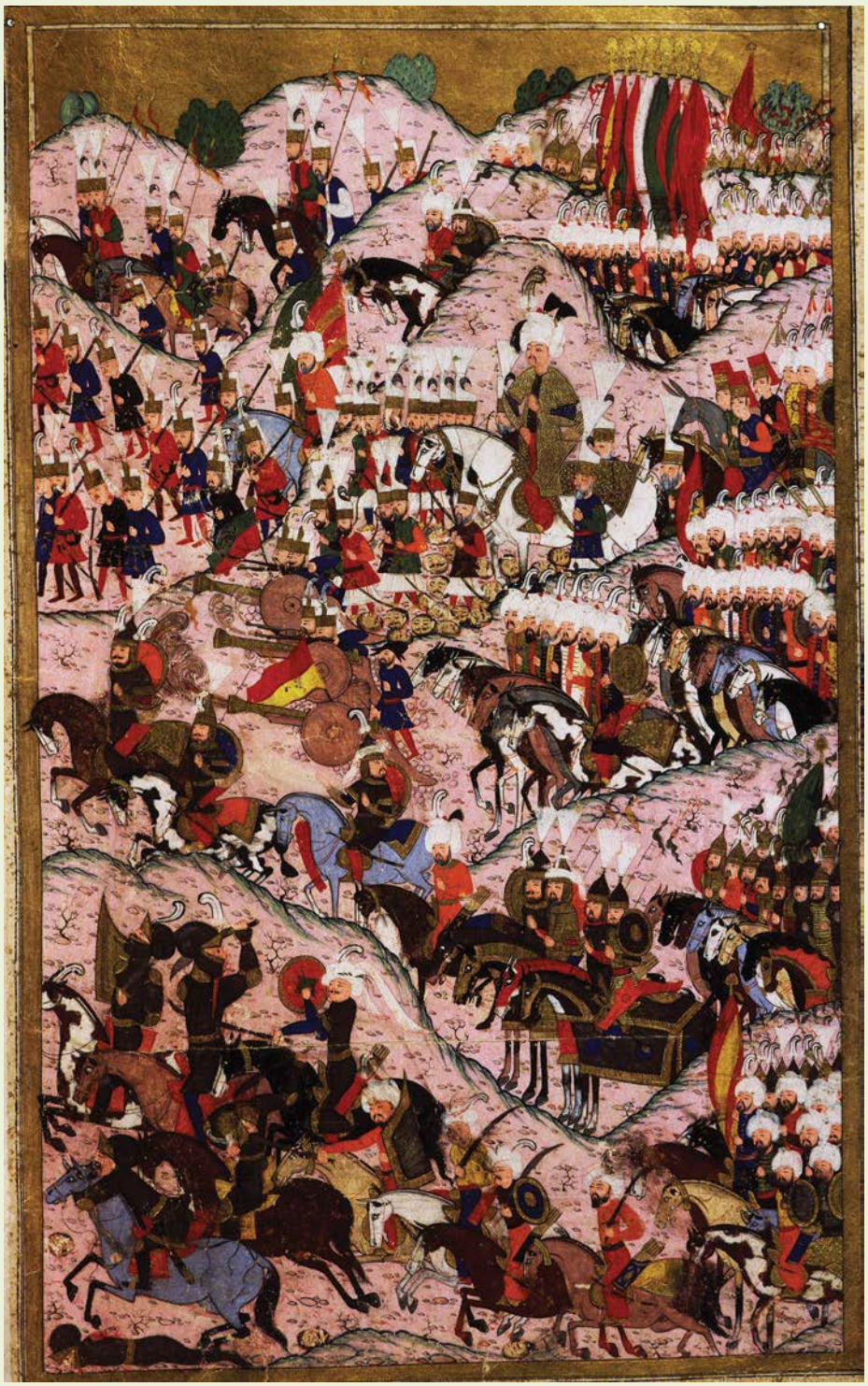


Extended-response question

What was the role of women in Ottoman society? Be sure to include specific individuals and explain their significance.

or

What were the main aspects of the Ottoman military machine?



Source 14.17 Ottoman manuscript, 1588, showing the Battle of Mohács in Hungary in 1526 in which the forces of the Ottoman Empire, led by Suleiman the Magnificent, were victorious

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15 Renaissance Italy (c. 1400 – c. 1600)

Before you start

Main focus

During the fifteenth and sixteenth centuries, the region we now call Italy experienced a brilliant period of thinking and discourse, along with great developments in architecture, art and literature.

Why it's relevant today

The Renaissance resulted in an explosion of new ideas that changed Europe and the world in ways that affect us still today.

Inquiry questions

- How do historians know about the experiences, feelings and thoughts of people who lived 500 years ago?
- What is meant by the word 'Renaissance'?
- Why did the ideas of the Renaissance develop first in Italy?
- How did the Italians of the Renaissance organise their political and social life?
- What were the roles of ceremonies, architecture, art and scholarship in the Renaissance?

Key terms

- City-state
- Diplomat
- Guild
- Humanism
- Merchant
- Patron
- Secular

Significant individuals

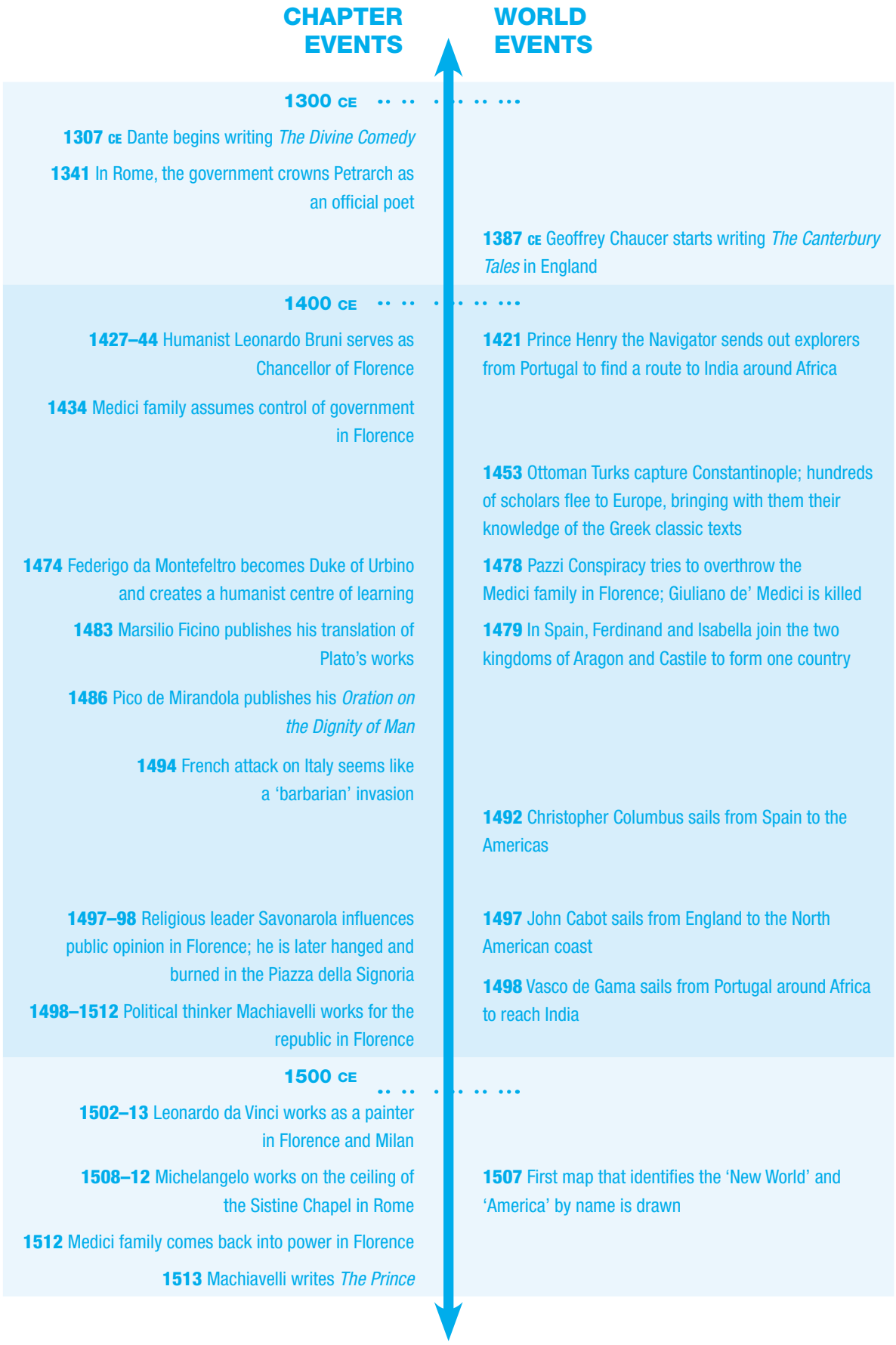
- Galileo Galilei
- Leonardo da Vinci
- Lorenzo de' Medici
- Lucrezia Borgia
- Michelangelo
- Niccolo Machiavelli

Let's begin

The Renaissance was a period of great invention and discovery, both in Italy and other European countries. The Italians of these years loved new ideas, and they appreciated beautiful works of art. They were especially excited by the ideas of the great thinkers of ancient Greece and Rome, and set out to rediscover more of their ideas.

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Timeline



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Source 15.1 Map of the great European trading route and their goods in the year 1483



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15.1 Way of life in Renaissance Italy

Italy at the crossroads of the world

If we examine a map of Italy's position, we can understand why it seemed to be at 'the crossroads of the world'. The **peninsula** itself is large, and has a long coastline with many good **ports**. Ships could cross the Mediterranean Sea and head east to the Middle East, south to northern Africa, or west towards the Atlantic Ocean and on to England and northern Europe. Because Italy was joined to the European continent, it also had good lines of trade overland, giving it access to rich European countries such as France, Spain, Germany and especially the great trading nation of the Netherlands.

peninsula a long piece of land surrounded almost entirely by sea, but joined to the mainland

port a harbour that is big enough to take large trading ships, and has the equipment to load and to unload them

Merchants, markets and trade

One of the most important aspects of central and northern Italy during this time is that its cities were very wealthy. In Europe, about 2.5% of people lived in cities; everybody else worked in the countryside, usually on farms. In Italy, 10% of people lived in cities, which were some of the richest in Europe. Further, Italian towns were some of the largest in all Europe. Six cities had populations of more than 50 000 people. Most of the main achievements of the Renaissance took place in cities that had the wealth to pay for expensive works of art.

The city of Venice was a trading superpower whose ships were protected by a powerful navy. It had a large empire in the eastern part of the Mediterranean Sea, and traded with Islamic countries far beyond.

When a city had no port, it made money in other ways. Florence grew rich first on the cloth trade, making fine wool and later silk. With this money, the Florentines became bankers, even lending money to European kings and to the popes. There were many rich people who had money to spend on beautiful clothing, fine buildings and works of art. They also had money to spend on exploration and trade.

Trade was undertaken on a scale never before seen. A city such as Florence developed a great network of trading partners, including countries in northern Europe and the Middle East. Banking skills made it much easier to trade in foreign places. However, perhaps more important than *lending* money was the skill of *moving* money. **Merchants** found it difficult to trade with other countries: they had to carry heavy bags of metal coins – and risk robbery along the way – and then argue about their exchange value in a different country. The Italians invented the idea of a simple paper document, known as a **bill of exchange**, which was guaranteed by the banks to be properly paid in the country where the goods were being bought.

merchant a business person who makes money by trading goods, especially with foreign countries

bill of exchange a document written on paper, promising the owner that they will be given a stated sum of money when they arrive in a foreign place

New political thinking of wise merchants

Trade had another important effect. In earlier years, the cities of Italy were controlled by rich, noble families known as **magnates**. They were proud and keen to fight each other, often over minor matters to do with family honour. The violence was so great that each noble house originally had one or more towers for defence when whole families went to war. When families went to war, the whole city was paralysed: shops could not open, traders could not come to markets, and goods could not be made.

magnate a member of a noble family, with a special title and coat of arms to show their importance

The new class of merchants and bankers created by trade realised that the constant fighting between proud noble families interrupted trade and caused the city to lose money. These merchants quickly took over city governments, and passed laws making this fighting illegal. They also demanded that the great towers be cut down to size. Soon only the town hall of each city was allowed to have a great tower, as a symbol of the unity of all citizens in the town.

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DEVELOPING YOUR UNDERSTANDING 15.1

1 Discuss why wealth was an important aspect of the main achievements of the Renaissance in central and northern Italy.
2 Recall why the bill of exchange was an important invention.
3 Explain why trade was important to the cities of Italy.

15.2 Significant developments and achievements

The word 'renaissance' is French, and means simply 'rebirth'. People who lived at the time of the Renaissance, such as Giorgio Vasari, actually did use the word *rinascità* (Italian for rebirth) to describe what they saw as a rebirth of learning in their own time. The important thing was that they felt that they were living at a time of a rebirth of learning.

Historians today use the term 'Renaissance' with more care. They do not believe that all thought and learning completely 'died' during the previous period known as the Middle Ages, to be 'reborn' in the Renaissance. Learning continued during the Middle Ages. Scholars in the Middle Ages were already fascinated by classical texts from ancient Greece and Rome. Historians now believe in a 'medieval imprint', meaning that many of the ideas of the Renaissance already existed during the Middle Ages.

Today, historians agree that culture and scholarship were not so much reborn as *reintensified* during the Renaissance. This was a time of many important advances in scholarship, architecture, literature, music and the arts. There are three main areas in which the Renaissance introduced great changes and improvements: ideas, art and architecture.

First, in terms of ideas, the scholars of the Renaissance carried out a massive search to find lost copies of works by ancient writers such as Plato and Aristotle. By the end of the fifteenth century, they had found and translated nearly all the classical works.

Second, in terms of architecture, the builders of the Renaissance invented a new style, as well as new construction techniques. For example, projects such as the construction of the dome of the cathedral of Florence were so big that they could not have been done in previous ages.

Third, in terms of art, the painters of the Renaissance made important changes. They changed the subjects of art by showing **secular** themes, such as the life of the streets and markets, and the operations of government. This meant that they painted scenes of everyday life, rather than just Christian and religious topics. When they did paint religious scenes, they gave them far greater human feeling and drama. These artists also improved painting techniques. Using the technique of perspective, they were able to paint scenes in which you seem to be looking into real space with depth.

secular non-religious

Cultural centres of Renaissance Italy

A patchwork of politics

During the fifteenth and sixteenth centuries, Italy was not the one united country we know today. It was broken up into a number of different governments (see Source 15.2 on page 300). The problem was that they often fought each other, causing constant warfare. It also meant, however, that every government wanted to show its power by commissioning beautiful buildings and works of art. This created much work for architects and artists, and encouraged them to compete with each other by producing ever more beautiful things.

There were three main political areas: the Kingdom of Naples in the south, the central Papal States and the northern **city-states**.

city-state a government that rules a small area made up of one city and the towns and countryside around it

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Kingdom of Naples

The south of Italy formed the Kingdom of Naples. This area had fewer towns and its economy relied more on farming than on trade. In 1442, it was conquered by the Spanish Alfonso, who named himself King Alfonso I of Naples. His achievements were limited. Politically, he always had to obey the pope's authority in Rome. Economically, he never quite succeeded in making his kingdom an his court into a centre of learning and was a great patron of **humanism**. He turned the University of Naples into a base for humanism, and employed important scholars such as Lorenzo Valla. He also encouraged Spanish scholars to meet Italian scholars, introducing new ideas into Italy. Alfonso's reign ended in 1453 when he fought in a battle on the side of the **papacy**

humanism the study of politics, philosophy and the human experience of life generally, drawing upon classical Greek and Roman texts for ideas

papacy the pope's system of government and administration of his lands



Source 15.2 Map of the three main political areas in Italy during the fifteenth and sixteenth centuries. The city-states sit at the top, the Papal States are central and the Kingdom of Naples is located in the south.

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Papal States

The centre of Italy was known as the Papal States. It was ruled by the pope, the head of the Catholic Church, and his capital was in Rome. During this time, the papacy faced a number of difficult challenges that threatened its authority.

The first was a religious problem: some popes, such as Sixtus IV and Alexander VI, had allowed the church to do things that were not proper, such as selling forgiveness for crimes simply to raise money. This was wrong, and people began to criticise the church and to demand reforms. In time, these criticisms would develop into a movement called the Protestant Reformation, which was a serious challenge to the authority of the church. The second problem was political: although the popes owned the Papal States, they did not necessarily control them. They had to learn to be political leaders and to rule their lands. In some cases, they went much too far and ruled with great cruelty.

Later in the Renaissance, Rome became an important centre of art and learning. The church had earlier been weakened by divisions and conflicts, but by the fifteenth century it had largely recovered. During that time, the pope continued to be the religious leader of the church, but also became an important political leader. At the same time, it was governed by a number of popes who liked the humanist point of view. Pope Nicholas V believed that Rome could again enjoy some of the importance it had had in ancient times if it became a centre of the new learning.

Pope Sixtus IV and the Papal Court in Rome

Pope Nicholas V was followed by the humanist Pius II (who ruled 1458–64) and by Sixtus IV (1471–84), who continued the tradition of encouraging learning. In 1477, Sixtus founded the great Vatican Library. He also appointed the



Source 15.3 *Sixtus IV Appoints Bartolomeo Platina Prefect of the Vatican Library* by Melozzo da Forlì (c. 1477).

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humanist Bartolomeo Sacchi, known as Platina, to be his librarian (see Source 15.3). Later, Julius II (ruled 1503–13) proved to be an excellent political leader and military commander strong enough to increase his territory to include Bologna and Perugia. He encouraged great artists such as Michelangelo and Raphael, and commissioned the painting of the Sistine Chapel.

City-states

The northern part of Italy was made up of many states: some very large, some small. These northern towns all had their own style of government, but they all enjoyed freedom and independence. The four most powerful states were Florence, Milan, Venice and Genoa. These were called city-states. This meant that a powerful city, such as Florence, was the centre of government, and that it owned a certain amount of land around it, called the ***contado***. Florence was considered a big city with 100 000 people; Padua was a smaller town with 15 000 people. Venice and Florence were famous centres of cultural activity, but many other city-states, such as Bologna, Mantua, Ferrara, Pisa and Urbino, were also important centres of Renaissance learning and art.

contado the land around an Italian city, which is controlled by that city's government

DEVELOPING YOUR UNDERSTANDING 15.2

1 Discuss some of the challenges faced by the papacy.
2 Identify the three main political areas of Italy during the fifteenth and sixteenth centuries.
3 Recall who commissioned the painting of the Sistine Chapel.

Trade guilds in society

The most important aspect of working life in a Renaissance city was that virtually every businessman, merchant, banker, lawyer and skilled worker in the city was organised in a special institution known as a **guild.** This was a trade association, responsible for maintaining high standards in each area.

guild an association of all the people in a particular trade or business, which sets standards for that particular industry

By the fifteenth century, Florence had 21 craft guilds. They were important and powerful organisations. Arranged by occupations, each guild had its own official constitution. They were the single most important organisation shaping the lives of working people in the city. They controlled who enrolled in the guild. Without enrolment, you could not practise your trade in Florence.

Gradually, the smaller trades insisted on having guilds. The lesser guilds included butchers, shoemakers, smiths, blacksmiths, carpenters, flaxmakers, winemakers, innkeepers, oil makers, cheesemakers, swordmakers, harness makers, bakers and the tanners of skins. Below them was a **proletariat** or working class of unskilled people, such as servants, labourers and travelling salesmen, who were forbidden by law from setting up their own organisations.

proletariat ordinary working people with no special skills



Source 15.4 The crest of the Guild of Stone Masons and Carpenters by Luca della Robbia

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Historical thought

At home, Renaissance people used some strange remedies for illness. They believed that they could cure a cold by putting sliced turnip in their nostrils. They also tried to cure baldness by rubbing pigeon droppings into the skin of their head.

Role of women in society

Historians often refer to women as 'the other half of history' to remind us that they are present in all societies and that they play a variety of important roles in society. The problem is that their lives, experiences and activities are not always well recorded, and so there is a danger that they will be forgotten by the writers of history books.

Lucrezia Borgia (1480–1519), a woman of the ruling classes

The lives of upper-class women had the benefit of wealth and the freedom it brings. On the other hand, life among the great rulers of Renaissance Italy could also be very dangerous. Lucrezia Borgia was used by her father, Rodrigo Borgia (later known as Pope Alexander VI) as a pawn in his political plans.

He married her at age 11 to a Spanish noble, then to a member of the Sforza family twice her age. Her next husband was a young man she genuinely loved, but he was murdered by her own family. Her life changed when her father married her to Alfonso d'Este, who ended up as ruler of the city of Ferrara. By January 1502 she had moved to her new home in Ferrara. At first her new family was hostile to her because she was the illegitimate daughter of a Spanish priest; her husband, Alfonso, was rough in his manner and considered by some to be mad. Her worst enemy, initially, was her sister-in-law Isabella of Mantua, who looked down upon her with obvious dislike.



Source 15.5 *Portrait of Lucrezia Borgia* by Dosso Dossi (c. 1486-1542). The National Gallery of Victoria (NGV) has owned this portrait since 1965, but until recently the artist and the sitter remained a mystery. In 2008 the NGV announced that, after several years of research, the subject of the portrait was in fact of one of the most famous women of the Renaissance: Lucrezia Borgia.

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She lived miserably in the castle, arguing with her father-in-law about servants, falling pregnant then becoming ill with malaria and, finally, suffering a dangerous miscarriage. In 1505, her father-in-law died, and Alfonso became ruler. Almost immediately, the family saw a number of attacks and murders among its jealous members. It was a dangerous political world. However, Lucrezia now found her place. Her husband remained a rough man, more interested in warfare than in social graces, but by the 1500s, all princes were expected to have stylish social gatherings and to show a refined interest in fashion, food, scholarship and the arts. Lucrezia stepped in, and set the tone of sophistication that her husband lacked. She began to order repairs to the neglected palaces of the d'Este family and developed friendships with important writers such as Baldassare Castiglione and poets such as Ariosto.

In 1508, when Alfonso left to fight with the League of Cambrai against Venice, Lucrezia stepped in as regent to rule Ferrara in his absence. At the age of only 30, she proved that a woman could be an excellent ruler in times of warfare and trouble. Everybody admired the woman now known as 'the good duchess of Ferrara'.

RESEARCH 15.1

Use a combination of books (such as Leon's *Uppity Women of Medieval Times*) and the internet to research the life of one of the women listed below:

- Lavinia Fontana – one of the first female professional painters working on large projects in Bologna and Rome
- Sofonisba Anguissola – one of a family of six girls in Cremona who studied the classics and became painters
- Artemisia Gentilleschi – a professional painter who succeeded in a profession dominated by men
- Caterina Sforza – a fiery woman from Forli who fought battles and loved mixing both perfumes and poisons
- Isabella d'Este – a woman renowned for her fine taste in fashion and in art, and also for her political skills while ruling the city of Mantua
- Deborah Ascarelli – the wife of a Jewish merchant who wrote poems in both Hebrew and Italian
- Vittoria Colonna – a friend of Michelangelo, expert on Plato and a poet in her own right.

You might like to start by asking yourself some basic questions:

1. What was the family background of your remarkable woman?
2. Which professional field did she wish to enter?
3. What were some of the problems she would have experienced as a woman entering a male domain?
4. How did she deal with these problems?
5. How important do you think her contribution to the Renaissance was?

Humanists: a passion for learning

Research via the internet and find Sandro Botticelli's painting of the church father Saint Augustine (1480). You will notice that the artist has shown the saint's room as full of books and scientific instruments. Renaissance people loved rooms that were bursting with knowledge. They loved knowledge and ideas. Botticelli has depicted the saint as a modern Renaissance scholar.

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The first humanists

The first scholars to save classical works were writers such as Dante, Giovanni Boccaccio and Franceso Petrarch. Petrarch wrote some of the most passionate and beautiful love poems in literature, but he was also fascinated by the ideas of the ancient thinkers. He understood that, if you only read a classical text from the point of view of later Christianity, you are reading history backwards, and not understanding the original text at all. He taught his contemporaries that you had to try to understand classical works in their own terms. You had to understand what they meant to the people who wrote them. He lovingly searched for manuscripts, and established good reliable texts.

These Italian scholars were, strangely, helped by a catastrophic world event: in 1453, the Byzantine city of Constantinople (modern-day Istanbul, in Turkey) was captured by the invading Turks. Hundreds of brilliant scholars fled the country, bringing with them Greek manuscripts, and many of them ended up in Italy.

Role of humanists

The greatest achievement of the humanists was to understand that they needed to have accurate copies of the writings of the ancient Greeks and Romans. The problem was this: the great Roman authors had written their works in so-called manuscripts – texts written by hand – but few of these original versions had survived to the fifteenth century. The only books that had survived were copies, which had been written out by monks working in monasteries. Because they were copied and recopied, mistakes had crept in. In addition, the Christian monks added explanatory notes to the text, and when the books were recopied these were mistakenly included. So Roman texts were available, but they were not accurate.

The humanist Niccolo Niccoli wrote: 'Until the ancient sources flow clear again, all efforts must be directed with single mindedness to the task of recovering the classical languages and the genuine readings of the ancient works.'

A great treasure hunt: the rescue mission to find lost books

A whole generation of scholars set out on the roads of Europe, walking from monastery to monastery, searching through the darkest corners of libraries, even looking in rubbish pits, in the hope of finding a forgotten manuscript. Their search was soon rewarded: they found many books that had lain forgotten and unused. For example, the poet Petrarch, who lived in the fourteenth century, actually located forgotten copies of works by the Roman writer Cicero and the Roman historian Livy. When he found a copy of Livy's History of Rome, people felt that a new world was opening up.

Another humanist, Poggio Bracciolini, became obsessed with the search. As he worked for the pope's administration, he travelled across Europe on official business. He searched every monastery library in Switzerland, France, Germany and finally England. An absolute book maniac, he burrowed into filthy rubbish pits to dig out books that had been carelessly thrown there, and again found forgotten manuscripts.

A passion for the past

The key to humanism is the passion for the past. To Renaissance people the past was as vivid, exciting and important as the present. They especially loved ancient Greece and Rome. A humanist is a scholar who wants to revive the study of ancient ideas. The name comes from *studia humanitatis*, the study of literature, history and rhetoric (the art of fine formal speaking). These subjects are still called 'the humanities' in universities around the world.



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Some of the ideas of the authors of classical Greece and Rome were already known before the Renaissance, but the Catholic Church disliked these ancient ideas because they contained no Christian beliefs. A church father such as St Thomas Aquinas, who lived in the thirteenth century, wrote a study of Aristotle's work, and agreed with some of his ideas, but was really only interested in those ideas that confirmed Christianity. The classical works were always secondary to Christian thought.

During the Renaissance, there was a major change: people became interested in the classical works for themselves. They believed that you could find answers to the issues of the present in books of the past.

Importance of the patron

This new passion for scholarship among the rich and powerful was enormously important. The copying or translation of old texts, and the writing of new ones, took a vast amount of time. Scholars had to eat, but had no time to earn a living. In general, they could not make a fortune from their writing. The only way they could survive and work was if a rich ruler provided them with support and money. The patron sometimes paid for the work, but sometimes even allowed the scholar to live and work in their house, effectively providing him or her with a living. In return, the scholar 'dedicated' the work to the **patron**.

patron a person who supports an activity, usually by giving money

Famous patrons

The Medici family

The most famous patrons of Renaissance learning were the Medici family. They even took scholars into their home and fed them. Cosimo de' Medici, for example, supported the humanist thinker and scholar Leonardo Bruni. In 1439, he announced that he wanted to create a sort of school called the Neo-Platonist Academy. The leading thinker was a man called Marsilio Ficino. They based their work on the ideas of the ancient Greek philosopher, Plato. They were not just copying his work mindlessly: they wanted to adapt his ideas to the world in which they lived. When they called their philosophy neoplatonism, they meant that it was a new form of Platonism for the fifteenth-century world.

Similarly, Lorenzo de' Medici used his massive wealth to support a group of the most brilliant minds of his time. He encouraged scholars such as Pico della Mirandola and Poliziano, as well as important artists such as Botticelli and Verrocchio.

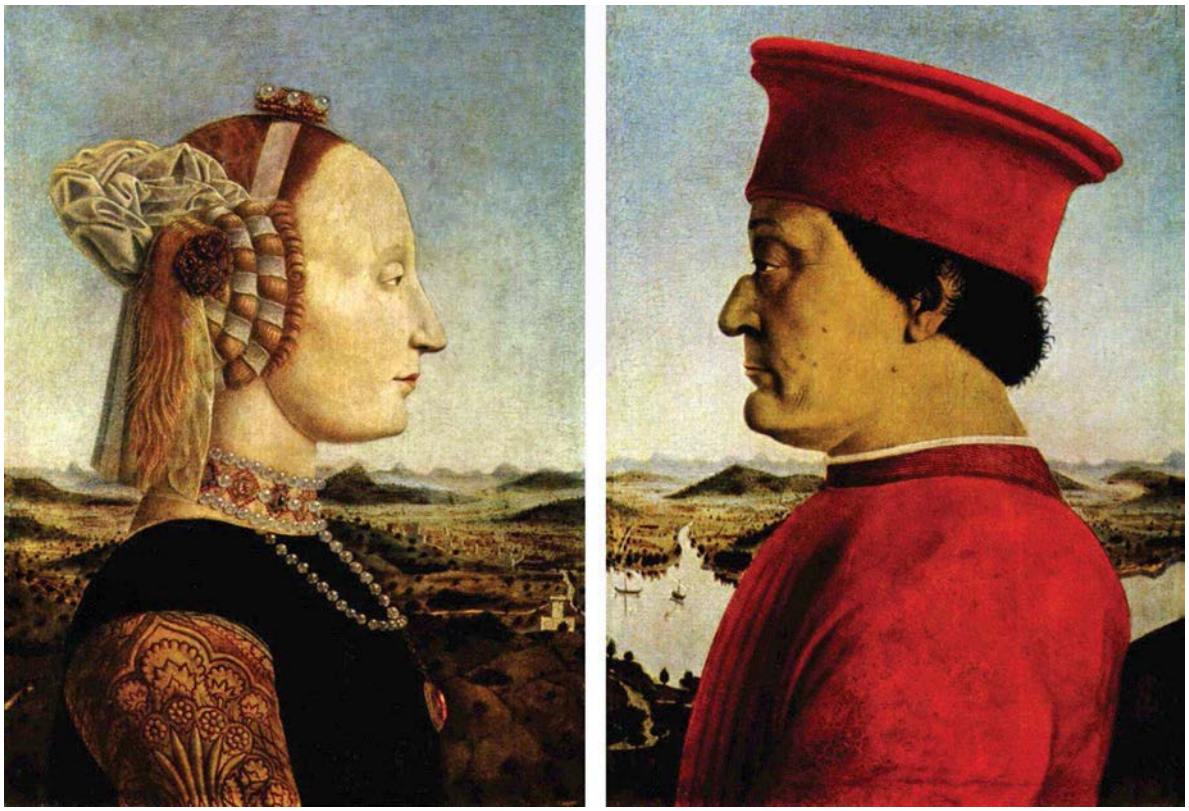
Federigo da Montefeltro, Battista Sforza and the Duchy of Urbino

Federigo da Montefeltro is the best example of how much can be done by one wealthy patron who wants to help learning and the arts. Born in 1422, he ruled Urbino from 1444 to 1482. He was educated in Mantua by the great teacher Vittorino da Feltre, who taught him to live simply, to learn self-discipline and to appreciate learning and the arts. He became a professional soldier, or *condottiere*, and helped the cities of Naples, Milan and Florence defeat the armies of the pope in 1469. He was a clever and cool commander: he kept his troops under tight control early in a battle, and only made a bold attack when he knew his enemy was weakened. He was also trustworthy: he stayed loyal to the cities that employed him, and never tried the trick that many *condottieri* played of refusing to fight until they received higher wages.

Equally important to Federigo was his second wife, Battista Sforza, who was 14 years old when she married him in 1460. During the twelve-and-a-half years of their marriage, she became the guiding spirit of the intellectual and artistic life of Urbino. She encouraged great artists, such as Piero della Francesca, and architects, such as Luciano Laurana. She and her husband both worked closely with the architect when, in 1465, they began building their beautiful new palace, in which all the shapes were to be planned in perfect balance and proportion. Sadly, Battista died in 1472, only 26 years old, a few months after giving birth to their son, Guidubaldo.

Federigo is remembered today not for his fighting skills but for the use he made of the money he earned in war. He wanted to make his court at Urbino a great centre of learning. He attracted painters such as Piero della Francesca and Melozzo da Forli, as well as writers such as Baldassare Castiglione. He also encouraged scholars such as Ficino, Landino and Poggio.

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Source 15.6 This double portrait by Piero della Francesca shows Federigo da Montefeltro and Battista Sforza (c. 1472). They are shown in profile, or side on, as the Roman emperors had been shown on ancient coins.

The humanists' passion for Rome

The humanists loved ancient Rome, especially the period of the Roman Republic, which lasted from 510 BCE to 23 BCE, just before the birth of Christ. For them, the republic represented the idea that you could give up your own private interests for the general good of the whole society. These ideas did not exist only in the comfortable studies of scholars: some of these scholars actually held power and, more surprisingly, they introduced these ideas into the political world of the Renaissance. In Florence, for example, two humanists, Coluccio Salutati and then Leonardo Bruni, held positions as Chancellor of Florence, and they proudly pointed out that Florence was a republic. When Florence was threatened by the army of Giangaleazzo Visconti of Milan, they spoke proudly of the way in which Florence represented a certain type of liberty, as opposed to a tyrant like Giangaleazzo. This is called **civic humanism**.

civic humanism the belief that a man of learning should hold public office and use his skill in the service of the city

New education for a new world

The humanists felt that they should turn their attention to one important activity of the mind: teaching. To that point, most schools had been run by the Catholic Church, and had taught subjects such as Christian religion and Latin. They now opened a new type of 'humanist' school. Not surprisingly, the humanists looked for advice, and found it in the ancient world: Guarino Guarini, for example, found a book by the ancient Greek writer Plutarch, called *On Educating Children*, and translated it into Latin.

Niccolo Machiavelli (1469–1527)

Niccolo Machiavelli was not only one of the most brilliant thinkers of the Renaissance, but also one of the most misunderstood. His name has lent itself to the English word 'Machiavellian', which means a ruthless determination to gain power at any cost, without any ideals or sense of human decency. In fact, Machiavelli never recommended such an approach in politics; he simply described the realities of political life in the Italy of his time.

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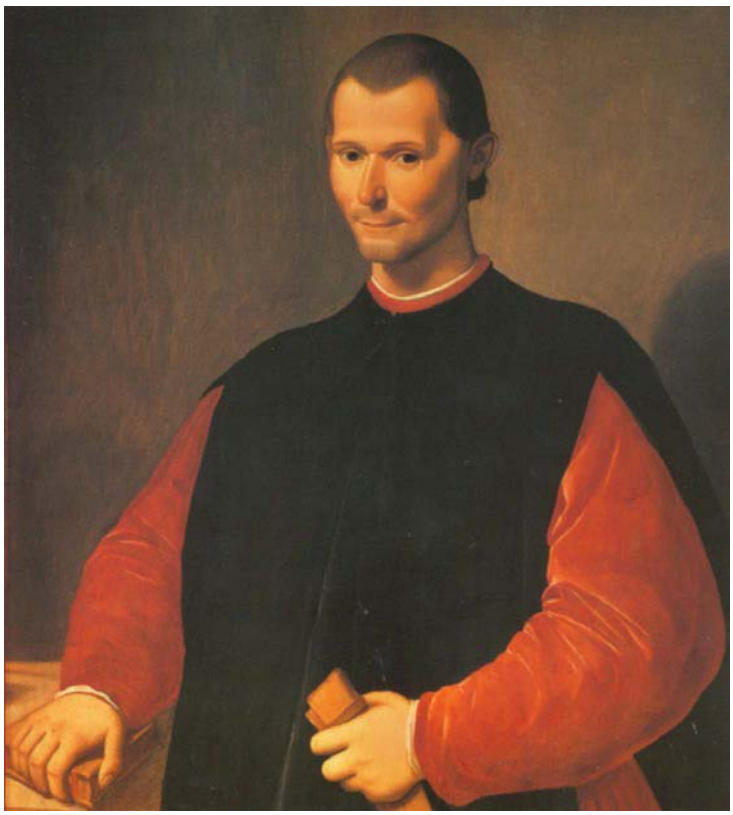
diplomat an official who represents the interests of their government in dealings with foreign governments

Machiavelli began his career in 1498, when he entered the civil service of Florence as Second Chancellor. He soon proved to be a good **diplomat**, and represented Florence in missions to Pope Julius II and to the Holy Roman Emperor Maximilian I. He was a sharp observer and a clever analyst. He was able to look below the ceremony and show of state visits, and see the realities of power within a city-state or foreign country. His reports demonstrated his sharp observation and his ability to use details to support his general descriptions of foreign states. His career lasted just 14 years.

Machiavelli was lucky to work for the government in the period following the execution of Savonarola in 1498 and the return of the Medici in 1512. During these years, Florence enjoyed a genuine republican government that was not dominated by one powerful family. Machiavelli genuinely respected the republic and democratic government. This worked against him when the Medici family came back into power in 1512. They feared that he would oppose their rule, so they had him arrested, questioned, tortured and dismissed from his job.

For a man who lived and breathed politics, this was a personal disaster. He retired to live on his farm at San Casciano, outside Florence. Frustrated, angry and bitter, he began writing a work to describe the realities of political life as he knew it. In *The Prince* (1513) he explained how powerful princes such as Cesare Borgia used their power. He simply wanted to show the real facts of political life, but many people thought he was suggesting that this was how a ruler *should* behave. People who had not even read his book concluded that he was saying there was no room for morals or ideals in politics; some even said that he was inspired by the Devil to write such evil things.

In reality, his extraordinary intelligence created a totally new vision of politics. He began by analysing the state of Italy, and pointing out that he had seen the French invasion of Italy in 1494. He then argued that a ruler such as a prince has to act to defend the interests of his state and his people. In such situations, it is not always possible for a prince to show good Christian qualities such as tolerance or forgiveness. If, for example, a dictator sends an army to slaughter his people, the prince cannot forgive him and must fight against the invader.



Source 15.7 This portrait of Machiavelli by Santo di Tito shows the political thinker as an intelligent and educated man, far from the 'devil' imagined by later generations.

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DEVELOPING YOUR UNDERSTANDING 15.3

Your name is Giovanni Alberti. You have been a strong supporter of the new style of architecture and art in Florence. You have also been interested in the ideas of humanism. The government of Florence has commissioned you to write a traveller's guide to the city's main buildings and works of art. Your guide must be addressed to travellers coming from other cities in Italy, and to rich merchants coming here from the rest of Europe. Your guide must be 'procedural', in the sense that it explains to visitors where the main buildings are. It should also give visitors an idea of each building's purpose and of the meaning of the art works found inside it. Choose between six and 10 buildings, and consider the following when writing:

1 In which part of Florence is each building located? How do you get to it? What other buildings are nearby?
2 Identify some of the main art works in this building. Who created them?
3 Reflect on what this building tells you about people's lives and values in the Renaissance.

Give your guide a name such as *The Lonely Globe Guide to Florence* or *Florence on Five Ducats a Day*.

Art in Renaissance Italy

The greatest achievement of Italian art during the Renaissance was to make human figures look real, as if moving about in an actual space. We know that a painting is actually a completely flat or two-dimensional surface, but the painter has to try to make the scene look as if it is deep; that is, as if we were looking into a space like a room or a stage. The figures she or he paints are also flat on the canvas, and yet the painter has to make them look as if they are fully rounded. This is called the illusion of three dimensions.

Leonardo da Vinci (1452–1519)

Leonardo da Vinci was famous, in his own time, as a man whose intelligent mind led him to investigate many different subjects and to make some astounding inventions. He began his career as a painter by being trained in the studio of Andrea del Verrocchio in Florence. He wrote a Treatise on Painting in which he emphasised the importance of observing the real world.

It was his desire to paint reality properly that led him to observe and sketch the world with great care. In particular, his desire to paint the human body accurately led him first to sketch live models, then to conduct dissections of dead bodies. Simply by looking and observing, he discovered that the heart was made up of four chambers, not the two that people had assumed to be there. He was the first to count the number of bones in the spine, and to guess that the nerves transmitted messages to the brain. He developed a new method to calculate the space inside the skull or the heart: he poured hot wax into these cavities, and then pulled it out when it was hard and measured it. Leonardo studied the male body, the female body and the ultimate mystery of the unborn child.

His inventions were extraordinary, even though some only existed as ideas and could not be made into reality. First, he understood that warfare was big business in the Renaissance. The city-states often went to war with each other and, when they did, they had to pay professional soldiers, called *condottieri*, to fight for them. Leonardo hoped to gain employment by designing machines that would allow rulers to win battles.

The main limitations to his inventions were, in fact, to do with power: people could certainly build the bodies of carriages and assault vehicles, but they did not have a form of energy strong enough to drive them; they would have to wait until the invention of the steam engine in the eighteenth century.

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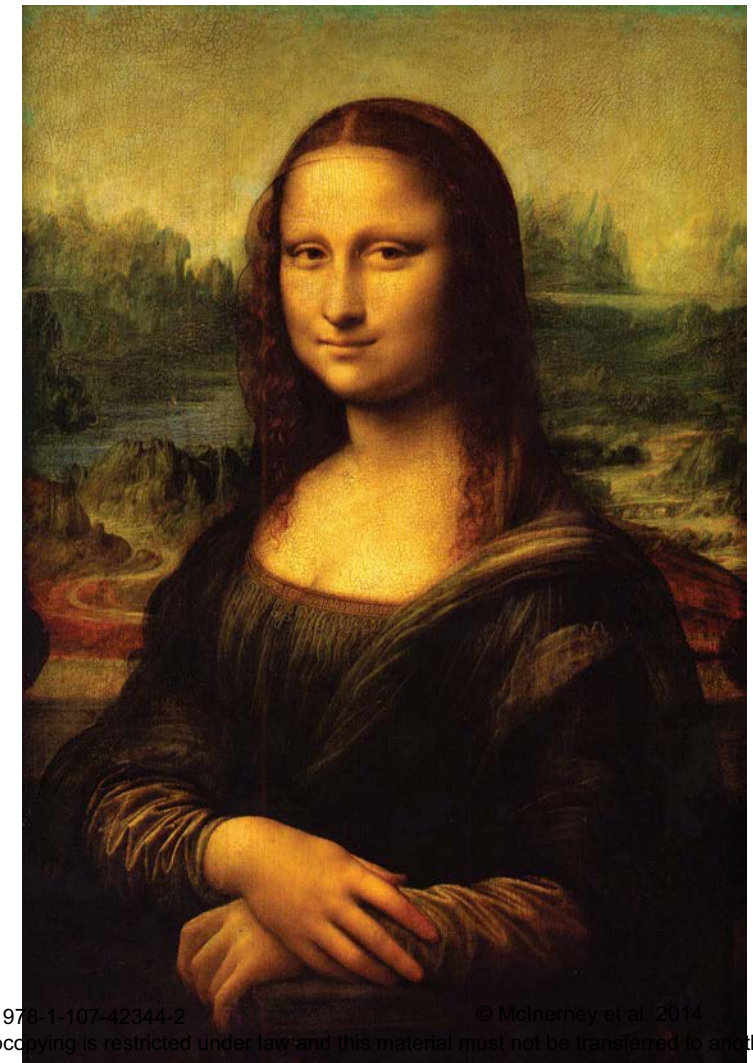
DEVELOPING YOUR UNDERSTANDING 15.4

Historians often refer to Leonardo da Vinci as the 'Renaissance man' because he seemed to be able to turn his mind to almost any form of art or invention. Write a brief report about his four main areas of activity – art, medical science, warfare and industry – and evaluate what effects they had on his own times and on our own. To compile this report, make sure that you use both book resources from your library and ICT resources. You will find much useful information on www.cambridge.edu.au/hass8weblinks.

Consider the following questions:

1. What was the family background of this Renaissance man?
2. What sort of training would he have received in the workshop of the painter Verrocchio?
3. What important discoveries did Leonardo make in terms of the human body and medical science?

Leonardo's most famous work is his *Portrait of the Mona Lisa* (see Source 15.8). The work is smaller than it was originally; the sitter was originally shown framed by a window. Historians do not know why Leonardo never delivered this painting to the patron, but he took it with him when, late in his life, he went to live in France at the court of King François I. It was later taken into the collection of the Louvre Museum, where it has become one of the most visited and famous paintings of the world.



Source 15.8 Leonardo da Vinci's *Portrait of the Mona Lisa* is perhaps the most famous Renaissance painting in the world. It can be seen in the Louvre Museum, Paris.

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Historical thought

Historians have always wondered about the meaning of the Mona Lisa's mysterious half-smile. One possible theory is suggested by the painting itself. This wife of a rich merchant wears a surprisingly simple dress and no jewellery. Most Renaissance women would have dressed beautifully for their portrait. The only exception might be during pregnancy, when it was not considered right to dress expensively. It is possible that the Mona Lisa's smile is that of a contented expecting mother. Historians also point to the fact that she wears no rings, and that her fingers seem to be slightly swollen, which is common in pregnancy.

Technology and science

Galileo Galilei (1564–1642)

Galileo was born in Pisa in 1564, the son of a cloth merchant. As a boy, he showed real talent in making mechanical toys and in music. When he started school, he showed an independent mind by questioning what his teachers told him. At the University of Pisa, he questioned not only his lecturers but the texts he was meant to learn by heart. He preferred to learn by doing actual experiments and by observing the real world carefully. He was quickly promoted, as a young man, to professor of mathematics. His experiments were simple but effective. For example, the lecturers believed Aristotle's statement that heavy objects fall faster than light ones. In 1591, he simply took his colleagues to the top of the Leaning Tower of Pisa and proved this wrong by dropping one heavy and one light object, demonstrating that they still hit the ground at the same time.

He moved on to the University of Padua in 1592, which accepted students from all countries and all religions, including Catholics, Protestants and Jews. In 1609, he heard of an invention from a Dutch inventor that we now call the telescope. He made his own, with a magnification of ten times, and hurried to Venice to show it to the government of the city. Because the telescope could be used by both navy ships and trading ships, they saw its value and immediately gave Galileo a well-paid job.

In 1613, Galileo wrote a book about sunspots that included a statement that the Earth revolved around the sun. He had been influenced by Nicolas Copernicus' 1534 theory that this was the case. This contradicted church teaching which said the Earth was the centre of the universe. In 1615, Galileo respectfully asked the church permission to study the question, but was warned not to make such statements. He had to do his research in private, until the election of pope Urban VIII in 1624. This pope was more open to new ideas, and it was agreed in writing that Galileo would write a book about different explanations of the universe. Galileo explained to him that he intended no attack on religion.

When he finally published his findings in the *Dialogue on the Great World Systems* in 1632, he was careful not to suggest that Copernicus's theory was right. He simply set up a dialogue, or discussion, between the old-fashioned view and Copernicus's new theory. He thought that an intelligent reader could work out which one was right. Even so, the Holy Office, also known as the Inquisition, called him before them in 1633 and threatened him with torture. By now, he was a 68-year-old man in poor health, and he would not survive being tortured. He publicly admitted that he had been wrong.

He retired as a prisoner to a house in the countryside near Florence, where police spies kept watch on his activities. He was not discouraged, however, and wrote one more book on the physics of the Earth, which he sent secretly to

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Holland, where it was published. Only old age and blindness finally stopped his extraordinary work. He died in 1642.

The Catholic Church did not officially accept Galileo's teachings until 1992, when Pope John Paul II acknowledged that the scientist had been right, but offered no apology for his treatment.

DEVELOPING YOUR UNDERSTANDING 15.5

Historians see Galileo as the father of modern physics and the founder of the exploration of space that continues in our own time. Write a report describing his main discoveries, and explain why he faced such fierce criticism from the authorities of his time. To compile your report on Galileo, use both book resources from your library and ICT resources. You will find much useful information on the site of the Institute and Museum of the History of Science, Florence and the Galileo Project at Rice University, available at www.cambridge.edu.au/hass8weblinks.

In your report, consider the following:

1. What special skills did Galileo display as a young boy?
2. Why was Galileo's initiative in taking the telescope to Venice a good idea?
3. Why was the Catholic Church so hostile to new ideas in the sixteenth and seventeenth centuries?

15.3 Spread of Renaissance culture

When a great civilisation develops in a country such as Italy, it not only changes the lives of the people who live there, but it can also create enormous changes in other countries. Civilisations usually come into contact with each other through trade or warfare. In the case of one important European country, France, warfare gave the French their first glimpse of the society and culture of Italy. It also created a total change in the way their king ruled the country.

Culture as a form of power

During the late fifteenth century, King Charles VIII fought wars in Italy to try to claim territory there. He apparently saw Italian Renaissance life and culture, but was not affected by it. It was King Louis XII, who upon seeing Italy – again as an invader – was first struck by the beauty and sophistication of Italian culture. More importantly, he understood its political significance. This was important to Louis, because he was the ruler who began the process of creating a centralised nation-state in France; that is, one nation ruled by one government from a capital city such as Paris.

Louis XII was the first to use culture – fine architecture, sculptures, paintings, music, sophisticated dress and manners – as a way of creating this new form of government, but his work was taken up and completed by François I. His main achievement was to transform the government of France from its medieval form into a modern government of the sort we know today.

François I understands the political use of culture in Italy

The French first invaded Italy in Milan in 1499. In 1515, François personally led a conquering army. Like Louis XII, he saw something new – a new form of princely power, based not on weapons but on the command of culture and of knowledge. He saw how the splendour of Rome showed the power of the great Renaissance popes, and how the splendours of Florence showed the prestige of the Medici rulers of Florence. He saw the beautiful

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Source 15.9 The royal palace at Fontainebleau, which shows François I's desire to have a beautiful residence like the elegant villas he had seen in Italy

mansions and villas of Italy, and tried to build something similar in his Palace of Fontainebleau in France (see Source 15.9).

François carefully copied the Italian rulers. Like an Italian prince, he surrounded himself with scholars, particularly those trained in the Italian humanist learning. François did not actually have a good command of Greek or Latin, but wanted to show interest in scholarship.

François I develops the idea of the royal court

The civilisation of Italy also gave François I another way of showing his authority. Until now, the royal court – the important people who gathered around the king – was just a group of the king's hunting friends. Now, François understood that he could turn the court into a sort of theatre of power, in which he was always the main actor at the centre. He began by increasing the number of people at court. The royal court had 318 officers in 1490, but by 1535 François I had increased this to 622. An army of officials organised great dinners, exciting hunts, plays, concerts and festivals. Anybody who went to see François was dazzled by his power and wealth.

François learnt another lesson from the Italians: the importance of women, for their intellect and wit, and for their beauty and style. Previously, the court was a male affair, dominated by the king's hunting companions and fighters. François now increased the number of women at court, and

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appreciated the role of feminine fashion and graces. Women were expected to be beautiful, but they could also display their intelligence and education, and play some political role.

Importing the Italian Renaissance

François I was determined to import not just Italian paintings but a whole raft of talented painters. By the sixteenth century, Italian painters were working in a style referred to both as 'Late' Renaissance and as Mannerism. At first, things went well; he attracted the ageing Leonardo da Vinci to France in 1516 and appointed him 'First Painter, Engineer and Architect to the King'. When da Vinci died, François handed the title of Artistic Director to Francesco Primaticcio (1504–70) who came to France in 1532. Another win was Niccolò dell'Abbate (1509–71) who arrived in 1552. All of these works represent a development of Italian Mannerism.



Source 15.10 Italian artist Parmigianino's *Madonna with the Long Neck* (1534-40), an example of art from the Mannerism period.

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Reflecting and consolidating

Chapter summary

- Great civilisations often develop in places where the geography of the land helps people to grow wealthy. Italy was 'at the crossroads of the world' because of the maritime trade on the Mediterranean Sea and the land trade across Europe to the north.
- Culture tends to develop in cities rather than in the countryside. Italy in the fifteenth century had many large cities, and they were some of the richest in Europe.
- The Italians of this time were experts in trade (moving goods) and banking (moving money). This expertise created much wealth, leading rulers and governments to commission great buildings and beautiful paintings, allowing the arts to develop very quickly.
- The humanist scholars looked to the ideas of ancient Greece and Rome for guidance as to how society could best be organised in the fifteenth century.
- France invaded Italy in search of territory, which it did not win. However, it did gain a new sense of civilised refinement, and soon set about creating its own Renaissance.

Short-answer questions

1 Explain why the 'patchwork of politics' (many small governments) in Italy actually helped to create work for artists, writers, architects and inventors.

2 Discuss Galileo Galilei's controversial theory.

3 Describe some of the ways in which women contributed to everyday life in Renaissance Italy.

4 How and why did the Medici family rule Florence without showing their real power?

5 Assess how Venice was able to build up its large trading empire across the world.

Source analysis

Study Source 15.11 and answer the following questions:

1 Many Renaissance rulers liked to be shown as either men of learning or men of war. How has Cellini chosen to show Cosimo de' Medici in this sculpture?

2 Cosimo de' Medici's costume has been copied from a past age. Can you identify which age it has come from? Why would he have been proud to wear a costume from this particular age?

3 Look closely at the expression on Cosimo's face. What does Cellini try to tell us about his character?

4 Do you think that modern Australians would be impressed if they saw a famous person shown in this way? How do we show key people in order to give a sense of their importance in our time?



Source 15.11 Sculpture of Cosimo de' Medici by the Renaissance artist Benvenuto Cellini

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Extended-response question

Using your library and the internet, list as many reasons as you can to explain why Italy was so well suited to encouraging learning and the arts between c. 1400 and c. 1600. In your answer, try to decide what the most important factors were in helping the Renaissance develop first in Italy.



Source 15.12 The Uffizi Gallery in Florence houses many treasures of Renaissance art, and is one of the most visited museums in the world.



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Source 15.13 Section of Sistine Chapel ceiling in Vatican City, painted by Michelangelo



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Depth study 2
The Asia-Pacific world



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16

Angkor/Khmer Empire (c. 802 – c. 1431)

Before you start

Main focus

Angkor was the capital of the Khmer Empire, which covered most of mainland south-east Asia. It developed into a sophisticated civilisation famous for its temples and water management.

Why it's relevant today

Many of the challenges facing the modern world such as urban planning, deforestation, soil degradation, droughts, floods and climate change also challenged Angkor. Furthermore, the Khmer civilisation laid the foundations for modern-day Cambodian society.

Inquiry questions

- What features enabled Angkor to develop and flourish?
- What were the beliefs and values of Angkor?
- How was society organised within the Khmer Empire?
- How did the Khmer interact with other societies during the period?
- What happened to Angkor and what legacy did the Khmer Empire leave behind?
- When studying the Khmer Empire, how have historians reconstructed the past?

Key terms

- Baray
- Bas-relief
- *Chakravartin*
- Devaraja
- Dharma
- Indianisation
- Karma
- Linga
- Monsoon
- Samsara

Significant individuals

- Jayavarman II
- Jayavarman VII
- Queen Indradevi
- Queen Jayarajadevi
- Rajendravarman II
- Suryavarman II

Let's begin

Stone tools found in Cambodia have led archaeologists to conclude that hunter-gatherers first moved into the area around 60 000 years ago. The introduction of rice farming c. 2300 BCE encouraged these peoples to establish small farming communities. By c. 200 CE, wealthy settlements had been established throughout the area, including Cambodia.

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Timeline

CHAPTER EVENTS	WORLD EVENTS
0 CE	
c. 100–500 CE South-east Asia is Indianised	**c. 1 CE** Traditional date for the birth of Christ
200 CE	
	220 CE Han Dynasty ends in China
300 CE	
	320–535 Gupta Empire of India flourishes
400 CE	
	476 Last western Roman Emperor is deposed
500 CE	
c. 550 Rudravarman of Funan dies	**570** Muhammad is born
600 CE	
c. 657 – c. 681 Jayavarman I reigns **c. 685 – c. 720** Queen Jayadevi reigns	**618–907** Tang Dynasty rules China
800 CE	
802 – c. 835 Jayavarman II founds the Khmer Empire **877–89** Indravarman I builds Preah Ko, Bakong temples and the Indratataka Baray	**800** Charlemagne is crowned Holy Roman Emperor **871–99** Alfred 'the Great' rules England
900 CE	
c. 910–23 Harshavarman I reigns **944–67 CE** Rajendravarman II reigns; he returns the capital to the Angkor region	**960–1279** Song Dynasty rules China **985** Eric the Red, Viking exploration of Greenland **987** Christianity is introduced to Russia
1000 CE	
1002–10 Civil war is fought between Jayaviravarman and Suryavarman **1011–50** Suyravarman I founds the Dynasty of the Sun	**1066** Normans conquer England **1071** Seljuk Turks defeat Byzantines at Battle of Manzikert **1096–99** The First Crusade; Jerusalem is captured
1100 CE	
1113–50 Suryavarman II reigns; he builds Angkor Wat and Beng Mealea **c. 1181 – c. 1220** Jayavarman VII reigns; arguably Angkor's greatest king, he builds temples, hospitals, highway rest-stops and other infrastructure	**1163** Construction begins on Notre Dame Cathedral in Paris **1170** Thomas Becket, the Archbishop of Canterbury, is murdered
1200 CE	
c. 1220–43 Indravarman II reigns **1243 – c. 1295** Jayavarman VIII reigns; a Hindu, systematically defaces images of the Buddha on the buildings of Jayavarman VII	**1206** Temujin takes title of Genghis Khan or universal ruler **c. 1220** Manco Capac founds the Inca Empire **1215** King John of England signs the Magna Carta **1271** Marco Polo leaves Venice bound for China **1271** Yuan Dynasty rules China
1300 CE	
	1347–52 Black Death devastates Europe
1400 CE	
1431 The Thai sack Angkor, enslaving thousands and causing the Khmer to move capital to Phnom Penh region	**1453** Constantinople falls to the Ottoman Empire, destroying the Byzantine Empire

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Source 16.1 South-east Asia

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16.1 Angkor's rise to prominence

Trade and agriculture

The Mekong River was one of the most important reasons people chose to settle in Cambodia and southern Vietnam. The Mekong is the world's seventh-longest river, rising in the snow-capped Himalaya mountains of Tibet and slowly cutting its way through China, Burma, Thailand and Laos. As the Mekong crosses the border into modern Cambodia, it passes over the world's largest waterfall, the Khong Falls. The river continues to flow southwards into the Cambodian Basin and eventually to Phnom Penh, the present-day capital of Cambodia.

Phnom Penh is situated at an important **confluence**, known as the Quatre Bras ('the four arms' in French). Here the river splits and takes four different paths: the original Mekong River coming from the north; the Tonle Sap heading off to the north-west; and the Bassac and main Mekong heading south towards the Vietnamese border and the Mekong Delta, where they empty into the South China Sea.

confluence the intersection of two or more rivers

South-east Asia has a tropical climate and is affected by **monsoons**, which bring heavy rains and afternoon thunderstorms from late May until October. The dry season lasts from November until May, when little rain falls. During the wet season, the snow of the Himalayas begins to melt, which combines with the monsoon rains to make the Mekong overflow, flooding low-lying areas such as the Cambodian basin. So much water flows down the Mekong that when it reaches the Quatre Bras, water moves up the Tonle Sap in the reverse direction to its usual flow. During the dry season, the Tonle Sap Lake covers 2700 square kilometres with an average depth of 1.5 metres, but during the wet season it expands to 10 400 square kilometres with an average depth of 9.5 metres.

monsoon strong winds that blow into south-east Asia from the south-west during the wet season, bringing heavy rains, and from the north-east during the dry season

One of the secrets behind Angkor's success was the management of the monsoon rains and

Source 16.2 Khmer rice paddies



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Historical thought

Today, Cambodia's flood-retreat rice farming can yield an average of 2–3 tonnes per hectare.

bund a low-level wall used to create shallow ponds for growing rice

the flooding Tonle Sap. As the waters of the Tonle Sap spread across the Cambodian basin, the Khmer created millions of **bunded** rice paddies, and built canals and embankments to slow down the retreat of the water when the wet season ended. Reservoirs of varying size were also constructed throughout the area. The Khmer capital moved many times, but was generally situated close to the Tonle Sap.

To the north of the Cambodian Basin are the Bolaven Plateau, the Dangrek Range and the Kulen Hills, where much of the stone used to build Angkor was quarried. Beyond these mountains is the Khorat Plateau, a tableland roughly the size of Tasmania. To the south of the Cambodian Basin are the forest-covered Cardamom and the Elephant Mountains: areas rich in spices. Historically, the Khorat Plateau and the Mekong Delta regions were also populated with Khmer people, but the Cambodian Basin has been the heart of the Khmer civilisation for nearly 2000 years.

Historical thought

A lack of records is one of the problems historians and archaeologists face when studying the Khmer Empire. The Angkorians recorded all their official documents and histories on palm leaves, which have been lost. This means that scholars must rely upon other sources, such as archaeological remains, Khmer and Sanskrit stone inscriptions (about 1200 in total), statues and **bas-reliefs**, and Chinese historical accounts. Note that all Khmer stone inscriptions have been catalogued with a 'K' number, some of which appear in this chapter.

bas-relief a picture carved into stone walls

The Pre-Angkorian era

stele a free-standing stone, often carved with an inscription

chakravartin a title used for the kings of Angkor meaning 'universal monarch' or 'king of kings'

According to the Sdok Kak Thom **stele**, Jayavarman II was crowned ***chakravartin*** of the Khmer Empire in 802 CE, uniting all the smaller Khmer states under his authority. However, the area had already witnessed the development of a couple of earlier states that shared many characteristics with the later Khmer Empire, such as Funan and Zhenla.

The period before 802 CE is called the Pre-Angkorian era. From the first century CE onwards, much of south-east Asia began to adopt Indian religious, political and cultural practices, combining them with their own local ideas. Historians refer to this process as '**Indianisation**' and have proposed many explanations for how and why these Indian ideas were introduced.

Indianisation the adoption of Indian religious, political and cultural practices in south-east Asia from the first century CE



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> Cambodia has a legend that traces its origin back to the marriage of a foreigner and a dragon-princess, or Naga, whose father was the king of a waterlogged country. According to one version of the myth, a **Brahmin** named Kaundinya, armed with a magical bow, appeared one day off the shore of Cambodia; a dragon-princess paddled out to meet him. Kaundinya shot an arrow into her boat; this action frightened the princess into marrying him. Before the marriage, Kaundinya gave her clothes to wear, and in exchange, her father, the dragon-king, enlarged the possessions of his son-in-law by drinking up the water that covered the country. [Kaundinya] later built a capital, and changed the name of the country to 'Kambuja'.

Brahmin highest order within the Aryan social system; they were the priests and teachers

Source 16.3 According to the historian David Chandler, a mythological marriage marked the introduction of Indian ideas and the beginning of Cambodia.

Even though there is no evidence to confirm the existence of Kaundinya, the myth demonstrates that mainland south-east Asia was heavily influenced by India. Like the legendary marriage, Khmer civilisation joined Indian ideas about monarchy, government and religion with local ideas.

A number of later kings claimed to be descendants of Kaundinya, which helped to legitimise their right to the throne. Furthermore, the myth indicates the importance of water management to the civilisation.

Many nineteenth century scholars, on seeing extraordinary south-east Asian religious art, concluded that Indianisation occurred mainly as a result of Hindu and Buddhist missionaries converting the local peoples. However, most historians now believe that Indianisation came about initially through trade.

Chinese documents indicate that during the first century CE, major sea trade routes developed between China and India, via south-east Asia. The peoples of south-east Asia became involved in this trade, either as seafaring traders themselves or as suppliers of goods destined for China, India or beyond. Indian, and to a lesser extent Chinese, traders brought political, religious and cultural ideas with them, which the locals adopted or adapted to their specific needs. Along the trade routes, ports soon developed to cater for the needs of the merchants, bringing great wealth to the region.

> Long ago in the time of Fanzhan there was a man from … Tanyang [modern Afghanistan] named Jiaxiangli. He travelled in stages from his country, doing business along the way, until he reached Funan. He told Fanzhan [ruler of Funan] about the customs of India, the great riches, the fertile land … Fanzhan asked him 'How far away is this place, how long does it take to get there?' Jiaxiangli replied 'India must be more than 30 000 *li* [approximately 9500 kilometres] from here; to sail there and back would take a good 3 years, and it could be even 4 years before reaching home …

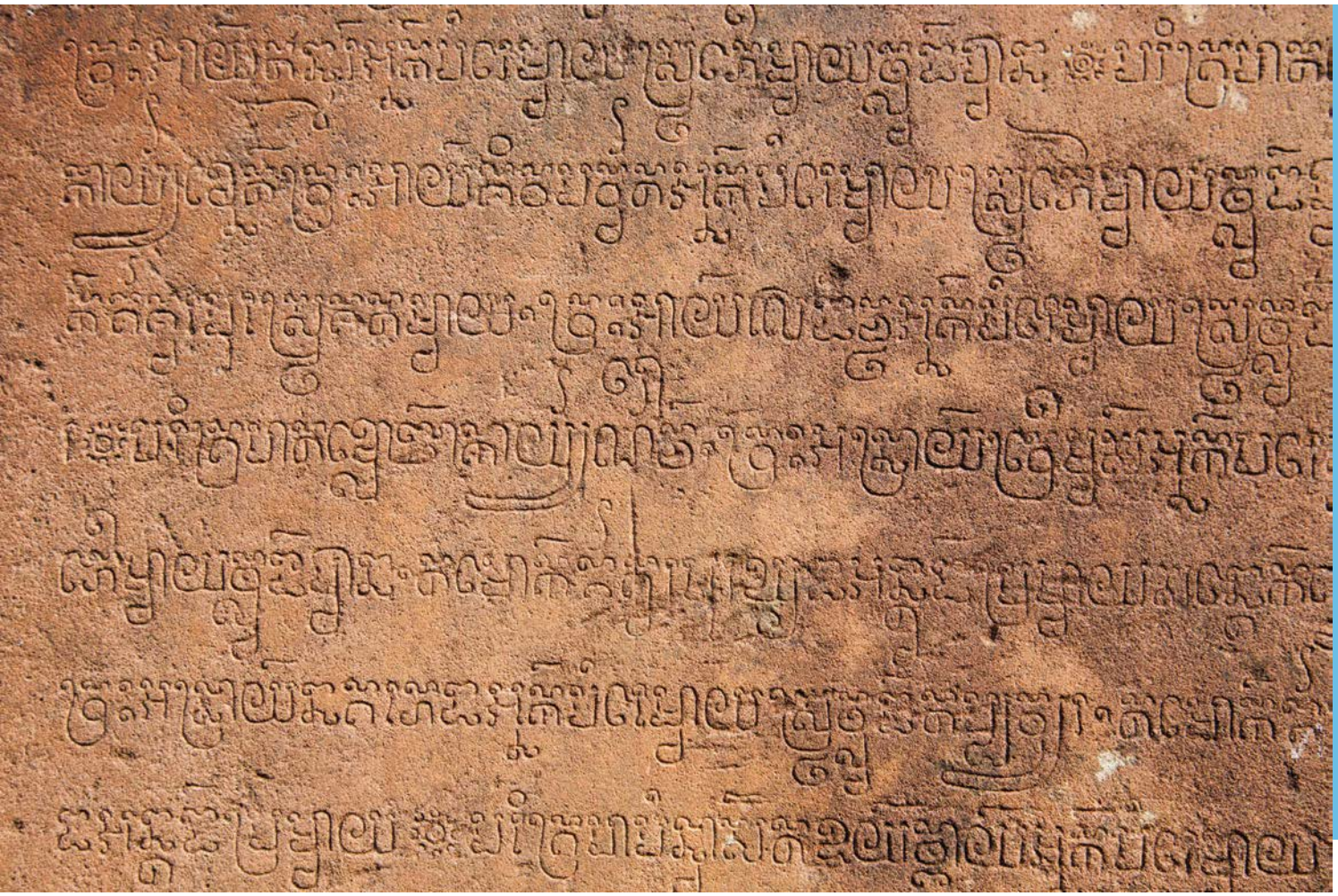
Source 16.4 An account of a merchant in Funan in the *Nan Qi Shu*

According to historian Claude Jacques, Indianisation would have benefitted the local rulers and thus encouraged them to adopt Indian ideas. Hinduism and Buddhism viewed kings as the representatives of the gods and therefore worthy of loyalty.

Historian Michael Coe has identified the following elements of Indianisation that influenced the Khmer civilisation:

- the Hindu religion, its mythology and rituals, particularly the worship of Shiva and Vishnu

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Source 16.5 A Sanskrit stele from the Cham site of My Son, Vietnam

- the Sanskrit language; many Khmer words were borrowed from Sanskrit
- the Indian writing system, stone inscriptions and palm-leaf books
- Hindu temple architecture built in brick and stone
- statues representing gods, kings and Buddha
- cremation burials among the upper classes
- rectilinear town and city plans
- artificial water systems, including rectangular reservoirs and canals.

Historical thought

Scholars have divided Khmer history into six phases:
1 Prehistoric era c. 2300 BCE – c. 200 CE
2 Pre-Angkorian era c. 200–802 CE
3 Angkorian era 802–1431
4 Post-Angkorian era 1431–1862
5 Colonial era 1862–1953
6 Post-colonial era 1953–present day.

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Funan

According to the *Nan Qi Shu*, Funan, which was located in the Mekong Delta region, became an important trading power on the trade route between China and India during the period 100–550 CE: 'The Funan market is the meeting place between east and west … as Funan offers a place of passage from one ocean to the other.' Archaeological excavations at Oc Eo, a site in southern Vietnam, have revealed evidence of an important port, which the historian John Miksic has called south-east Asia's first great cosmopolitan trading city.



Source 16.6 Map of Funan and Zhenla, c. 100–800 CE

Numerous artefacts from the Mediterranean have been found at Oc Eo, including gold medallions of the Roman Emperor Antoninus Pius (c. 152 CE), iron from the Philippines, gold and jewellery from India and mirrors from China, which demonstrate that Oc Eo received goods from round the world. Indian inscribed seal stones and Buddhist and Hindu statues also demonstrate the influence of Indian religion and culture upon the Mekong Delta region. Furthermore, pottery made at Oc Eo has been found in Malaysia and Indonesia.

However, during the early sixth century CE, trade began to move away from the Mekong Delta as Chinese traders found alternative trade routes via Java. Funan's power and influence began to decline, which radically altered the future of mainland south-east Asia. The last recorded ruler of Funan was King Rudravarman, who died c. 550 CE. The region was eventually absorbed into Zhenla.

Historical thought

Oc Eo is a rectangular site (3 kilometres by 1.5 kilometres) located about 15 kilometres inland from the Gulf of Thailand. It lay behind five ramparts and four moats covering an area of 450 hectares. Oc Eo was linked to the coast by a large canal, while other canals connected Oc Eo with many inland areas, including a 70 kilometre canal that ran to the ancient city of Angkor Borei. Oc Eo itself was divided into suburbs by bisecting canals. Oc Eo could not survive the decline in trade and was abandoned sometime during the late sixth century.

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Source 16.7 This statue of Vishnu from the sixth or seventh century CE was found at Oc Eo and is now housed at the Museum of Vietnamese History.

Zhenla

As Funan began to decline and as the economy shifted from trade to agriculture, the territory to the north of Funan, which the Chinese called Zhenla, began to prosper. Stone inscriptions indicate that the area was not united as a single country but was ruled by a number of regional leaders. However, Ishanavarman I of Sambor Prei Kuk (reigned c. 616–28 CE) managed to bring Funan and much of modern-day Cambodia under his control. Ishanavarman's great-grandson, Jayavarman I (reigned c. 654–95 CE), continued to expand the kingdom and a stele declared that 'his commands were obeyed by innumerable defeated kings. In combat, he was a living incarnation of victory, the scourge of enemies, lord of the land inherited from his ancestors, and conqueror of yet more lands.' Other stelae reveal that Jayavarman controlled a large bureaucracy to centrally administer his kingdom.

However, despite the achievements of Ishanavarman I and Jayavarman I, the kingdom only remained united through the military strength of the monarch and the personal loyalty the monarch commanded. Jayavarman was succeeded by his daughter Jayadevi who also ruled in the Angkor region, but the **dynasty** soon disappears from the historical record and the kingdom broke up into smaller competing states. It would take another local ruler from Vyadhapura to forcibly unite these Khmer states and provide long-term political stability: Jayavarman II, the founder of the Khmer Empire.

dynasty a succession of rulers from the same family

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Source 16.8 A depiction of the 'floating palaces' on a temple at Sambor Prei Kuk, the capital of Ishanavarman I

Historical thought

Jayavarman's name translates as Jaya ('victory') + varman ('protected by') = 'Protected by victory'.

16.2 Way of life in the Khmer Empire

Religion

Religion played a particularly important role in Angkor. Before the arrival of Indian religious ideas, the Khmer worshipped ancestor spirits and nature spirits known as Neak Ta. This spirit worship continues today and simple shrines dedicated to these spirits are found throughout Cambodia. People often leave a little food, some flowers or alcohol to please the spirits.

Buddhism and Hinduism arrived in south-east Asia about the same time as part of the Indianisation process. While Buddhism appears to have been more popular in Funan, Hinduism became the dominant religion in Zhenla and later in the Khmer Empire. The historian Monica Smith has suggested that the powerful and prosperous Gupta Empire of India (c. 320–455 CE) was a great cultural and religious influence upon the peoples of south-east Asia, who wished to copy this success. Brahmin priests followed the Indian merchants and introduced the worship of Shiva and Vishnu.

Hinduism

Hinduism is a **polytheistic** religion, but central to this was the worship of the **Trimurti**, a trinity of the gods Brahma, Shiva and Vishnu. The religion emphasises the idea of **dharma,** whereby the order of the world is dominated by the balance of good and evil forces, between

polytheist a believer in more than one god

Trimurti the Hindu Trinity, which comprises the three most significant gods: Brahma, Shiva and Vishnu

dharma the Hindu and Buddhist idea of good order and harmony being maintained in the world

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Source 16.9 Preah Ko, which was erected by King Indravarman I for the worship of Shiva, Jayavarman II and ancestors

the gods (*devas*) and their demon enemies (*asuras*), and between the human world and the world of the gods.

Hinduism also emphasises the concepts of **samsara** and **karma**, the combination of good and bad actions in a person's life that determine what a person will come back as in the next life. If someone wants to break out of the repeated cycle of reincarnation, a person must dedicate themselves to a life of poverty, chastity and meditation. The gods live on Mount Meru, a mythological mountain in the Himalayas, surrounded by seven seas. The gods are looked after by fairy-like dancers, called *apsaras*.

samsara the Hindu process of reincarnation, which is influenced by karma

karma the Hindu (and Buddhist) belief that the way a person lives their life has an effect on how happy or successful they will be in their next life



Source 16.10 A depiction of a king worshipping Vishnu, the Bayon temple

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Historical thought

The 'Mahabharata'; the world's longest epic poem, retells the story of a cosmic struggle between two sets of cousins: the Kauravas (the sons of Darkness, who overthrew the rightful rulers of the world) and the Pandavas (the sons of Light, overthrown by their cousins.) The epic ends with an 18-day battle between the Kauravas and Pandavas.



Source 16.11 A scene from the 'Mahabharata', Angkor Wat

Historical thought

The *Ramayana* (*Reamker* in Khmer) is another epic story, about Rama, King of Ayodhya. Rama's beautiful wife Sita had been kidnapped by the demon Ravana, the King of Lanka. Rama set out to free his wife, with the help of Sugriva, the Monkey King, his general Hanuman and his monkey army. Eventually, Ravana was defeated and Sita freed. The Reamker is still popular in Cambodia today.



Source 16.12 Ravana from the *Reamker*, Angkor Wat

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DEVELOPING YOUR UNDERSTANDING 16.1

The 'Churning of the sea of milk' is another popular story depicted on bas-reliefs. Go online to research the story and explain the meaning behind this bas-relief.



Source 16.13 The 'Churning of the Sea of Milk', Angkor Wat

The Devaraja cult

When Jayavarman was proclaimed *maharajadhiraja* (king of kings) at his coronation in 802 CE, the Devaraja was also crowned 'King of the Gods'. Claude Jacques has shown that, just as Jayavarman united the Khmer people politically under his authority, so too the Devaraja cult brought spiritual unity to the empire, uniting all the old regional Khmer gods under one supreme god. Previously, these gods had protected their local rulers; now, under the Devaraja, they would collectively protect the 'great king of kings'.

The king was closely associated with the Devaraja cult and when the king moved capitals, he always brought the cult shrine with him, as it was central to guaranteeing the empire's safety. No images of the Devaraja have survived, but it may have been like a **linga**. Jayavarman II appointed his personal priest Shivakaivalya and his descendants to maintain the cult.

linga a representation of the Hindu deity Shiva used for worship in temples

Much controversy has surrounded the Devaraja. Early scholars mistranslated the word as 'God-King' and mistakenly concluded that Jayavarman claimed he was a **divine**, all-powerful monarch, but the evidence suggests that the Devaraja was an object, not a person. Furthermore, the Khmer king shared his power with a large administration and the regional kings subordinate to him. The significance of the Devaraja cult has probably been exaggerated, as the cult is very rarely mentioned in the inscriptions.

divine relating to a god or gods

Buddha

The historical Buddha, Siddhartha Gautama, was born c. 480 BCE, the son of a northern Indian King. According to tradition, Gautama's father raised him in absolute luxury. However, at the age of 29, while taking a chariot ride, he saw a poor elderly woman, a sick man and a dead body. Gautama was shocked by the suffering in the world. This

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enlightenment the realisation of how suffering is caused, and how to avoid the process of samsara

motivated him to search for a way to free people from suffering. Eventually he gained **enlightenment** at the age of 35 and spent the rest of his life preaching a message of compassion, humaneness and a desire to break the endless cycle of rebirth. When he died, Gautama was not reincarnated, but went to nirvana, a place of non-existence that is devoid of suffering.

Two forms of Buddhism developed: the older, stricter form called Theravada Buddhism, and the younger form named Mahayana Buddhism. Even though Buddhism arrived in south-east Asia at the same time as Hinduism, it was not until the reign of Jayavarman VII that Mahayana Buddhism became the state religion. During his reign, Buddhist temples were built throughout the empire.

During the fourteenth century, Theravada Buddhism became the state religion and remains so today.

Worship of the gods

To the Khmer, the gods controlled all aspects of life. Thus they needed to consult the gods and seek the advice of the priests about everything. For example, gods were consulted about the best time to plant and harvest crops or to build a house. People often prayed to Shiva, a fertility god, to guarantee a plentiful harvest, but he was also consulted about marriage and pregnancy. At first glance, Khmer temples such as Angkor Wat appear to be enormous, but this can be deceptive. Khmer temples were built to house the gods and they only required sufficient space to shelter a statue. For example, the central sanctuary of Angkor Wat is only 5 metres square. The Khmer did not build large halls for worshippers to gather in; rather the scale of Khmer temples has come about as a result of dozens of little shrines being constructed within the same complex.

In the shrines, the gods were treated like royalty by their servants, the priests. The priests were responsible for waking the god, then washing, dressing and feeding them daily. The food was symbolically eaten by the god and then distributed to the priests. People could come and request help from the gods when the shrine doors were open and when the priests were taking care of the gods. According to Claude Jacques, once a year a feast would be held in honour of the god and a miniature statue of the god would parade

Historical thought

Zhou Daguan, the author of *A record of Cambodia – The Land and its People*, was a Chinese **diplomat** from the important port city of Wenzhou in south-east China during the thirteenth century. The purpose of his mission was to deliver an 'imperial proclamation', most likely informing King Indravarman III that China had a new emperor. The previous Chinese emperor, Kublai Khan, had launched five unsuccessful invasions into south-east Asia, and his greatest general, Sodu, had been captured and beheaded by the Chams in 1285. However, Emperor Temur adopted a more peaceful approach towards south-east Asia and Zhou Daguan's mission to Angkor would have tried to improve relations between China and the Khmer Empire.

Zhou stayed in Angkor from August 1296 to July 1297 and he later recorded his observations, which included descriptions of religious practices, the social structure, the legal system and daily life. He also provided details about the buildings, agriculture, landscape, resources, flora and fauna of the Khmer Empire. Zhou's record is an invaluable outsider's account, recording unique information about Angkor that has not survived in the Khmer sources.

diplomat an official who represents the interests of their government in dealings with foreign governments

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around the temple. This often occurred on the anniversary of when the statue of the god was installed in the temple.

make merit the Buddhist idea that doing good works will earn enlightenment

In an attempt to improve a person's karma and break the cycle of samsara, people were motivated to **make merit** by building a temple/monastery, donating to an existing temple/monastery, providing for the poor, or by praying (or paying for priests to pray in their stead). Queen Jayarajadevi made substantial donations to the monasteries and temples of Angkor and to regional temples as well.

Important religious festivals included Prachum Ben, dedicated to ancestor worship, and the Festival of the Waters, celebrating the end of the rainy season on the first full moon in Kaitek, during which boat races were held.

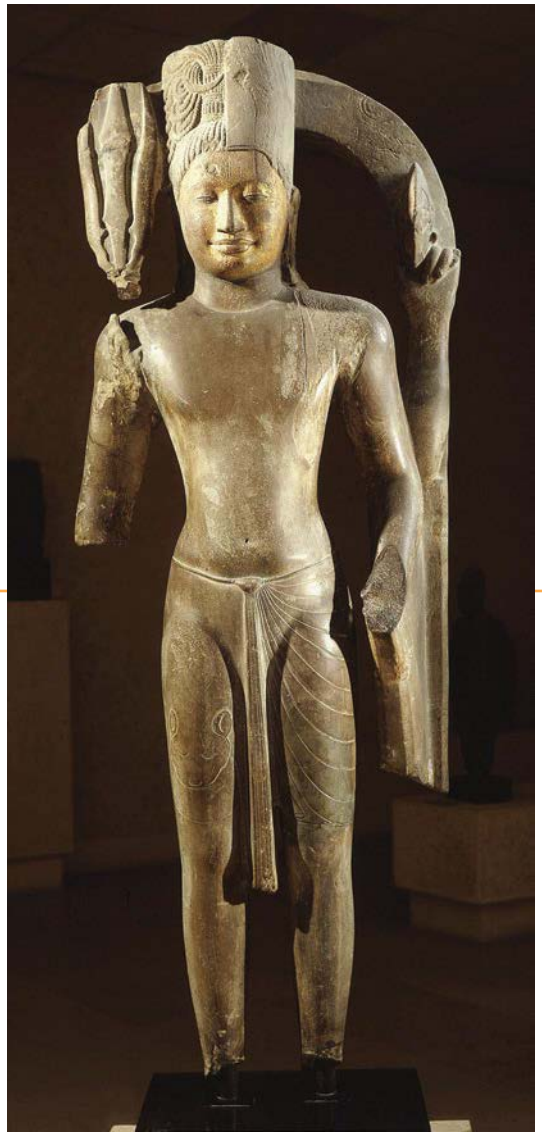
RESEARCH 16.1

The Angkorians were great craftsmen, producing beautiful artefacts in metal, stone and wood. This is evidence of their material culture and provides a lot of information about the Khmer civilisation. Visit one of the following museums online at www.cambridge.edu.au/hass8weblinks and choose one Angkorian artefact to research:

- National Museum of Cambodia
- Angkor National Museum
- Metropolitan Museum of Art
- Art Gallery of New South Wales.

You will need to find out the following information about your chosen artefact:

1. Where is the artefact from?
2. When was it made?
3. What it is made from?
4. What is the artefact? What purpose did it serve?
5. What are the artefact's features? How would you describe them?
6. How is this artefact useful to an historian studying the Khmer civilisation?



Source 16.14 A sandstone statue of Hariharalaya, representing Shiva on the right-hand side and Vishnu on the left-hand side, sixth century, Phnom Da

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The king

From the time of the coronation of Jayavarman II, the kings of Angkor were referred to as *chakravartin* or *maharajadhiraja* ('king of kings'). Other regional kings could remain in power, as long as they paid homage to the *chakravartin*. According to Claude Jacques, the king's main duty was to ensure the prosperity of his kingdom and the maintenance of dharma, which would provide harmony for all throughout the empire.

There were two significant ceremonies in the life of a Khmer king: his consecration as king, which confirmed his role as the supreme protector of the empire and his subjects; and his cremation, which extended his role as protector into the next life. The king and his kingdom were inseparable, as seen in an inscription found at one of the hospitals built by Jayavarman VII: 'The bodily ills of his people became his spiritual sufferings.'

The construction of a new state temple and other large public works also became mandatory for every king, demonstrating his authority and his responsibility to provide for his people.



Source 16.15 A king and his court at the Terrace of the Leper King, Angkor Thom

The queen consort

The king often had more than one wife, but his most important wife was called *agramahishi* (queen consort). The *agramahishi* had considerable influence over the Angkorian court, particularly if one of her son's was appointed as the *yuvaraja* (crown prince). If the king died, **usurpers** often tried to marry the queen consort to help legitimise their claim to the throne. Also, when the king died with a young son, a **regent** was often appointed from the agramahishi's family. Occasionally, kings emphasised their mother's ancestry because it was more prestigious than their father's.

usurper one who illegally becomes king

regent a person appointed to reign on behalf of an under-age ruler until they are old enough to rule in their own right

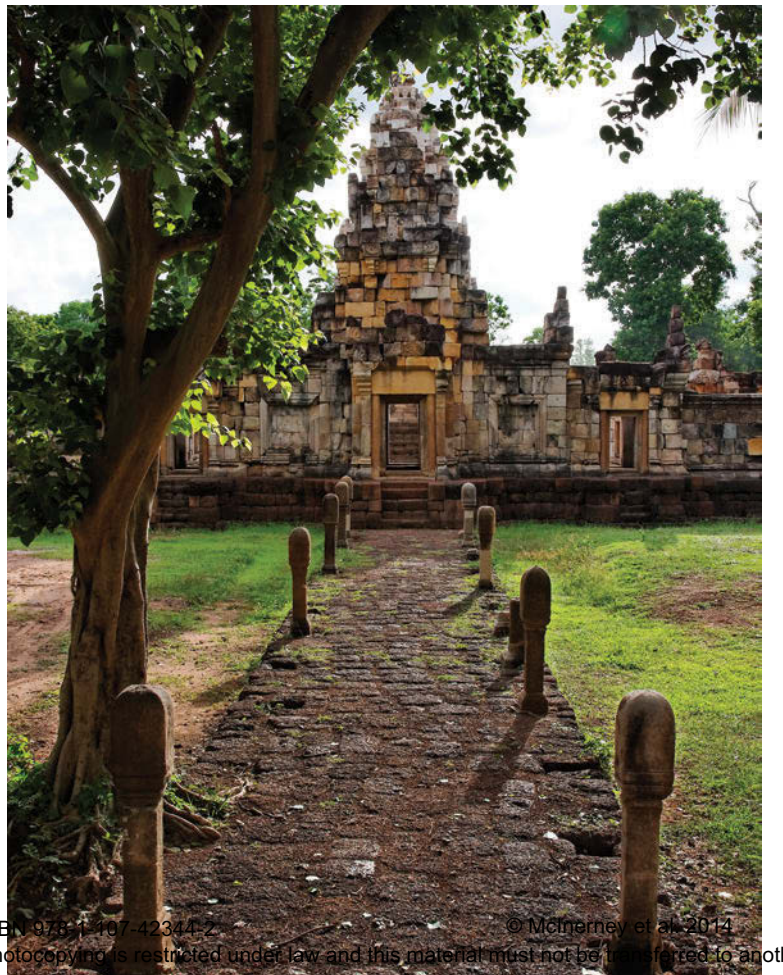
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Historical thought

The founder of the Khmer Empire, Jayavarman II, is surrounded in mystery owing to the lack of substantiating evidence. Two inscriptions from the last years of the eighth century suggest that he was originally a local ruler from Vyadhapura (Banteay Prei Nokor). However, when investigating his later career, historians and archaeologists have had to rely upon inscriptions written hundreds of years later.

The Sdok Kok Thom stele, erected in 1052 CE to commemorate the 250-year history of a prominent Khmer family, provides information about the foundation of the empire. It states that Jayavarman II returned to free the land from foreign control, possibly by the Javanese. The stele outlines Jayavarman II's coronation in the Kulen Hills, which occurred at the same time as the foundation of the Devaraja cult, along with the expansion of his empire and the repeated movement of the capital. Another stele from 1069 CE indicates that Jayavarman's expansion met with opposition that needed to be suppressed by force. Jayavarman established a centralised authority to administer his growing empire, rewarding loyalty with hereditary offices and substantial land grants.

While little detail remains about Jayavarman II's reign, he had an enormous impact upon the development of Angkor. He united the Khmer people under the authority of a supreme king, founded a national cult and established a strong, centrally administered empire.



Source 16.16 The Sdok Kok Thom temple, located in modern-day Thailand

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Rajendravarman II

Rajendravarman II (944–68 CE) was the cousin of his predecessor, Harshavarman II. He had an illustrious ancestry, being descended from Jayavarman II's aunt. As a loyal ally of his cousin, Rajendravarman had successfully campaigned against enemies in Thailand. Upon becoming king, he moved the capital back to Yasdharapura (Angkor) and set about restoring the capital to its former glory. He built a number of new temples, including the mountain temple Pre Rup (see Source 16.17), dedicated to Shiva and his ancestors. Although he was a follower of Shiva, Rajendravarman had also studied the Buddhist scriptures and appointed Buddhists as officials. Rajendravarman was succeeded by his 10-year-old son, Jayavarman V (968–1000 CE). During their reigns, rice cultivation increased and Angkor prospered.

DEVELOPING YOUR UNDERSTANDING 16.2

Imagine that you are King Rajendravarman's wife, Queen Narendradevi. Your husband has just died and you wish to dedicate a stele commemorating his life and achievements. Write a eulogy for Rajendravarman.



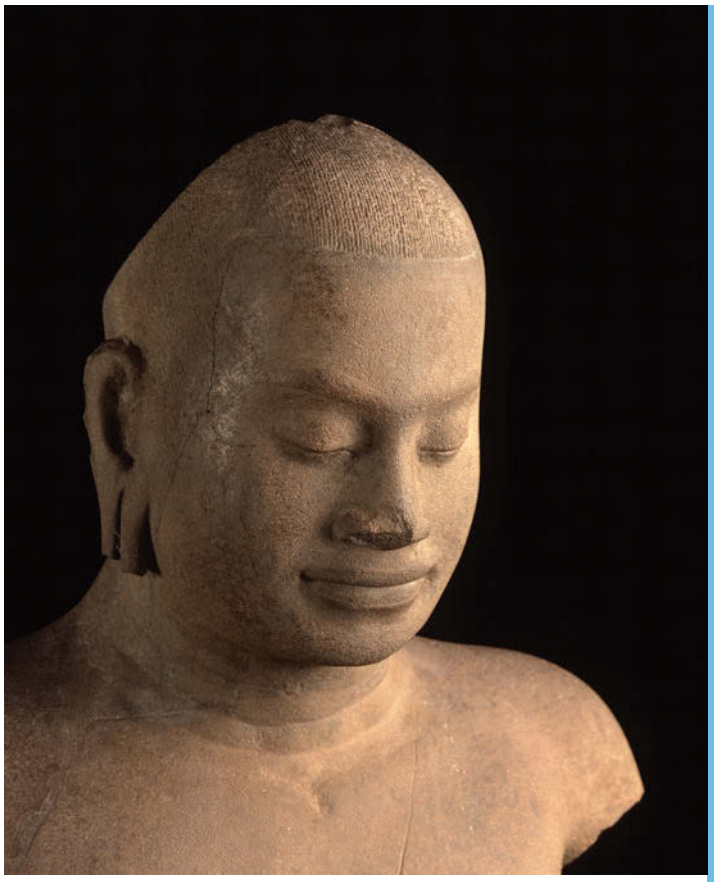
Source 16.17 Pre Rup mountain temple

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Jayavarman VII

Jayavarman VII was arguably Angkor's greatest king. He was a successful campaigner, expanding the frontiers of the empire to their greatest extent. He was also a prolific builder, founding the new city of Angkor Thom, constructing dozens of temples and monasteries, and building 102 hospitals throughout the realm. The empire was serviced by his new ***barays***, bridges and highways, including a road between Angkor and Phimai that stretched for 225 kilometres. One inscription states that he installed 20 400 statues across the empire.

baray an enormous reservoir of the Khmer empire that held millions of cubic metres of water



Source 16.18 Jayavarman VII from Krol Romeas, Angkor Thom

Queen Jayarajadevi and Queen Indradevi

Queen Jayarajadevi was Jayavarman VII's first agramahishi and, according to a eulogy composed by her sister Indradevi, Jayarajadevi married Jayavarman while he was still a prince. During the early years of their marriage, they were often separated, which caused her to worry greatly and so she spent much of her time in prayer and fasting, hoping for her husband's return. Her sister Indradevi encouraged her to study the Buddha's

Source 16.19 King Jayavarman VII (centre) with sisters Jayarajadevi and Indradevi © Phalikan.com



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teachings. When Jayavarman eventually returned to Angkor as the victorious king, she decided to donate all her wealth to the gods and the poor. Numerous temple inscriptions reveal her generous and devout nature. Unfortunately, she was not queen for long, as Indradevi's dedication states that 'despite her eternal loyalty to her husband, soon after her master was invested as king, she entered nirvana'.

Jayavarman then married Jayarajadevi's sister, Indradevi, supposedly in an attempt to ease the 'fire of pain that was burning the world'. Indradevi is said to have been a lady of great intelligence, grace and culture. She was appointed by Jayavarman as the main teacher of two important temples, where she was 'always distributing her knowledge to a crowd of women'.

Both Jayarajadevi and Indradevi are believed to have had a great influence upon Jayavarman, especially in terms of his religious ideas.

DEVELOPING YOUR UNDERSTANDING 16.3

1 What did Jayarajadevi do while her husband was away?
2 Identify what motivated Jayavarman to marry Indradevi.
3 Why was the religious influence of Jayarajadevi and Indradevi upon Jayavarman VII significant?

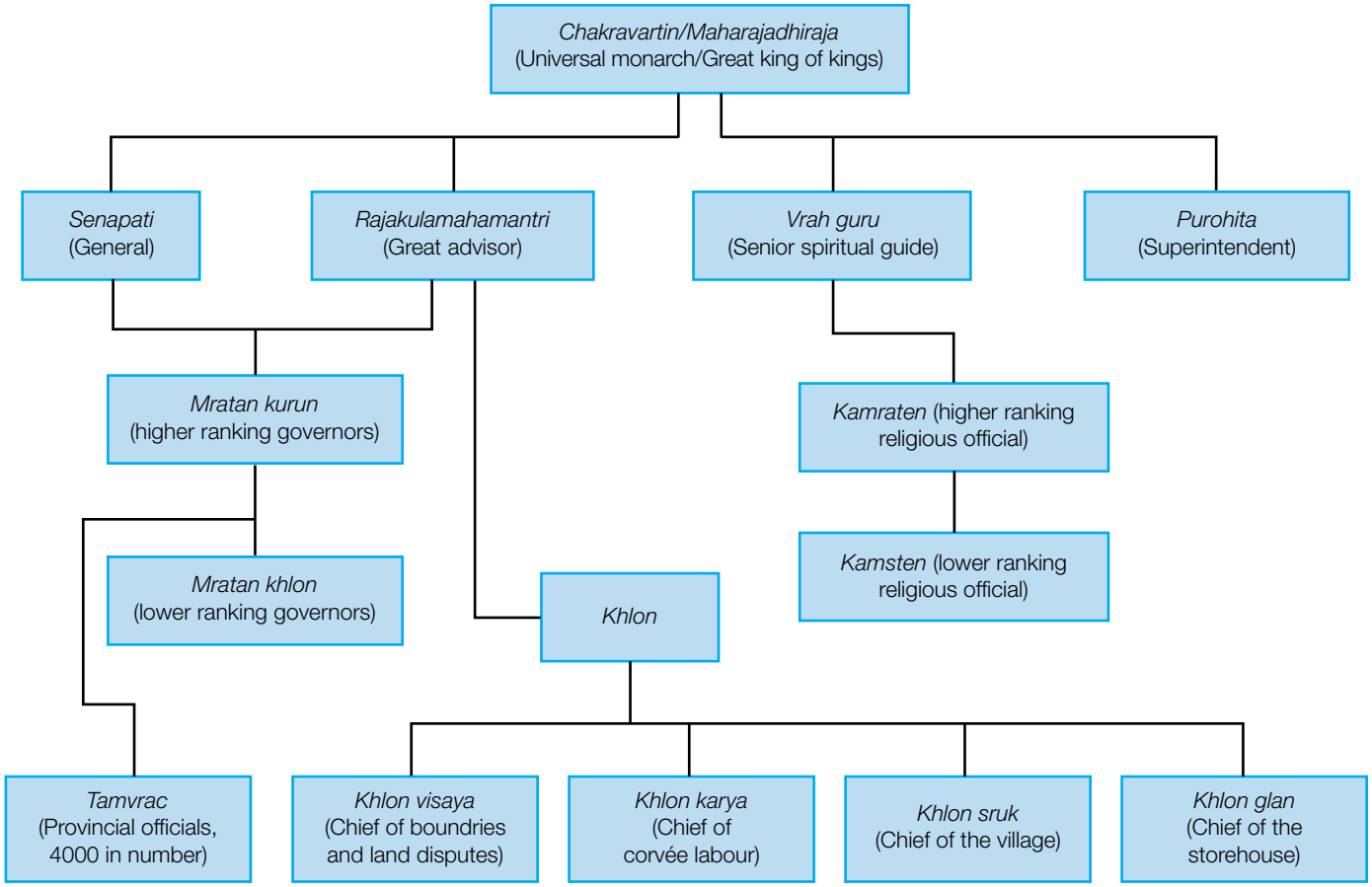
Angkorian bureaucracy

As the Khmer Empire expanded, the Angkorian administration grew in size and complexity. The role of the king united religion and government, and many of his administrators had religious and secular responsibilities at the same time. The *rajakulamahamantri* was the king's 'great advisor', with authority in the religious court. He could also issue taxation exemptions. The *vrah guru* ('senior spiritual guide') was very important, being responsible for educating the *yuvaraja* (crown prince) and praying for rain. The *purohita* was a priest responsible for the Devaraja cult and a close political advisor to the king. Khmer inscriptions mention a number of important priests called *hotar*, while a *senapati* was a military general. Other inscriptions also provide details about a range of lower level officials and all officials had to take an oath of allegiance.

Historical thought

The highest title the king could award someone was *dhulijenvrahkamratenan*. Dhulijen translates as 'dust of the feet'. In Khmer culture, it is extremely rude to show someone the soles of your feet. However, 'those who appear before the king touch the earth three times with their forehead, at the foot of the steps to the throne'. Thus, owing to the king's important position, the 'dust of the feet' of the king was considered an honour.

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Source 16.20 Hierarchy of Angkorian administration

Armed forces

The epic battles depicted on the walls of Angkor Wat and the Bayon provide excellent information about the Khmer armed forces. The bas-reliefs reveal that the Khmer made use of non-Khmer forces, such as Cham, Thai and Chinese troops. They also depict weapons such as spears, bows, swords, daggers and the *phkeak*, a large battle-axe with a curved blade. Catapults and ballistas were mounted on the saddle-packs of elephants. A small, round shield and a long, rectangular shield were used for protection. The army was accompanied by a priest and the 'Sacred Fire' to provide spiritual protection. The Khmer also had a navy, consisting of single-decked ships about 17–25 metres in length. The vessels were shaped like the mythical Naga and were powered by 12–26 oarsmen.

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Historical thought

The Khmer were surrounded by a number of other peoples, including the Cham city-states to the east, the Thai to the west and the Vietnamese to the northeast. Relations with them were at times complicated. The inscriptions frequently mention wars with the Cham, but at other times it appears that alliances were formed and various Khmer kings used Cham mercenaries.

Angkor's growing desire to trade with China during the twelfth century, and the need for sea ports, would have strained relations with the Cham city-states. Between the tenth and twelfth centuries, the Thai were under Khmer control, but whenever an opportunity arose, they tried to establish their independence. While occupying Thailand, the Khmer came into contact with the powerful Pagan Empire, which led to a number of confrontations. Angkor's relations with the Vietnamese were greatly influenced by the Chinese, who persuaded the Khmer to attack **Dai Viet** on a number of occasions.

Dai Viet literally meaning 'Great Viet', this is the name given to Vietnamese dynasties between 1054 and 1400

Social structure

While Indianisation had an enormous impact upon the development of Angkorian culture, the caste system was not successfully implemented. Khmer inscriptions indicate that a person could be a member of the Brahmin (priestly) or Kshatriya (warrior) caste, but this did not prevent them from marrying someone from outside their caste. Michael Coe suggests that membership of a caste was more like an honour awarded by the king in recognition of outstanding service.

At the top of Khmer society was the *chakravartin* (king), who served both a religious and a secular role. The king was supported by his family, who often filled many of the administrative and military jobs. The Angkorian administration made up the next level of Khmer society and lower down in the social hierarchy were the artisans and craftsmen, but very little information is available about them.

The majority of the people were peasant rice farmers, subject to regular **corvée** labour and occasional military service. As the Khmer did not use money, peasants paid the rent owed to their landlords in the form of crops, while taxes to the administration and to the local temple were paid either in the form of labour or in crops.

corvée compulsory work by peasants for the Khmer king or local officials

The inscriptions describe three kinds of slave:

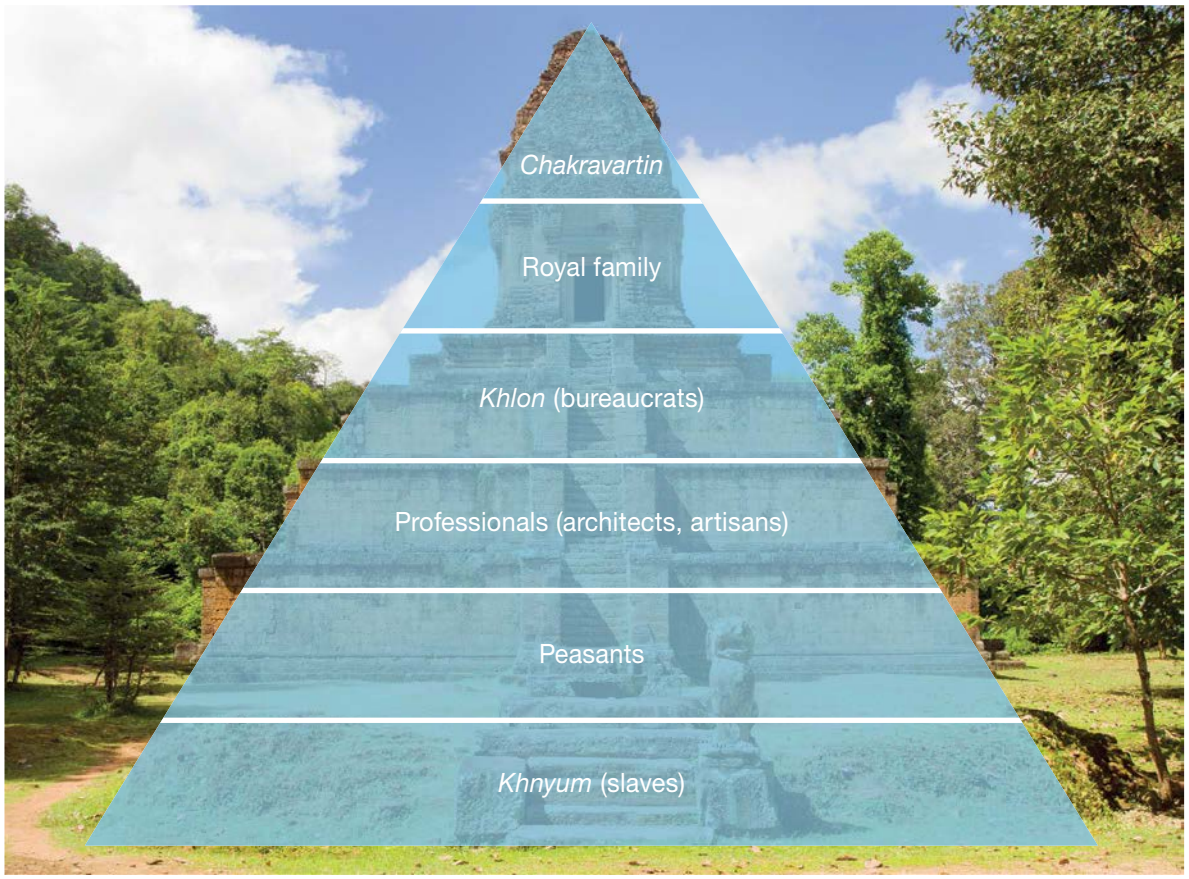
1 slaves who were legally acquired
2 slaves who were inherited
3 'religious slaves', or people who had dedicated themselves to work for the temple for a period of time, perhaps instead of paying the temple taxes.

Historical thought

From the sixth to the tenth centuries, **matrilineal inheritance** was the law. However, after the creation of the Khmer Empire, this became increasingly rare.

matrilineal inheritance in the Khmer Empire, inheritance passed from a man to his sister's son, rather than to his own children

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Source 16.21 Social hierarchy in the Khmer Empire

Historical thought

The Khmer Empire was an immense revenue-gathering machine and everyone except priests, monks and slaves was subject to taxation. The king officially received all the tax revenue – the Khmer expression *svey vrahrajya* ('he eats the kingdom') demonstrates that he metaphorically and literally consumed the empire's produce – but this was administered by his officials. Many things were taxed including land (based on size and productivity), rice, salt, wax and honey. There was even a market tax.

16.3 Cultural achievements

Water management

According to archaeologist Miriam Stark, water management was integral to the Khmer economy, allowing widespread settlement and farming throughout the Angkor region. The Khmers were expert water engineers: they dug canals, dredged and straightened rivers, built dykes into floodplains to redirect and hold back floodwaters, dug moats around their temples and housing areas, and built reservoirs to hold water. Several Khmer kings built *baray* (enormous reservoirs), such as the West Baray, which measures 8 kilometres by 2.2 kilometres.

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Scholars are divided on how the water system worked. For many years, it was argued that Angkor's agriculture relied upon **irrigation**, but more recently archaeologists have suggested that the Angkorians relied upon rain and the regular flooding of the Tonle Sap. Owing to the scale of the water engineering at Angkor, it might be assumed that it was centrally controlled, but no evidence has been found to explain how the water system was organised and maintained.

irrigation a system of bringing a supply of water to a dry area, especially in order to help crops grow

Transport

A vast network of highways was constructed to link Angkor with the provinces. These highways were usually raised above the flood level and varied from 10 metres to 25 metres in width. They acted like dykes, diverting water into the surrounding fields. **Laterite** bridges, up to 160 metres long, enabled the highways to cross rivers – some still carry traffic today. At regular intervals along the highways, Jayavarman VII erected 121 identical 'Houses of Fire' that may have served as rest stops.

laterite a soft, clay-like material that is easy to cut and hardens when exposed to the air



Source 16.22 A laterite bridge, Spean Brab Tes (Bridge of Indication) at Kampong Kdey

Buildings

Throughout the Khmer Empire, only religious structures were built of brick and stone. The simpler temples comprised a shrine surrounded by an enclosure wall and a moat. This ground plan replicated the Hindu world, surrounded by mountains and the mythical 'ocean of chaos'. Larger temples had an enclosure within an enclosure, with entries on one or two sides, called gopura. Within the enclosure was a Sacred Fire shrine, which was lit daily before the priests attended to the temple's main shrine. A timber kitchen for preparing the god's food also would have been located in the enclosure.

During the Pre-Angkorian era, brick was the building material of choice and intricate

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decorations were carved into the brickwork, like the 'floating palaces' of Sambor Prei Kuk (see Source 16.8). These buildings did not use cement but a very strong vegetable compound, which left an almost invisible join. During the Angkorian era, the use of stone became increasingly popular, initially being used as **lintels** (see Source 16.24), door and window frames to decorate brick buildings.

lintel a stone that spans the top of a doorway



Source 16.23 Plaster work at Pre Rup temple

Historical thought

Door lintel styles changed so significantly over time that the carvings can be used to date a building to within a 25-year period.

Historical thought

Khmer temples also served an important social and economic role. The temple was a local administrative centre, collecting tributes and redistributing gifts. Farmers used the temple to store their seed and harvest. Temples and monasteries, like Preah Khan and its 1000 teachers, were responsible for education.

Source 16.24 A door lintel from Banteay Srei



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Beautiful decorations in plaster (see Source 16.23) were also applied to brick buildings. However, during the reign of Jayavarman V (968–1000 CE), plastered brick was replaced by stone and laterite, which remained the preferred building material until the end of the era. During the eleventh and twelfth centuries, these stone temples became increasingly complex structures.

Unlike the Romans who constructed arches with keystones that locked the stonework in place, the Khmer used corbelled arches. This involved building two walls on either side of an open space and gradually placing the stones closer together until they met at the top, forming an arch. Theoretically, each side pushed against the other, preventing the roof from falling in. Sadly, corbelled arches are structurally weak and can only span narrow spaces, which has caused many corbelled arches to collapse over time.

Secular buildings, including palaces and ordinary houses, were built of timber. Owing to Cambodia's tropical climate, no timber buildings from the Angkorian period have survived. Fortunately, Zhou Daguan recorded the appearance of Khmer palaces and ordinary housing. Along with temple bas-reliefs and excavated ceramic tiles, archaeologists have been able to reconstruct Khmer palaces. Zhou's description of ordinary housing (see Source 16.25) is very similar to housing still being built throughout Cambodia today (see Source 16.26).

Other interesting features of Angkorian architecture are stone windows that often feature **balusters** made with hand-turned lathes (see Source 16.27), and pediments – triangular-shaped stones set above doorways carved with intricate bas-reliefs.

baluster a stone pillar that forms the horizontal bars in Angkorian windows

> The royal palace, officials' residences, and great houses all face east. The tiles of the main building are made of lead; all the other tiles are made of yellow clay. The beams and pillars are huge, and are all carved and painted with images of the Buddha. The rooms are quite grandlooking, [with] long corridors and complicated walkways …
>
> [The houses of the royal family and senior officials] are large and spacious in style, very different from ordinary people's homes. The roofs are made entirely of thatch, except for the family shrine and the main bedroom, both of which can be tiled …
>
> At the lowest level come the homes of the common people. They only use thatch for their roofs, and dare not put up a single tile. Although the sizes of their homes vary according to their wealth, they do not dare emulate the styles of the great houses.

Source 16.25 An excerpt from Zhou Daguan concerning housing

Source 16.26 A Cambodian stilt house



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Angkor Wat

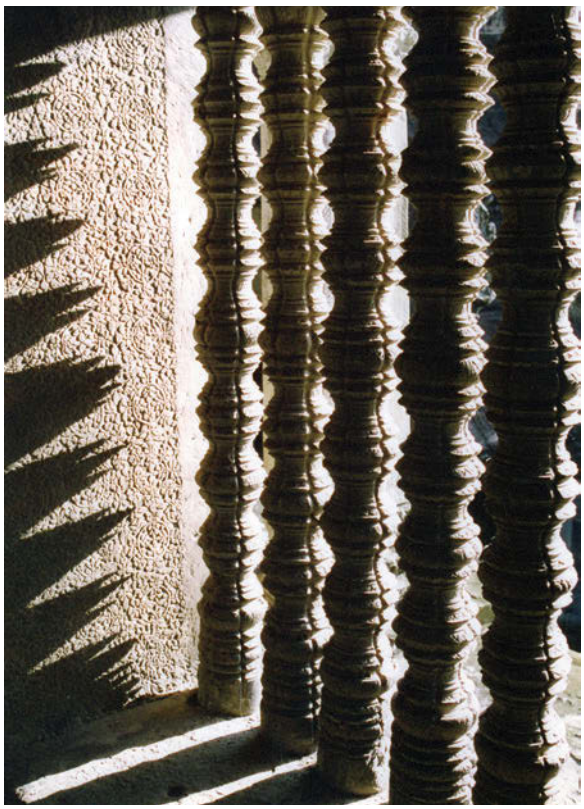
Angkor Wat was built by King Suryavarman II. Most Angkorian temples face east, but Angkor Wat faces west, suggesting that it was originally dedicated to Vishnu (as west is Vishnu's direction). George Coedès argued that west was also the direction of death, so Angkor Wat may have been built as a funerary temple for Suryavarman. However, Eleanor Mannikka has suggested that the temple functioned as an observatory. Since the fourteenth century, the temple has been used as a Theravada Buddhist pagoda.

The site is surrounded by a 200-metre-wide moat and the main entrance is from the west, across a massive sandstone causeway. The temple itself consists of three increasingly higher galleries. The Third Gallery is famous for its bas-reliefs of the *Reamker*, the 'Mahabharata' and royal processions. The four peaks of the inner gallery and the peak of the central shrine represent the mythical Mount Meru. Suryavarman II (reigned 1113 – c. 1150 CE) is considered one of Angkor's greatest kings. He overthrew his predecessor and suppressed several regional rebellions. He formed a close alliance with China and, according to Michael Vickery:

> 'pursued a policy of eastward expansion, to bring Cambodia into the developing international maritime network initiated by the new policy of the Southern Sung Dynasty in China. For this Cambodia required seaports.'

Under Suryavarman, Angkorian architecture reached its pinnacle. Suryavarman died sometime around 1150. The notable dates of his reign are as follows:

1113	Suryavarman becomes king by overthrowing his aged grand-uncle, King Dharanindravarman I
1116	Diplomatic relations are re-established with China
1120s	Suryavarman asserts control over the Chao Phraya Valley (modern-day central Thailand)
1128	Angkor is given 'special ally' status by the Chinese emperor
1128–34	China persuades Suryavarman and the Cham to launch several unsuccessful raids on Dai Viet
1144–45	Suryavarman invades Champa, defeats the King of Vijaya and sacks the city.



Source 16.27 Stone windows with lathe-turned balusters

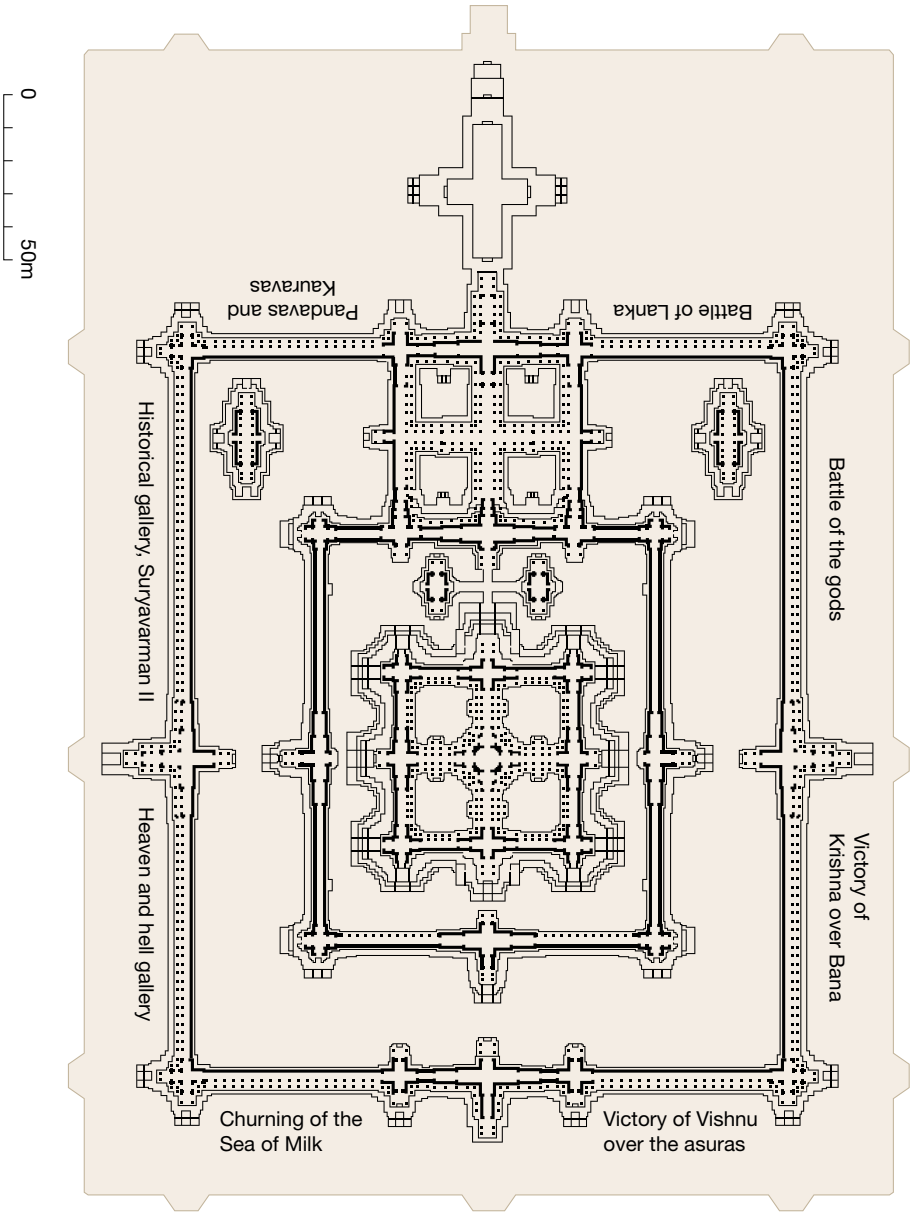


Source 16.28 Suryavarman II seated

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Source 16.29 Angkor Wat



Source 16.30 Floor plan of Angkor Wat

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His Majesty Suryavarman … grandnephew of Jayavarman [V] and Dharanindravarman [I], ascended to the throne and invited the Vrah Guru to conduct the coronation. The king then performed the sacrifices, starting with the sacred mysteries … [he then] gave rich presents such as palanquins, fans, fly-whisks, crowns, buckles, pendants, bracelets and rings … Still young, his religious studies finished, he commanded armies as vast as the ocean. Bounding on the head of the elephant of the enemy king, he killed him as Garuda on a mountain's edge would kill a serpent.

Source 16.31 An excerpt from a stele (K. 357), dated 1113 CE

DEVELOPING YOUR UNDERSTANDING 16.4

Our understanding of the Khmer Empire relies heavily upon the work of historians and archaeologists who have over the last century discovered so much about the civilisation, bringing together many different types of evidence, such as inscriptions, Chinese texts, bas-beliefs and archaeological information to reconstruct the past. However, our understanding of Angkor can only be a reconstruction based on the evidence that has survived, as much valuable information has been lost. Over time, interpretations have changed and not all scholars agree about various aspects of Angkor's past. How have historians and archaeologists developed their interpretations? Why do their interpretations differ? Is one interpretation more correct than another?

Using the internet, research one of the following scholars and write a biographical profile, outlining the contribution they have made to our understanding of Angkor and the Khmer Empire:

- Bernard-Philippe Groslier
- Claude Jacques
- Etienne Aymonier
- George Coedès
- Miriam Stark.

Decline of Angkor

Following the death of Jayavarman VII, the Khmer Empire began to decline. Many theories have been proposed to explain the decline of Angkor:

1 *Jayavarman exhaustion.* Briggs, a scholar, suggested that Jayavarman's 'building frenzy' exhausted the empire physically and economically. Certainly, very few constructions were undertaken after the death of Jayavarman.
2 *Religious revolution.* The adoption of Theravada Buddhism radically altered the warring nature of the Khmer. However, the adoption of Theravada Buddhism by other peoples, such as the Thai, didn't prevent them from military expansion.
3 *Problems at home.* The last Sanskrit inscription, erected by King Jayavarmaparameshvara in 1327, hints at internal conflict. However, the lack of sources prevents further research.
4 *Thai growth.* Whenever Angkor had a weak king, the peoples of the Chao Phraya Valley tried to assert their independence. Following the death of Jayavarman VII, Angkor's kings were unable to prevent the growth of states like Ayutthaya. As the Khmer lost control of this land, the Thai began to displace the Khmer inhabitants and grew in population. The Thai sacked Angkor in 1431, taking thousands captive.
5 *Soil sterilisation.* Groslier suggested that Angkor's growing population created increasing demand for land. This led to deforestation, which in turn led to soil erosion. The soil silted up the irrigation works, making the land sterile and forcing the Khmer to abandon Angkor.

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6 *Over-intensification.* Fletcher and Pottier follow Groslier's theory, but rather than the irrigation collapsing, they argue that Angkor's farming land became increasingly degraded and the system of transport canals broke down, stopping agriculture from moving, which led to depopulation.

7 *Climatic change.* Angkor's rapid growth in the tenth to twelfth centuries was aided by a wet climate. However, after c. 1280, Cambodia became much drier, reducing the productivity of Angkor's land. This forced the Khmer to move to wetter, more fertile areas like the Quatre Bras region.

8 *Maritime trade.* From the late fourteenth century, Chinese maritime trade increased dramatically and the movement of the capital closer to the coast may have been in response to the Khmer wishing to participate in this trade. Interestingly, the Khmer sent more delegations to China between 1371 and 1419 than they had in the previous 500 years.

9 **Black Death**. Some have speculated that Angkor's depopulation may have been caused by the Black Death. However, Lieberman rightly points out 'there is no evidence that the Black Death hit any part of mainland south-east Asia'.

Black Death the great outbreak of bubonic plague in the fourteenth century

UNDERSTANDING 16.5

As a class, discuss which of the theories concerning the decline of Angkor is the most plausible. Consider whether a combination of these theories might have caused Angkor's decline.

Rediscovery

The Western world may not have known about Angkor, but this does not mean that the city was abandoned or lost. Angkor Wat contains bas-reliefs carved between 1546 and 1564, and recent excavations have unearthed large amounts of pottery from the fifteenth to seventeenth centuries, indicating that the area was still settled, even if with a reduced population. During the late sixteenth century, several Spanish, Portuguese and Japanese travellers recorded their visits, and the king's court stayed in the area for extended periods throughout the sixteenth to eighteenth centuries. However, the global significance of Angkor was not realised until scholars followed in Mouhot's footsteps to study the site.

Historical thought

Henri Mouhot (1826–61) was a French explorer and zoologist, who trekked extensively in Thailand and Indochina between 1858 and 1861. In January 1860, he reached Angkor and recorded his observations, which were published after his death in 1863. While Mouhot never claimed to have discovered Angkor, the popularity of his illustrated book about the ruined city in the jungle inspired the common belief that he had discovered a lost civilisation.

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Historical thought

Roland Fletcher is the Professor of Archaeology at the University of Sydney and Director of the Greater Angkor Project, which has been researching Angkor since 2001. His investigations into Angkor's landscape, water management and urban planning have revealed that at 1000 square kilometres, Angkor was once the world's largest city. Fletcher's research has looked at how this low density city functioned, considering the physical and ecological stresses it faced and which he suggests were unsustainable, ultimately contributing to Angkor's decline.



Source 16.32 Professor Roland Fletcher (left) and Dr Dan Perry (right), Sydney University

Legacies of the Khmer Empire

Despite the popular belief that Angkor was discovered in the 1860s, the Khmer knew of the city's existence and the legacy it had upon Cambodia. The country's economy is still reliant upon rice cultivation, but the tourism generated by Angkorian sites is becoming increasingly important. The rural housing hasn't changed in centuries and many modern buildings are made to look Angkorian. Their cooking methods have not changed since the twelfth century, nor have their cart designs. Cambodian social etiquette, like their respect for superiors and courtesy, all stem from the Angkorian Era. Cambodia's religious beliefs have changed little from the fourteenth century, combining elements from *Neak Ta*, Hinduism and Buddhism, and Angkor's temples remain culturally significant. Angkor Wat is depicted on Cambodia's national flag. The Cambodian King's coronation has not changed in centuries and the king remains the physical and spiritual protector of the realm. Cambodian ballet keeps alive the *Reamker* epic, depicted on the walls of Angkor Wat. The Khmer language and alphabet is based upon those used in Angkor. The legacy of Angkor has also stretched beyond Cambodia, influencing



Source 16.33 The Cambodian flag and the Independence Monument, which commemorates independence from France in 1953

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the cultural and political developments of Thailand, Laos and Vietnam.

However, Angkor's legacy has also caused much suffering. Under Pol Pot, the communist leader of Cambodia between 1975 and 1979, millions starved to death trying to recreate the agricultural achievements of Angkor. Pol Pot also tried to invade southern Vietnam, claiming it was historically part of the former Khmer Empire. Vietnam's retaliatory occupation of Cambodia triggered a 10-year war against Pol Pot's guerrilla forces, during which millions of landmines were laid across northwest Cambodia, especially around Angkorian sites. Ironically, Jayavarman VII's famous monastery, Preah Khan, became the site of yet another battle and bears the scars of bullet fire. Landmines continue to maim and kill indiscriminately.



Source 16.34 The *Reamker* being performed by a traditional Khmer dancer



Source 16.35 Preah Vihear temple



Source 16.36 Thai demonstrators in Bangkok outside Government House, claiming that Cambodia has annexed Thai territory, February 2011

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DEVELOPING YOUR UNDERSTANDING 16.6

1. Consider why certain aspects of Khmer society remained the same since the Angkorian era while other things have not. What might motivate change?
2. Why is history such a contentious issue? Explain why people might argue over an archaeological site.
3. Evaluate how important history is to the creation of a nationality.
4. Examine the role an historian plays in creating national identity. Who owns the past?

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Reflecting and consolidating

Chapter summary

- The Khmer took advantage of the regularly flooding Tonle Sap, developing a water management system that fostered successful rice cultivation. This provided an excellent foundation for the development of the Khmer Empire.
- Indianisation greatly influenced the development of the Khmer civilisation religiously, politically and culturally. Trade between China and India enabled Funan to flourish. However, when the trade routes changed, Funan declined and the region's economy was forced to become more self-reliant.
- The inland state of Zhenla profited from the rich agricultural land of the Cambodian basin and encouraged the development of a sophisticated Indianised Khmer culture.
- Zhenla consisted of a number of local rulers, who occasionally had sufficient power to dominate the rest of the region, but this was only temporary, lasting until that king's death.
- Jayavarman II managed to unite the Khmer under his authority and created a lasting union. He initiated the Devaraja cult to help maintain his authority, while religiously uniting the Khmer.
- The king was responsible for maintaining dharma in the empire and he was the people's protector, both militarily and spiritually. The prosperity of the empire was tied to the behaviour of the king.
- The Khmer Empire relied upon a large bureaucracy, looking after the legal system, government and taxation. Some of these officials held hereditary positions, but many were appointed personally by the king, demonstrating the king's control over a centralised administration.
- The daily life of the Khmer has been recorded by a Chinese diplomat, Zhou Daguan, enabling historians to study their way of life in greater depth.
- The prosperity of the Khmer Empire enabled art and architecture to flourish, leading to the construction of some of the world's greatest buildings, such as Angkor Wat. Infrastructure, such as highways, bridges, reservoirs and hospitals helped to maintain the empire.
- Many reasons have been proposed for the decline of the empire, including invasion, religious revolution, climate change, ecological disasters and economic change.
- The Khmer Empire has left an important artistic, religious, cultural and political legacy not only to Cambodia but also to the world.

Short-answer questions

1 Explain why water management was important to Angkor.
2 How did Angkor relate to other peoples?
3 Describe the role of Angkor's king.
4 Outline how Indianisation influenced Angkor.
5 What function did Angkor's temples serve?

Source analysis

Study Sources 16.37 and 16.38 and answer the following questions:

1 List the features identified by Zhou Daguan.
2 Compare the similarities and differences between Sources 16.37 and 16.38.
3 How does Source 16.37 relate to the depiction of the 'Churning of the Sea of Milk' (see Source 16.13 on page 331)?
4 Why might religious imagery be used to decorate non-religious buildings?

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The walls of the city are about 20 *li* [roughly 10 kilometres] in circumference. There are five gateways … There are two gates facing east, one gateway facing in each of the other directions. Around the outside of the city walls there is a very large moat. This is spanned by big bridges carrying roads into the city. On either side of every bridge there are 54 stone deities. They look like generals, huge and fierce-looking.

The five gateways are all alike. The [handrails] of the bridges are all made of stone and are carved into the shape of snakes, each snake with nine heads. The 54 are all pulling at the snake with their hands, and look as if they are preventing it from escaping. Above the gateways in the city wall there are five Buddha heads. Four of them face toward the four cardinal points, and one of them is placed in the middle. It is decorated with gold. On either side of the gates the stones are carved into the shape of elephants.

Source 16.37 An excerpt from Zhou Daguan's writings, concerning Angkor Thom

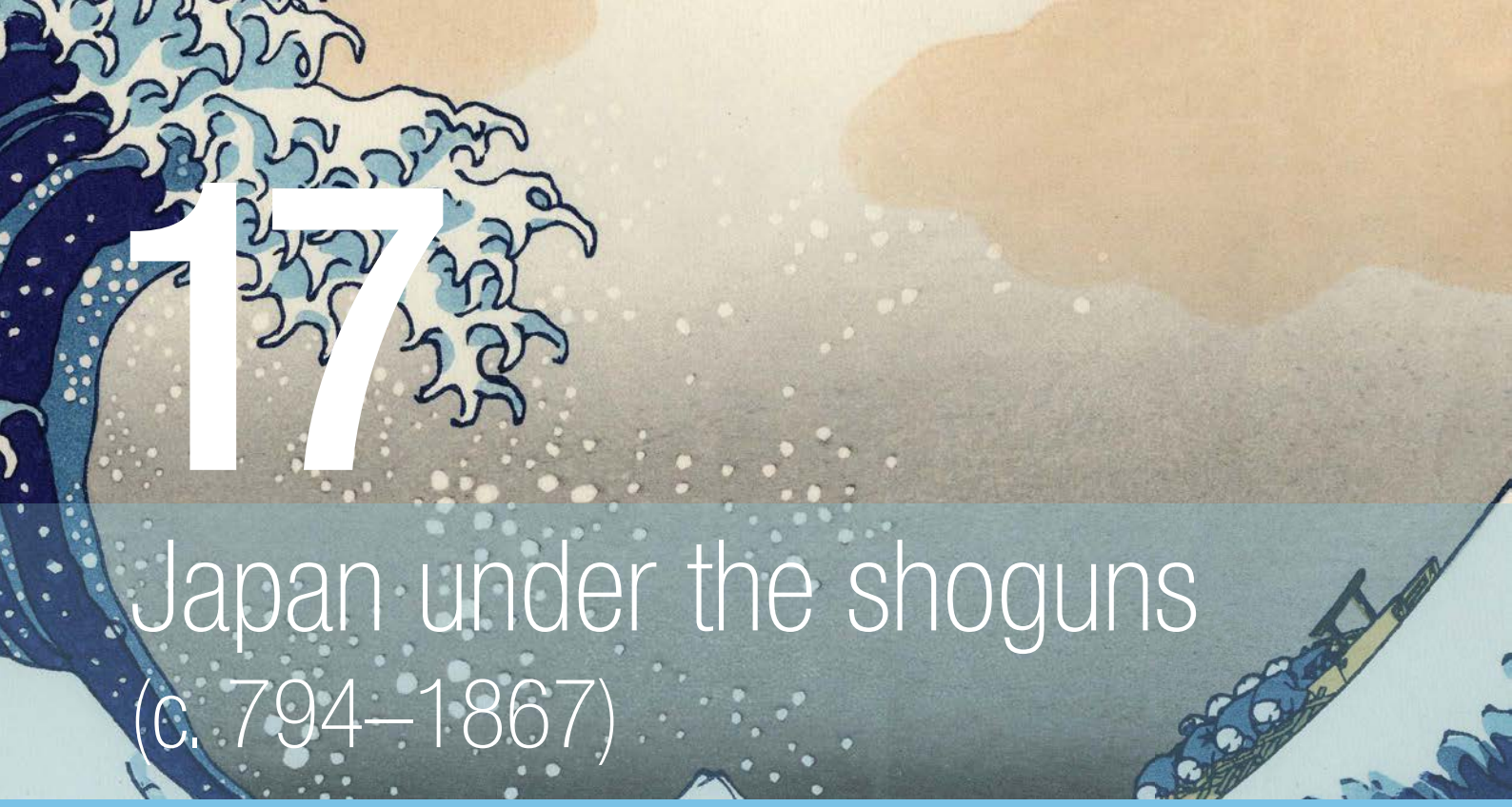


Source 16.38 The causeway and South Gate of Angkor Thom

Extended-response question

Imagine that Jayavarman VII has appointed you to head a trade delegation to China. Your mission is to convince the Chinese Emperor of the strengths of the Khmer economy and explain why China should accept Khmer goods, highlighting the country's resources, agricultural productivity and the water management systems. However, as the Chinese Emperor rarely meets ambassadors face-to- face, you are required to set out your argument as an essay. To convince a sceptical emperor, you must be thorough in your delivery and use evidence to support your claims. *Somnaang la-or* (Khmer = Good luck)!

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17 Japan under the shoguns (c. 794–1867)

Before you start

Main focus

From early times in their long history, Japanese people have sought to adapt foreign influences to their needs, while keeping their unique culture.

Why it's relevant today

Japan is once again a world power, adapting to international influences while retaining essential aspects of its national identity that have a powerful impact in the wider world.

Inquiry questions

- How did society in Japan change from the end of the ancient period to the beginning of the modern age?
- What key beliefs and values emerged in Japan and how did they influence society?
- What were the causes and effects of contact between Japan and other societies in this period?
- Which significant Japanese people, groups and ideas from this period have influenced the world today?

Key terms

- Ainu
- Buddhism
- *Bushido*
- Confucianism
- *Daimyo*
- Feudalism
- Missionary
- Meiji
- Samurai
- *Seppuku*
- Shinto
- *Tenno*

Significant individuals

- Commodore Matthew Perry
- Emperor Kammu
- Hojo Masako
- Katsushika Hokusai
- Matsuo Basho
- Minamato Yoritomo
- Murasaki Shikibu
- Oda Nobunaga
- Tokugawa Ieyasu
- Toyotomi Hideyoshi

Let's begin

Japan is a chain of islands in the northern Pacific Ocean, dominated by mountains and forest; consequently the sea, mountains and forest play an important role in its culture. From the fifth century CE, the Japanese have been greatly influenced by the culture, religion and government of Japan's powerful neighbour, China. From the ninth to the twelfth centuries, the power of the ruling emperor was diverted, first to the Fujiwara family and then to retired emperors. Emperors became ceremonial or religious figureheads (leaders in name only), while someone else held political power. This structure continued when military dictators called shoguns ruled the country. From 1603 to 1868, members of the Tokugawa family were shoguns. They closed the country to outside interference or influence. People were forced into strict classes, but the period was generally peaceful. In the mid-1800s, when Western powers forced Japan to open its borders to trade, its people saw how weakened their country had become. A group of reformers overthrew the shogun and the country quickly adopted Western technology. However, Japan retained important religious, cultural and military elements of its unique society.

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Timeline



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Source 17.1 Map of Japan today

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17.1 Way of life in shogunate Japan

The Heian period (794–1185)

Shinto

Shinto an ancient Japanese religion involving worship of ancestors and nature

kami Shinto deities (spirits)

torii a gate to a sacred place, dividing the natural world from the spirit world

The oldest religion of Japan is known as **Shinto**, meaning 'the way of the gods'. For over 2000 years, Japanese people have prayed at outdoor shrines to the spirits of heaven and earth, known as ***kami***, which can be not only human but also birds, beasts or natural features such as trees or mountains. Simple, wooden shrine gates (***torii***) can be seen throughout Japan today. At festivals, people ask for help from the gods for such blessings as a successful harvest or good weather. In earlier times, women had an important role as priestesses. A shrine of the Sun Goddess at Ise, cared for by priestesses, dates from the late seventh century. Today, there are more than 119 million followers of Shinto in Japan.

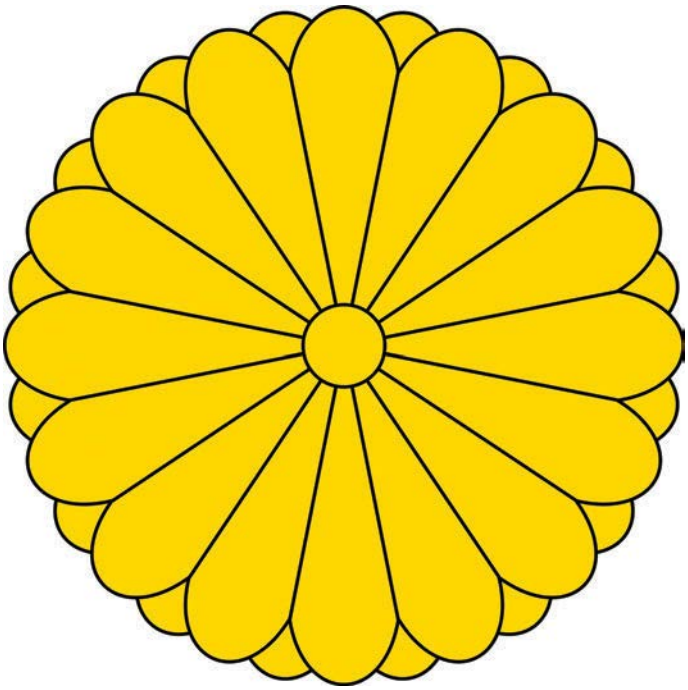
Historical thought

The written language of Japan is based on Chinese script, which was adopted c. 550 CE.



Source 17.2 A gate (*torii*) to a Japanese shrine

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Source 17.3 The crest (symbol) of the Japanese imperial family: a formal design in the shape of a chrysanthemum flower

The emperor

Two thousand years ago, Japan was divided into many tribal units. In the fifth century CE, a family on the Yamato Plain, in central Honshu, increased their power and wealth by warring and trading with rival clans (family groups). This Yamato family can be traced back historically to c. 350 CE, but they traced their descent from the Japanese sun goddess **Amaterasu**, and claimed the title of emperor or ***tenno***. The present emperor of Japan – Akihito – descends from this family, which is the longest ruling **dynasty** in history.

Amaterasu Shinto sun goddess and legendary founder of the Japanese imperial family

tenno emperor of Japan

dynasty a succession of rulers from the same family

tax a compulsory contribution made for the support of the government

province a region or district within a country

imperial related to an empire or emperor

As emperor, Kammu, who ruled 781–806 CE, claimed that all land belonged to him and he **taxed** farmers for the right to farm it. Taxes were paid in kind (that is, in goods rather than money), mostly in rice. So this taxation system could be administered efficiently, the country was divided into **provinces** ruled by governors sent from the capital. During the Heian period, members of the **imperial** family, other nobles and religious leaders (through temples and shrines) were given rights over land that was not subject to tax. These estates were called ***shoen***. Because of these exemptions, families at the emperor's court and religious leaders became very powerful. In time, the central government lost income, and local governors became more powerful at its expense.

shoen privately owned landed estates in Japan

Historical thought

The Japanese emperor is often said to occupy 'the Chrysanthemum Throne'.

Chinese influences

During the Heian period, noble families in the capital lived a life of luxury. They saw, and were envious of, the fact that the leaders of China and Korea had ancient and educated civilisations. So, using their great wealth, Japanese **aristocrats** adopted many aspects of their neighbours' cultures.

In the 500s CE, the Chinese system of writing was introduced to Japan, via Korea. Japanese rulers also adopted **Confucianism**, a Chinese philosophy (system of ideas) that is based on the writings of Confucius. It emphasises the importance of order and authority, but is not a religion.

Buddhism, a religion based on the teachings of the Indian holy man Siddhartha Gautama, known as 'the Buddha', was also imported from China. The imperial family and the court in Kyoto incorporated Buddhist ideas about life, sculpture, painting, architecture, music, dance and arts and crafts into Japanese culture. Although they were very different, the old and the new religions of Shinto and Buddhism existed side by side.

While Shintoism is native to Japan and has no sacred scripture, Buddhism was imported from India, via China, and is based on the writings of the Buddha. It emphasises preaching, whereas

aristocrat a member of the nobility

Confucianism a philosophical system of ethics based on the teachings of Confucius (c. 551–479 BCE)

Buddhism a religion that has a variety of beliefs, practices and traditions based largely on the teachings of Siddhartha Gautama (the historical Buddha)

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Shinto does not. Shinto stresses ritual purity and the performance of practices linked to the agricultural cycles of planting, growth and harvesting. Buddhism focuses on correct conduct in life to achieve salvation and end the cycle of life, death and reincarnation. In general, Japanese people use Shinto rituals for birth and Buddhist rituals for death.



Source 17.4 Giant Buddha at Todaiji in Nara; first erected about 750 CE, it has been recast several times

The Fujiwara family

After Kammu, weaker emperors allowed power and wealth to be lost to their relations, the Fujiwara family. For two centuries the heads of this family ruled Japan, but did not take the title of *tenno*. Fujiwara leaders married their daughters to the emperors, ran the government and diverted taxes to themselves. Since an adult emperor might try to take back power, many emperors were forced to abdicate (resign) and were replaced by their younger relatives.

Historical thought

Japanese family names are shown first and their given names second.

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Rule of retired emperors

From 1068 CE, four strong emperors (whose mothers were not Fujiwara) held power, using the title 'senior retired emperor'. The young men on the throne were still **puppet rulers,** but now their fathers or their fathers' fathers pulled the strings. This system was known as **rule from the cloister** (the grounds of a monastery) because emperors usually entered a monastery after abdicating. Although the imperial family had regained power, it had lost most of its wealth. In order to manage the government, retired emperors relied on warrior families for military support.

puppet ruler a ruler whose decisions are made or controlled by another person

rule from the cloister rule by a retired emperor

DEVELOPING YOUR UNDERSTANDING 17.1

1. Discuss why Emperor Kammu was important in Japanese history.
2. Recall the original name of Kammu's capital. What is it called today?
3. Identify how the Fujiwara family gained and kept control over the emperor.
4. State why the period when retired emperors dominated the court is called 'rule from the cloister'.
5. According to Japanese mythology, two gods, Izanagi and his wife Izanami, created the islands of Japan. Use the internet to research these two mythical creatures and write a paragraph telling the story.

Heian arts and culture

Literature

In the Heian period, a new Japanese culture emerged at the court of the emperor. Aristocrats, both women and men, remained fluent in Chinese, but another writing system was introduced that used simplified characters to write Japanese phonetically (that is, based on sounds) and led to a flowering of literature. A poetic style, later called ***tanka***, became popular. These are unrhymed poems, often about nature.

Here is one *tanka* written c. 875 CE.

tanka a Japanese poem of five unrhymed lines

yama takami	So high the mountains
kumoi ni miyuru	they seem afloat in the sky
sakurabana	those cherry blossoms
kokoro no yukite	my spirit visits daily
oranu hi zo naki	longing to break off a bough

Source 17.5 A *tanka* by Monk Sosei

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The world's first novelist?

kemari an ancient Japanese game in which a leather ball is kicked by players in a circle who keep it from touching the ground as long as possible

In c. 1005, Murasaki Shikibu wrote *The Tale of Genji*, which is one of the world's first novels. It tells the story of a nobleman and his family. The men enjoy games (including ***kemari***), play music and take part in archery and poetry contests.

Women are rarely depicted outdoors, only occasionally watching boat racing or playing in the snow. The book is mainly about relationships between men and women, as lovers or as family members, and shows the importance of rules about dress, manners (correct conduct) and cultural taste (see Source 17.6), which in many ways remain strong in Japan today.

> The moon turned the deepest recesses of the garden a gleaming white. The flower beds were wasted, the brook seemed to send up a strangled cry, and the lake was frozen and somehow terrible. Into this scene [Genji] sent little maidservants, telling them that they must make snowmen. Their dress was bright and their hair shone in the moonlight. The older ones were especially pretty, their jackets and trousers and ribbons trailing off in many colours, and the fresh sheen of their hair black against the snow. The smaller ones quite lost themselves in the sport. They let their fans fall most immodestly from their faces. It was all very charming. Rather outdoing themselves, several of them found that they had a snowball which they could not budge. Some of their fellows jeered at them.

Source 17.6 Extract from *The Tale of Genji* by Murasaki Shikibu

Music

lute a plucked, guitar-like string instrument with a long neck and pear-shaped body

koto a flat musical instrument from Japan with 13 or more strings that are plucked

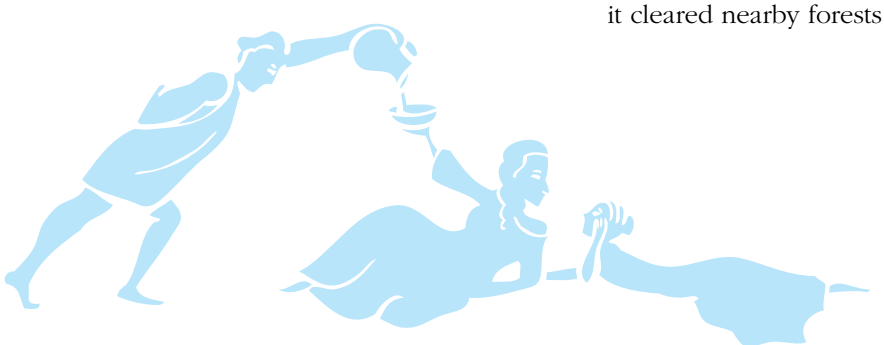
Playing music was an important court pastime, with instruments based on models from China. Both men and women played the **lute**, the flute or the ***koto***. A court orchestra, using string instruments, wind instruments and drums, played Korean and Chinese music. In the countryside, wandering musicians played lutes, entertaining listeners with songs of heroic exploits.

Art

Although Buddhist influence was strong in art, sculpture and architecture, a local style emerged with less emphasis on religious subjects. Landscape scenes around Kyoto and local plants, like the cherry blossom, replaced the Chinese fashion for rocky mountains. Wall-sized paper scrolls became popular. Others were hand-sized, which were unrolled to reveal a story, reading from right to left. Faces had two lines for eyes, a hook for the nose and 'rosebud' lips. Subjects included Japanese legends or Buddhist tales. Paintings often included **calligraphy** to tell the stories. One series showed cartoons of frolicking animals such as frogs, rabbits and monkeys.

calligraphy the art of formal handwriting

Chinese influence was also felt in architecture (see Source 17.7 on page 362). However, buildings were lighter in structure, symmetrical in design and built largely of wood, with bark rather than tile roofs. As well as lavish palaces, nobles erected religious buildings; however, the construction of Kyoto had consequences for the environment, as it cleared nearby forests of trees.



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Source 17.7 The Byodoin temple, near Kyoto, built by Fujiwara Michinaga; it is known as the Phoenix Hall because of the gilded birds on its roof

Peasants and warriors

The hard life of a Heian peasant

The literature and art of the court at Kyoto had little to say about the life of the vast majority of Japanese people. Most worked in the rice fields and their crop was heavily taxed, so that they had nothing left over apart from what was needed to work and stay alive. **Peasants** were unable to read or write, worked long hours in the fields, ate rough food and lived simple lives. Villages were small, and housing basic with most people sleeping on bare boards. Authorities often issued laws forbidding people to eat or drink certain foods, such as fish or wine. In times when food was short, peasants sometimes moved to find better conditions but the government tried to prevent this, by making travellers carry identification. When the country was engulfed in warfare, farming was even harder. Shinto festivals, rather than Buddhism, were important for the ordinary people.

peasant a labourer who relies on subsistence farming or fishing

Rise of the warrior class

Early imperial armies mostly employed foot soldiers. The emperor appointed officers and forced peasants to fight in battles. When Kammu conquered northern Honshu, soldiers on horseback were introduced, but they were stood down after warfare ended.

In the 800s CE, a warrior class of archers who fought on horseback, known as ***bushi*** (later **samurai**), emerged when the Emperors' authority began to weaken and local lords fought for land and power. Gradually warriors entered the service of the emperor, provincial governors and later powerful families. By the end of the Heian

bushi Japanese mounted warriors (later called samurai)

samurai the hereditary warrior class of Japan

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Source 17.8 The family crests (*kamon*) of the Taira (left) and Minamoto clans

period, two strong warrior clans employing these professional fighters had emerged in the provinces: the Minamoto and the Taira.

kamon an emblem or crest that identifies a particular Japanese family

To identify men in battle, family emblems known as ***kamon*** were placed on uniforms or banners. The Taira family's *kamon* was an elaborate butterfly design; the Minamoto's was bamboo leaves and **gentian flowers** (see Source 17.8). At first the clan led by Taira Kiyomori was victorious, and he became the first samurai leader to dominate the government of Japan.

gentian flowers blue flowers usually found in mountainous areas of Japan

DEVELOPING YOUR UNDERSTANDING 17.2

1. Investigate which popular Japanese art forms of today can be linked to narrative paper scrolls and cartoons painted nearly a thousand years ago. Can you find an example?
2. Check your State Art Gallery or the National Gallery of Art for Heian art and either visit or look up their collections online. Select one work and write a short description. (The Art Gallery of NSW has a good Asian art section.)
3. Design and draw a *kamon* (symbolic family crest) for yourself and your family.

The Kamakura shogunate (1185–1336)

In 1160, the Taira clan killed most of the family of a 13-year-old boy of the Minamoto clan named Yoritomo, but spared the boy's life and sent him to a distant province. Later, Yoritomo raised an army, gained control of his province and captured Kyoto. Warfare between the Taira and Minamoto clans ended in a sea battle won by Yoritomo in 1185. Yoritomo took the title of shogun in 1192; from this time, the title came to mean military ruler. The emperor remained as a figurehead in Kyoto but had little income or power. As Yoritomo's strength lay in the east, on the **Kanto** plain, he made a town there, Kamakura, his capital. It remained the shogun's headquarters for 150 years, a period known as the Kamakura shogunate or ***bakufu***.

Kanto the largest and most prosperous area of flat land in Japan (near present-day Tokyo)

bakufu Japanese military government

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Yoritomo rewarded his military supporters by giving them land previously held by enemies, and appointing them as his official representatives and protectors of provinces. These officials administered their regions and collected taxes to be sent to the shogun, keeping some for themselves. This was an important change in society, because peasants were no longer tax-paying subjects of a central government, as was the case under the system administered by the imperial court. Instead, they were now **serfs** (a kind of slave required to serve their lords) under a new class of local leaders, or warlords. In centuries to come, this system developed even further in Japan and today is known as **feudalism**.

serf a person who is bound to work the land of their master in return for a small amount of land to feed their family

feudalism a form of government based on the exchange of land for military service, with a strict hierarchy of status

When Yoritomo died suddenly in 1199, his widow Hojo Masako (1157–1225), known as the 'nun shogun', became an important political figure. The eldest child of a warlord, Masako married Yoritomo in about 1180. After he died, Masako became a Buddhist nun, but was influential when her two sons were shoguns. Both sons were assassinated, but Masako remained a dominant figure in politics until her death, helping her own family, rather than her husband's, to hold power. In later years, when women's importance was downgraded in Japan, she was portrayed as heartless and ambitious.

Downfall of the Kamakura regime

A weakness of Kamakura as a headquarters was its distance from Kyoto, where the imperial family plotted to regain power. In the other provinces, powerful lords of the new warrior class became more and more independent. In this unstable situation, Japan was faced with a dangerous external threat. In 1274, troops of the Mongol emperor of China, Kublai Khan, landed in Japan, armed with weapons that used gunpowder. When a storm damaged part of the fleet, the invaders retreated to Korea. A second attack in 1281, with



Source 17.9 Map of the four main islands in Japan, showing some key locations

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divine relating to a god or gods

kamikaze 'divine wind', especially relating to the typhoon of 1281

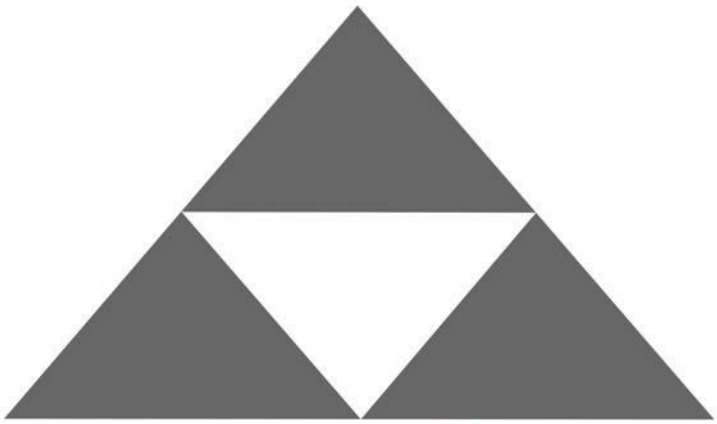
larger forces, was defeated when a typhoon wrecked the Mongol fleet. The Japanese attributed the victory to **divine** intervention, calling the typhoon the 'Wind of the Gods' or **kamikaze**.

Hojo dictators feared a third Chinese invasion, and spent much effort and expense preparing for it. But because the political rulers had not conquered new territory, they did not have enough money or land to reward supporters. As a result, provincial warrior chiefs became even more rebellious. The warrior general Ashikaga Takauji (see Source 17.10) helped the emperor to wipe out the Hojo family and other rivals, and to flatten Kamakura, but then turned on the emperor and forced him to flee from Kyoto in 1336.



Source 17.10 A portrait of Ashikaga Takauji (1305–58), founder of the Ashikaga dynasty

DEVELOPING YOUR UNDERSTANDING 17.3



Source 17.11 The family crest (*kamon*) of the Hojo clan

1. The Hojo *kamon* (Source 17.11) is a stylised design of three snake scales. Find and draw designs used to identify firms or products in the same way in the present day.
2. Identify the weakness of the rule of the shogunate at Kamakura.
3. Discuss why the Mongol invasions in 1274 and 1281 failed and what was their result in Japan.
4. Name the samurai leader who ended the rule of Japan from Kamakura.

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Ashikaga shogunate (1336–1573)

After the destruction of Kamakura, Ashikaga Takauji held the reins of power. When one emperor refused to appoint him shogun, Takauji installed an emperor who would. The new shogun returned the government to Kyoto, and built a splendid palace in the Muromachi district. The following 200 years are known as the Muromachi period or Ashikaga shogunate. The most successful Ashikaga leader was Yoshimitsu (1358–1408).

Poetry and drama

renga a form of collaborative Japanese poetry made up of a chain of verses

stanza a section of a poem

In the Muromachi period Japanese people enjoyed ***renga***, a form of collaborative poetry where verses are linked in a chain, sometimes of a hundred **stanzas**. In spring, parties gathered on temple grounds to compose 'renga under the blossoms'. Ashikaga shoguns also encouraged plays.



Source 17.12 A *noh* theatre mask of a 'beautiful woman'

noh a type of traditional Japanese play

After seeing a performance of a ***noh*** play – a form of theatre introduced from China that presented Buddhist beliefs – Yoshimitsu supported the career of a young actor, Zeami (c. 1363 – c. 1443). Zeami's plays, written 600 years ago and still performed today, have nonreligious subjects and include Shinto folk rituals.

The dramas are often based on tragic encounters in war. Many feature ghosts. Men play all roles, some wearing masks and rich costumes (see Source 17.12). Actions are refined and restrained. Musicians, playing such instruments as drums and flutes, accompany the chanted plays.

Civil warfare

After Yoshimitsu, Ashikaga shoguns were less powerful. Conflict between rival samurai houses resulted in destructive civil wars. Warrior lords grew increasingly powerful in the provinces and engaged in ferocious territorial battles. Samurai numbers grew. For protection, local warrior lords, later known as ***daimyo***, began to erect wooden fortresses. Hostility between followers of different sects of Buddhism also threatened peace. As monasteries acquired more land and wealth, they employed poorly educated monks as warriors, despite teachings banning monks from carrying weapons. Violence was common, often over conflicting claims to temple lands. Wealthy monasteries established a huge network of priests throughout Japan. In battles between the emperor and noble families, both sides used these temple warriors to assist them.

daimyo a feudal Japanese lord, roughly equivalent to medieval European duke or earl

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The samurai sword

After the attempted Mongol invasion, warriors changed from being mounted archers to swordsmen who also fought on foot. The sword was the symbol of the samurai. Samurai usually wore one long and one shorter sword. In battle they were slung across the warrior's back. A short dagger was thrust into the belt. Japanese sword-smiths became skilled at making weapons, combining toughness and flexibility with a sharp edge. A samurai sword could sever a man's head from his body in a single blow. After a successful battle, hundreds of warriors' heads would be presented for inspection by the victorious general.

HISTORICAL THOUGHT

Samurai swords were tested for sharpness and strength on the corpses of criminals.

Japanese tea ceremony

Despite the savage warfare, warrior leaders were keen to show they retained the culture of previous centuries. They particularly enjoyed the tea ceremony. The drink had been introduced from China as a medicine and was first confined to Zen monasteries. Slowly, a ritual of drinking tea spread, which continues to this day. In a room with rice-straw matting on a wooden floor (and a doorway so low that tea-drinkers would need to bow humbly when entering) hot water is poured over green tea in a bowl, and the brew is stirred and served. The unrefined ingredients, rough pottery bowls and bamboo whisk (see Source 17.13) represent the giving up of costly possessions and a celebration of the spiritual values of life. The tea ceremony is another example of Zen influence and the enduring Japanese love of ritual.



Source 17.13 The utensils required for a tea ceremony, including an incense burner, tea bowl, tea ladle rest, tea whisk, bamboo tea scoop and silk cloths

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Arrival of Europeans and Christianity

In 1543, Portuguese seamen became the first Europeans to reach Japan when they landed on the south-western tip of Kyushu. Six years later, Jesuit **missionaries**, including Francis Xavier, arrived and gained the support of a local leader. Francis left after 2 years, but his successors began to win converts. The port of Nagasaki grew under Christian control and became the entrance for trade between China and Japan, through Portuguese vessels. The arrival of the Europeans brought not only a new and powerful religion but also technology, including guns, and so added to the disorder that accompanied the overthrow of the Ashikaga shogunate.

missionary a person sent to spread a particular religious faith in another country

DEVELOPING YOUR UNDERSTANDING 17.4

1. Identify the essential elements of the Japanese tea ceremony. Which religion encouraged its development?
2. Describe the main feature of *renga* poetry. Deduce what was meant by *renga* 'under the blossoms'.
3. Make some *noh* masks (for example, of a woman, a demon and a warrior) and perform a play based on an episode in Japanese history.

Reunification of Japan (1560–1603)

By the mid 1500s, Japan was breaking apart after a century of warfare. Three military leaders halted the collapse. The first was Oda Nobunaga, who gained control over central Honshu.

Born in 1534, he was the second son of a minor military governor. At the age of 25, Nobunaga took over his province. In 1568 he seized Kyoto, supporting an Ashikaga shogun, but then drove him from the capital. Nobunaga was notorious for his savagery. His motto 'rule the empire by force' led to a life spent in warfare. He built a massive castle, north of Kyoto, as a symbol of his power, and adopted the cultural refinement of Japan's historical past.

Nobunaga first reorganised his army: from separate groups under clan leaders it became a single force, comprising separate divisions such as



Source 17.14 *Ashigaru* firing muskets. Note the *jingasa* (samurai hats) on their heads.

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cavalry soldiers who fight on horseback

musketeer a soldier who is equipped with a musket, an early form of rifle

cavalry, swordsmen and **musketeers** (see Source 17.14). As commander, he overwhelmed his opponents with ruthless force, destroying not only rival samurai lords but also the military power of Buddhist monasteries.

Nobunaga also set up an efficient system of centralised political control, demanding complete obedience from *daimyo*, replacing disloyal *daimyo* with supporters and placing loyal allies between less loyal ones. All *daimyo* were ordered to demolish all their forts except one. The wives and families of *daimyo* were required to reside in Kyoto as hostages. Finally, Nobunaga ordered his *daimyo* to survey their regions and provide him with a detailed summary of their economic wealth. Nobunaga's army was small but well equipped, especially with the guns that had been introduced by the Portuguese. Warriors in heavy armour on horseback could not wield early firearms, so Nobunaga issued them to ***ashigaru***. Previously poorly trained, these spear-carrying foot soldiers were now given light armour and trained carefully. Their firearms were called **arquebuses**, which had to be **primed** and have a fuse lit before they could be fired. Nobunaga lined up *ashigaru* in rows. He ordered the front rank to fire together then step back, prime and reload. The second, then the third row did the same. Using these methods at Nagashino in 1575, his *ashigaru* defeated a large army of samurai on horseback.

ashigaru Japanese foot soldier armed with a handgun

arquebus an early handheld gun or musket; also known as a matchlock

prime prepare a firearm for firing

Betrayed by an ally and wounded, Nobunaga committed suicide in 1582. After his death, the son of an *ashigaru*, Toyotomi Hideyoshi, seized power in Japan.

Rule of Toyotomi Hideyoshi

Toyotomi Hideyoshi had risen through the ranks to become second in command to Nobunaga, who nicknamed him 'monkey' because he was short, thin and ugly. Once in power, he extended Nobunaga's conquests, gaining control over the islands of Shikoku and Kyushu. In 1590, Hideyoshi built his castle fortress, the largest in Japan, at Osaka. At first preferring to negotiate with (rather than **exterminate**) his enemies, he gained a less violent reputation than Nobunaga. Later he became cruel and suspicious, even ordering his tea-ceremony master, Sen Rikyu, to commit suicide.

exterminate to bring to an end or finish

In 1592, Hideyoshi invaded Korea. Although his armies were successful on land, Korean fleets defeated his ships at sea. The dictator's death in 1598 ended the war, but his unprovoked invasion left a bitter legacy in Korea. On his deathbed, Hideyoshi forced his allies to swear to support his infant son.



Source 17.15 A portrait of Toyotomi Hideyoshi, blowing his war horn before a great battle

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Tokugawa Ieyasu comes to power

The council members who swore to support Hideyoshi's son soon fought for power among themselves. In 1600, a battle at Sekigahara, won by Tokugawa Ieyasu, decided the struggle. Ieyasu, born in 1543, was the son of a minor warrior lord. After a failed attempt to gain power, he acknowledged Hideyoshi as his overlord. Ieyasu had his own wife and son put to death to prove his loyalty. But Hideyoshi transferred the dangerous rival from his family's stronghold in central Honshu to the Kanto region. Instead of weakening Ieyasu, this strengthened him, as he now controlled Japan's largest and most fertile region.

In 1603, Ieyasu forced the emperor to make him shogun and demanded the right to appoint all court officials. Two years later he gave up the title to his son. But Ieyasu remained in control until he died in 1616.



Source 17.16 A portrait of Tokugawa Ieyasu

DEVELOPING YOUR UNDERSTANDING 17.5

1. What is a *jingasa*? Draw a picture to illustrate your explanation.
2. Explain why the Battle of Nagashino (1575) is important in Japanese warfare.
3. Look up 'arquebus' or 'matchlock' on the internet. How did these weapons differ from later firearms?
4. Describe the forms of political control that Hideyoshi introduced.
5. Decide who, in your opinion, was the most important of the three men who unified Japan. Why do you think so?

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17.2 The Tokugawa era

Ieyasu set up his headquarters in the Kanto where he built a new city, Edo (now called Tokyo). It grew spectacularly: within 100 years about 1 million people lived there, and it was probably the largest city in the world. A unique culture also grew up around Ieyasu's mighty stone castle.

Growth of feudalism and intensive agriculture

The first signs of the system of government known as feudalism grew from the large, tax-free rural estates acquired by noble families and temples during the Heian period. In the following centuries, Japanese land gradually began to be privately owned as it passed from the central government to the local governors. These governors used the land more intensively and taxed the farmers who worked on the estates. Other farmers saw that the local governors provided better protection than the distant emperor, so joined the shoen. By the mid 1500s little public land remained. Instead, military families governed private estates independent of both the emperors and shoguns. These clans increased the yield (amount produced) on their land by such methods as intense **irrigation**, increased use of fertiliser and double-cropping (harvesting twice each year).

irrigation a system of bringing water to a dry area, especially in order to help crops grow

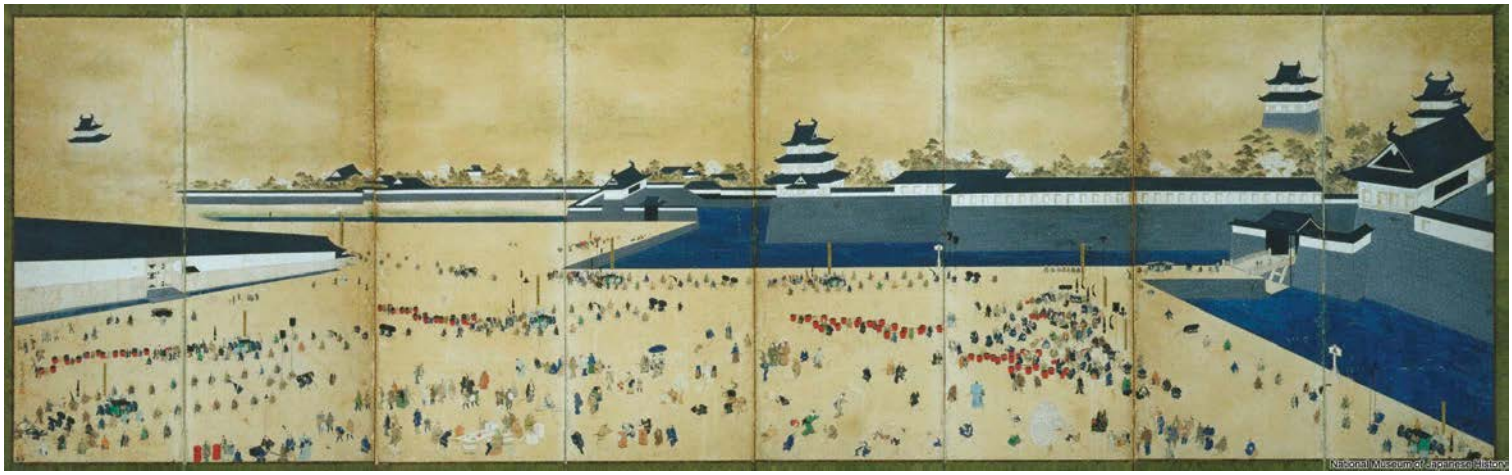
Ieyasu strictly enforced the divisions in society of the existing feudal system. Regulations divided people into four classes. Starting from the top rank, they were samurai, peasants, craftspeople and merchants (see Source 17.18 on the next page). Outside the class structure were the emperor, who had no political power, court officials, scholars and priests. Far below were outcasts.

Ieyasu claimed absolute right to rule. The Tokugawa family directly controlled the richest 25% of the country. The rest was parcelled into about 260 domains (or regions) ruled by *daimyo*. Each *daimyo* passed his own laws, gathered taxes and performed central duties such as military defence or large building projects. However, elaborate rules ensured that no *daimyo* became rich or powerful enough to be a threat.

For example, each *daimyo* had to:

- obtain approval to marry
- follow strict and expensive dress codes
- travel at great expense every second year with his samurai army to Edo and live there
- house his family permanently in Edo, making them virtual hostages
- have no more than one castle, where he must house his samurai and retainers
- obtain approval to carry out castle repairs.

Samurai below *daimyo* rank – about 6% of the population – were forced to live in barracks in



Source 17.17 A screen showing the attendance of the daimyo at Edo castle, by Kyosai Kiyomitsu (1847)

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the castle towns, had to obtain the shogun's permission to marry or inherit, and were forbidden from engaging in farming or trade.

With no wars to fight, descendants of fierce warriors became bureaucrats (government officials). Many simply attended their lord, and travelled with him every second year to Edo, where they had little to do but patronise the pleasure district. Others carried out duties in the *daimyo*'s domain. In this enforced inactivity, the principles of *bushido* (see 'Code of *bushido*' on page 374) became important for morale.

Only samurai were permitted to have surnames. Most were educated by Confucian scholars and were literate (that is, they could could read and write). Internal divisions were enforced: high-ranking samurai could wear a sword and ride a horse, but descendants of *ashigaru*, the lowest grade, could not. All were required to serve a *daimyo*, who paid their salary.

Samurai without masters were called ***ronin***; with no income they led a **precarious** existence.

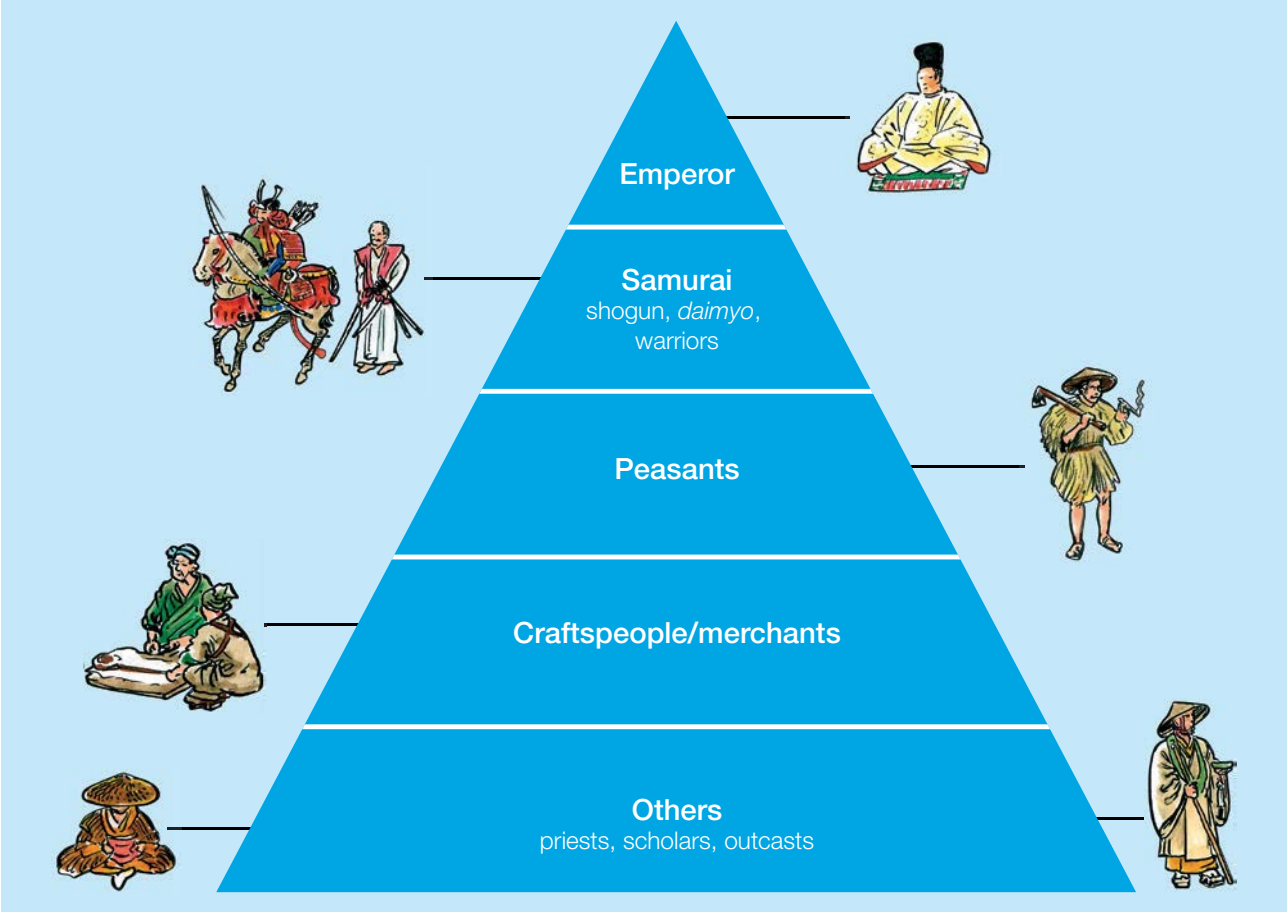
ronin a samurai warrior without a master, who therefore received no salary

precarious dangerously insecure

Peasants (subsistence farmers or fishermen who provided the necessities of life) were second in importance to samurai, and made up about 85% of the population. In return for protection and the right to farm the land or fish the sea, peasants paid taxes to their *daimyo*.

Craftspeople – skilled providers of such items as swords, clothing, food and tools – were regarded as inferior to peasants. Builders and carpenters, fortune-tellers and doctors were also included in this class.

The lowest-ranking official class was that of merchant. It was also the wealthiest – because trade was regarded as less honourable than other work, merchants were not heavily taxed. Many samurai became deeply indebted to them. Like samurai and



Source 17.18 Social hierarchy in Japan between 1600 and 1868

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most craftspeople, merchants were required to live in the castle towns, where they played an important role in the growth of popular culture. Priests and scholars were outside the system.

In this period, Buddhism was sidelined, although every household was required to register annually with a monastery. Instead, Confucianism, which emphasised obedience and order, had a stronger influence. A well-known Confucian saying was that 'a woman should obey her father in her youth, her husband in maturity and her son in old age'. In this period, the rights of women declined. They could no longer own property and were more poorly educated than their brothers, husbands and sons. Below the formal class system were labourers and hereditary outcasts, known as ***eta***. These were mostly people who followed trades associated with butchery, leatherwork or burial.

eta an offensive term used to describe Japanese outcasts who were regarded as below the officially decreed class system

Edo culture

A distinctive flowering of culture occurred in this period of peace. Shoguns and samurai leaders claimed that their fitness to lead the country was demonstrated by their refinement; for example, they enjoyed entertainment such as *nob* drama. In the growing townships and commercial districts, however, less dignified forms of entertainment grew up, and a lifestyle known as ***ukiyo*** emerged. The art that portrayed this world was called ***ukiyo-e***. A new form of theatre, ***kabuki***, also developed. *Kabuki* featured extravagant makeup, costumes and scenery, and violent dramatic action. Men played all roles.

ukiyo 'the floating world'; a lifestyle emphasising pleasure, centred on the cities

ukiyo-e art that portrayed the Japanese *ukiyo* (pleasure-seeking) lifestyle

kabuki a style of Japanese theatre that developed during the Tokugawa period

In the countryside, peasants toiled as always, though at least there was general peace. Villagers could generally manage their own affairs, since samurai were banned from living outside castle towns. There were 63 000 villages by 1800, each with an elementary school in a Buddhist temple or Shinto shrine. Wandering musicians who entertained the villages included ***komuso***, members of a Zen

komuso a wandering priest of a Zen Buddhist sect who played the *shakuhachi*



Source 17.19 *Komuso* playing *shakuhachi*

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shakuhachi a Japanese bamboo flute

Buddhist sect who hid their heads under a basket and played the ***shakuhachi*** (see Source 17.19).

These travelling musicians sometimes spied on behalf of the central government, but the music they played was serene.

A unique art during the Tokugawa period was woodblock printing. This evolved from the black-and-white images of previous centuries to become mass-produced, lavishly coloured illustrations, often of *kabuki* actors or courtesans from the cities' pleasure districts. The skill of the artist who designed the image was important, but the work also required expert engravers to cut the woodblocks, printers to produce multiple sheets with different colours, and publishers to finance production and market the prints. Many artists became famous, including Kitagawa Utamaro (1753–1806), Utagawa Hiroshige (1797– 1858) and Katsushika Hokusai (1760–1849).



Source 17.21 Portrait of Matsuo Basho by Katsushika Hokusai

Poetry always had a central place in Japanese culture. Around the 1670s, poets added new styles that quickly gained widespread popularity. One of the masters was Matsuo Basho (1644–1694; see Source 17.20). The second son of a down-on-his-luck samurai, Basho moved to Edo c. 1672.

After a disciple planted an ornamental banana tree (basho) in his garden, he changed his name to that of the tree. Influenced by Zen Buddhism, he began to travel in Japan, writing poetry about nature and emotions such as loneliness, fear and serenity. He was welcomed, housed and fed wherever he went, even in remote mountain villages. Gradually, he concentrated on writing **haiku** (brief structured poems, often about nature, that sketch a scene or an emotion).

haiku a distinctive Japanese poem with three unrhymed lines, the first and third lines consisting of five syllables each, and the second of seven syllables

furu ike ya	The old pond
kawazu tobikomu	A frog jumped in,
mizu no oto	Kerplunk!

Source 17.20 A haiku by Basho (1686)

Code of *bushido*

bushido a Japanese warrior code of conduct

From their beginnings, warriors in Japan had a code of honour, which became known as ***bushido***, meaning 'the way of the warrior'. Over centuries of warfare, heroes were celebrated for their battle skills, loyalty and bravery. Under the Tokugawa rule, when there was little fighting, *bushido* became part of the feudal system. One incident became famous as 'The Forty-Seven Ronin'. In 1701, a *daimyo* named Asano Naganori, insulted by a shogunate official, drew his sword in the shogun's castle and wounded the offender – a crime punishable by death.

seppuku a method of ritual suicide considered honourable for samurai

Naganori was forced to commit ***seppuku***, leaving his samurai (who were now masterless *ronin*) to plan revenge. Nearly 2 years later, they killed the official and placed his head on their master's grave. The *ronin* then committed suicide, becoming examples of the principles of *bushido*: rectitude (straightness),

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courage, goodness, respect, honesty, honour and loyalty. Their graves in Tokyo still attract pilgrims and tourists today. The principles of *bushido*, based on warrior chivalry, merged into rules for government officials and lasted long afterwards.

A closed country

Tokugawa shoguns were suspicious of foreign influences. Ieyasu confined Westerners to Nagasaki, where the Portuguese, Spanish, Dutch and British set up trading posts. Alarmed by the large number of religious converts, in the early 1600s shoguns banned **Christianity** and ordered **Catholic** missionaries and most foreign traders to leave Japan. After famine (a widespread scarcity of food) led to an uprising by Christian communities in 1637, Catholicism was savagely outlawed and many followers were **martyred**. Dutch traders were permitted to stay, because they were **Protestants**. But they were confined to a tiny island, Dejima, in Nagasaki harbour and forced to tread on Christian images once a year to comply with shogunate laws.

Christianity a religion that is based on the life and teachings of Jesus Christ

Catholic a Christian who belongs to the original church led by the pope; also Roman Catholic

martyr someone who is put to death for their beliefs

Protestant a Christian belonging to one of many sects that split from the Catholic Church as a result of the Reformation

Japanese people were forbidden to travel overseas. No one was allowed to build sea-going vessels. Chinese and Korean traders and a few Dutch vessels each year were Japan's only links with the outside world for over 200 years, the 'closed country' period. Any form of foreignness was forbidden, except for translators who were permitted limited contact with what was called 'Dutch learning'.



Source 17.22 A still from the 1941 film *The 47 Ronin*, directed by Kenji Mizoguchi; the many films made about this episode are a testament to the popularity of the story, both within Japan and internationally

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HISTORICAL THOUGHT

The story of William Adams, a British seaman known as the 'foreign samurai' who arrived in Japan in 1600, inspired James Clavell's novel, *Shogun*, and a TV series.

The Tokugawa and the environment

In this period of seclusion, the country enjoyed peace, the economy grew and cities expanded. Most Japanese buildings were wooden, because stone or brick structures were vulnerable to earthquakes. Wood was also needed for fuel. In addition, because soils were poor in minerals, forests were raided for green fertiliser – for example, as burnt or rotted mulch. Between 1600 and 1720, as the population grew from 12 million to 31 million, more marginal land was farmed and even more woodland was destroyed. The result was severe environmental damage, as forests were destroyed and soil was washed away throughout the four main islands.

From the mid 1700s, however, the population stopped growing and environmental damage began to be repaired. Expansion of irrigated land ended. Fisheries were developed for both food and fertiliser. Officials began to protect the forests. The collection of wood was limited and replanting was enforced. Scholars wrote books promoting the growing of trees. During the 1800s, tree plantations spread and became an important source of timber. These practices are a major reason for the survival of Japan's forests today. Tokugawa rulers made the country's boundaries clearer. From 1600, southern Hokkaido was included among the shogun's domains. In that island's harsh and difficult northern region, the original inhabitants, the **Ainu**, were left to themselves until Russian ships began to arrive at the end of the 1700s, when the shogun placed the whole island under his direct control.

Ainu the original inhabitants of Japan who now mainly live in Hokkaido

17.3 Modernisation and Westernisation

Osaka uprising

Japan's major internal port and commercial centre, Osaka, was under the direct control of the shogun. With no local *daimyo*, and a large population of nearly half a million people, it was very different from other castle-towns and contained many large merchant businesses and no resident samurai quarter. Here, in 1837, an uprising occurred that revealed serious problems in the political and economic system.

Although the previous two centuries were mostly prosperous, occasional crop failures had created hardship throughout Japan. Serious food shortages occurred in 1786 and 1836, and on both occasions they produced rebellions. The famine in 1836 followed years of cold weather that had destroyed crops. In Osaka there was widespread death and starvation, which was made worse by **epidemics**. In response, a local official blamed the disasters on divine discontent with the shoguns' treatment of the imperial family. He urged his followers to attack the government and merchants, seize their warehouses and distribute rice to the people.

epidemic a disease that affects many people at the same time

The revolt failed, but the government's response was incompetent. Famine had exposed faults in the single crop economy. Failure of a rice harvest was devastating when there was no backup crop. As well, a country divided into hundreds of self-governing domains was shown to be unable to deal with occurrences (like famine) that spread over large parts of the country.



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Source 17.23 The restored Osaka castle, originally built by Toyotomi Hideyoshi

DEVELOPING YOUR UNDERSTANDING 17.6

1. List the main features of the Tokugawa feudal system.
2. Play a recording or DVD of the *shakuhachi*. Describe the effect of this music on you.
3. Write your own haiku (see the glossary definition on page 374 or look up the internet for examples).
4. Identify the failings in the Tokugawa system of government revealed by the 1837 Osaka uprising.

The closed country opens

During the 1800s, European countries and the United States tried unsuccessfully to gain direct access to Japanese trade. In July 1853, four dark-hulled warships steamed into Edo Bay. Six times larger than Japanese vessels of the time, and carrying 61 guns and 967 men, they became known as 'the black ships'. They were commanded by Commodore Matthew Perry (1794–1858), an experienced officer in the US navy. Perry was ordered to Japan to make three demands: humane treatment of shipwrecked sailors; the opening of ports for provisions and fuel; and access to ports for trade. Perry indicated that he was prepared to use force if necessary. After presenting a letter from the President of the United States, he departed

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treaty an agreement between countries

consul an official representative of a foreign government

for China, promising to return the following year. He was back in February 1854, this time with with a larger fleet. The Tokugawa leadership reluctantly agreed to Perry's demands and signed a **treaty** permitting the United States to station a **consul** in Japan.

Soon other Western powers imposed similar treaties. Foreign consuls arrived in Japan and traders settled in Japanese ports. The Tokugawa regime was humiliated by its forced surrender, and public opinion in Japan was hostile to the treaties. Opponents attacked foreigners and officials under the slogan, 'Revere the emperor, expel the barbarian'. A rival group, however, urged a policy of learning from the foreigners. In a decade of violence, leaders were assassinated as samurai attacked samurai. Soon enthusiasm grew for Western 'civilisation and enlightenment'. Perry's 'black ships' had a powerful effect. The Tokugawa shogun's officials began to adopt Western technology. In 1855, a naval training centre opened near Dejima in Nagasaki. Because of the Dutch trading post there, this was one of the few places where officials knew a European language. For the same reason, and because the Dutch had warned Japan of Perry's plans, Dutch naval officers were in charge of the training. The training centre was closed after only four years, but its students included officers and engineers who would be important in the shipbuilding industry and in setting up the imperial Japanese navy, although eventually it would be based on French and British models rather than on Dutch. The shogunate government continued with its naval program, and by 1867 had the largest fleet in the region.

reformer a person who works to improve social policy

Some naval students became active among the **reformers** urging Westernisation. Both reformers and opponents turned to the traditional centre of Japanese culture, the emperor. In 1867, 14-year-old Prince Mutsuhito (1852–1912) came to the throne. This allowed new advisors to take power, in the same way that regents had done in centuries earlier.

Restoration of imperial rule

Late in 1867, the reformers took control of the court in Kyoto. In the name of the emperor, they issued an edict in January 1868 announcing a return to imperial rule. After a series of land battles, an imperial army seized the shogunate capital, Edo, in July. The last shogun resigned. The new group used the authority of the emperor to rule as his grand council, adopting the name **Meiji**, meaning 'enlightened rule', for the new period of government.

Meiji a period of reform in Japan after 1868; also the posthumous name of Emperor Mutsuhito

In 1869, the Tokugawa naval forces were defeated in a sea battle and the emperor moved from Kyoto to the shogun's residence at Edo, which now became the Imperial Palace. Known after his death as Emperor Meiji, he was a powerful symbol of the nation. Edo was renamed Tokyo, meaning 'the eastern capital'.

The men who overthrew the Tokugawa regime were middle- or low-ranking samurai mostly from western Japan. Although they announced their policy as 'restoration of imperial rule', they replaced the Tokugawa shogun and his eastern advisors with themselves. Through their decisive action and by winning the battles that followed, they took political power and accelerated the modernisation of Japan.

Industrialisation of Japan

Beginning under the shogunate, but accelerating under the reformers, there was a rush to develop European and American practices in Japan after 1853. Under this 'cult of modernity', numerous groups of Japanese officials visited Europe and the United States. Japan's society and economy were transformed, helped by the strong unifying figure of the emperor, the ethnic homogeneity (sameness) of the Japanese people, a strong national and cultural identity, a history of learning from outside Japan, the existence of an honest, efficient bureaucracy and a relatively high rate of literacy (45% for men and 15% for women).

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Social changes

In the name of the emperor, all land was nationalised (declared the property of the government). Private land was then legalised and deeds (documents proving ownership) issued to the owners. *Daimyo* relinquished to the emperor their territories and became governors, although officials appointed by the central government administered the new **prefectures**.

prefecture a subdivision or state within Japan

abolish to formally put an end to something

The feudal system was **abolished**. The samurai class lost power, salary and privilege; for example, the wearing of swords was banned. Farmers, craftspeople and merchants became a single class of commoners, who could now have surnames. Outcast groups (the *eta*) were given equal rights. Women, too, were declared to have equal rights with men. Their role certainly changed, because they were required to work in the new factories, especially in the textile industry. But it was not until after World War II that women's rights began to improve.

Economic changes

Monetary land taxes replaced the previous practice of charging a percentage of agricultural yield. Taxpayers, such as farmers, were confirmed as the owners of their land. A modern **mint**, a privately owned banking system and decimal currency were established.

mint a place where money is manufactured

Industrial changes

The government set up a telegraph and postal service, and built railways. By the end of the nineteenth century, 8000 kilometres of tracks had been laid. Western experts were invited to Japan to advise on industrial development. Mines, shipyards, factories, transport services and textile factories were built rapidly. Because Japan was a latecomer, it could use the newest technology and avoid the expensive mistakes made by Western countries that had industrialised slowly. But environmental damage, which had lessened under Tokugawa shoguns, now accelerated.

Military changes

Commoners were permitted to engage in warfare, and **conscription** was introduced. A permanent national army and a navy were set up, based on those of the great Western powers. Munitions factories were built.

conscription compulsory enlistment for military service

Legacy of shogunate Japan

Faced with the military power of Western industrial nations in the mid 1800s, Japan's leaders did what they had done for centuries: they adopted aspects of their opponents' culture. Japan quickly industrialised, becoming an international trading nation and strong military force. Its leaders took over the policies of international rivalry, territorial expansion, economic development and environmental destruction that Western powers had shown them. As a result, the country was a major combatant in the fields of **diplomacy**, warfare and economic activity during the twentieth century. At the same time, Japanese traditions in arts such as literature, painting, theatre, music, gardening and religion had a great influence on the wider world. Japanese refinement and thinking – such as Zen Buddhism, with its emphasis on the fleeting nature of material things and the importance of nature – are among the abiding legacies of the country's unique history.

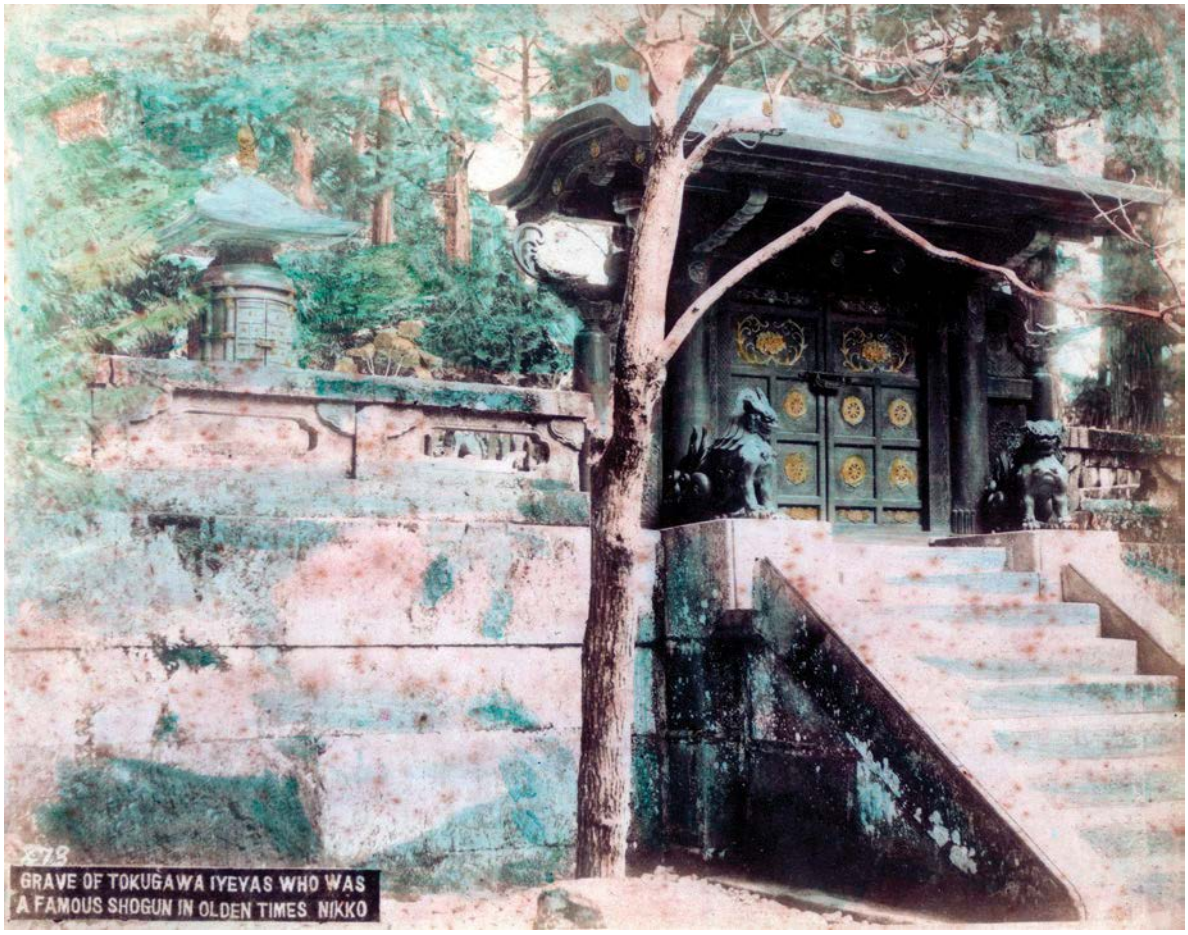
diplomacy the practice of negotiating between representatives of different countries

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DEVELOPING YOUR UNDERSTANDING 17.7

1. After the last shogun resigned, what was his residence in Edo used for?
2. Role-play a meeting between Admiral Perry and a representative of the shogun, presenting arguments for their ideas.
3. List the main ways in which Japanese society and economy changed after 1853.
4. Explain why Dutch instructors were the first to train naval officers in Japan.
5. Write a short explanation of how Japan industrialised so quickly.
6. Use the internet to research one of the following shoguns in more detail:
   - Ashikaga Yoshimitsu
   - Minamoto Yoritomo
   - Tokugawa Ieyasu.

   Be sure to research the major achievements of the shogun you choose. Gather information about their birth, life and death. Present your findings to the class as a PowerPoint presentation.



Source 17.24 Grave of Tokugawa Ieyasu, Nikko, Japan

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Reflecting and consolidating

Chapter summary

- In the Heian period, a golden age of culture when Kyoto was the imperial capital, influences from the Chinese and Korean cultures were adapted to become distinctively Japanese. Later, a class of warriors began to emerge.
- The Kamakura period saw the beginning of rule by a shogun and of a system that historians call feudalism. Kamakura, a rival capital to Kyoto, was built in eastern Japan. New influences from China included Zen Buddhism. In 1281, a Mongol invasion was repulsed.
- Central political power, again based in Kyoto, weakened during the Muromachi period as agriculture intensified. Despite civil warfare, poetry and drama flourished. In the 1540s, Europeans introduced Christianity and gunpowder.
- Three warriors reunited the country in the late 1500s and set up a system of central control.
- Under Tokugawa shoguns, Japan had 250 years of peace, but was isolated from the rest of the world. The Japanese economy grew quickly at first, but stabilised to do less harm to the environment from the mid 1700s. A system of centralised feudalism continued until the arrival of an American fleet in 1853.
- After 1853, Japan changed quickly from an agricultural to an industrial society and a military power.

Short-answer questions

1 Name the original inhabitants of Japan.

2 Identify the important Japanese religions and philosophies. Which of them encourages meditation and simplicity?

3 Explain in a few sentences how Japan defended itself from the Mongol invasion in 1281. What was the main cause of the invasion's failure?



Source 17.25 The rock garden of the Ryoanji temple in Kyoto, dating from the 1400s

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4 Which famous Japanese poet was named after a banana tree? What type of poetry did he write?

5 Examine why Japan is one of the most forested regions on Earth today.

Source analysis

Study Source 17.25 on page 381 and answer the following questions:

1 Which Japanese religion or philosophy inspired gardens such as these?

2 What cultural and spiritual attitudes are expressed in such gardens?

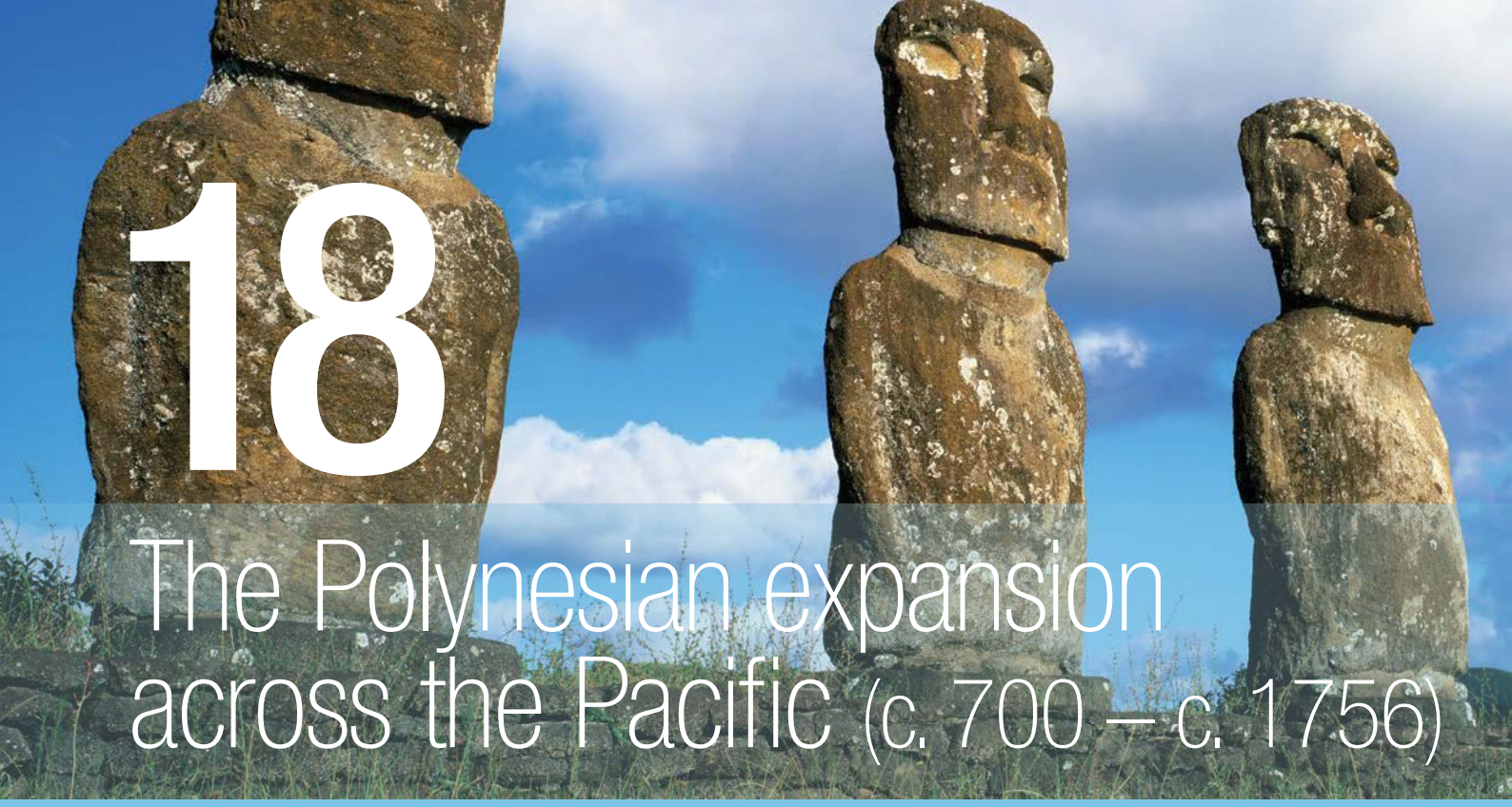
3 Write about the sort of gardens you like. What feelings do gardens inspire in you? Compare and contrast the two gardens.

Extended-response questions

1 Write an account of the role of women in the history of shogunate Japan. Be sure to include individual women and to describe how the position of women changed over time.

2 Describe the rise and fall of the samurai class in Japan. Include individual samurai leaders and an account of the role of the code of chivalry known as *bushido*.

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18 The Polynesian expansion across the Pacific (c. 700 – c. 1756)

Before you start

Main focus

The last wave of the human settlement of the Earth was performed by the Polynesians, who developed a flourishing culture across the vast distances of the Pacific Ocean.

Why it's relevant today

Polynesia occupies most of the Pacific Ocean between Australia and the United States, and includes many of the countries in our region. Studying the cultural achievements of the Polynesians, as well as how they adapted to their marginal environments, helps us to understand the challenges facing our own society.

Inquiry questions

- Who were the Polynesians and what were their origins?
- How do we explain the spread of Polynesian cultures throughout the Pacific region?
- What was it like to live in a traditional Polynesian society?
- What were the significant cultural achievements of the Rapa Nui (Easter Island) society?
- Were Polynesian communities sustainable?

Key terms

- *Ahu*
- Island hopping
- *Mana*
- *Moai*
- Polynesia
- Stick chart
- *Tapa*
- *Tapu*

Significant individuals

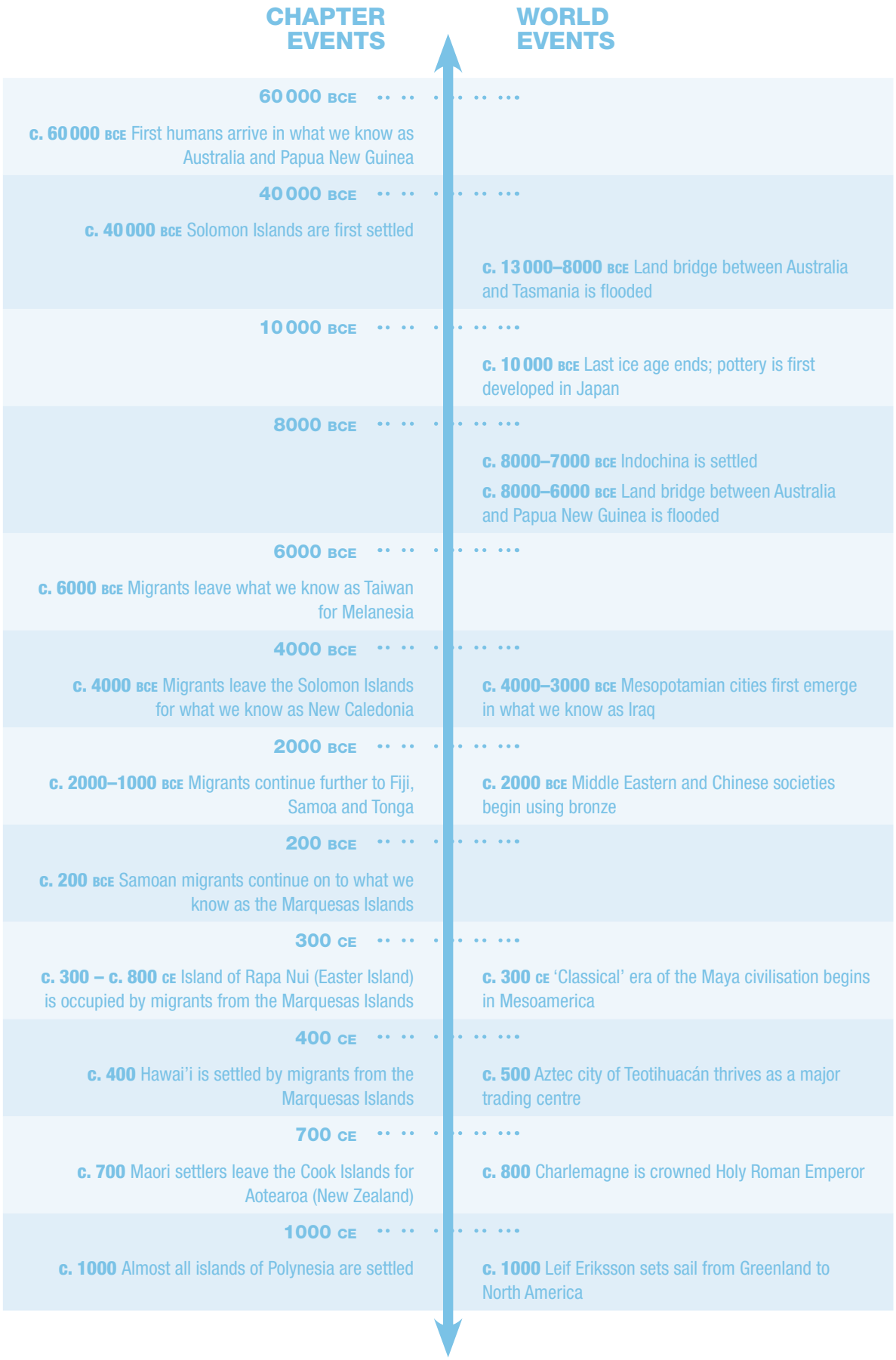
- Andrew Sharp
- Captain James Cook
- Hotu Matu'a
- Jacob Roggeveen
- King Kamehameha I
- Queen Kaahumanu
- Queen Pomare IV
- Thor Heyerdahl

Let's begin

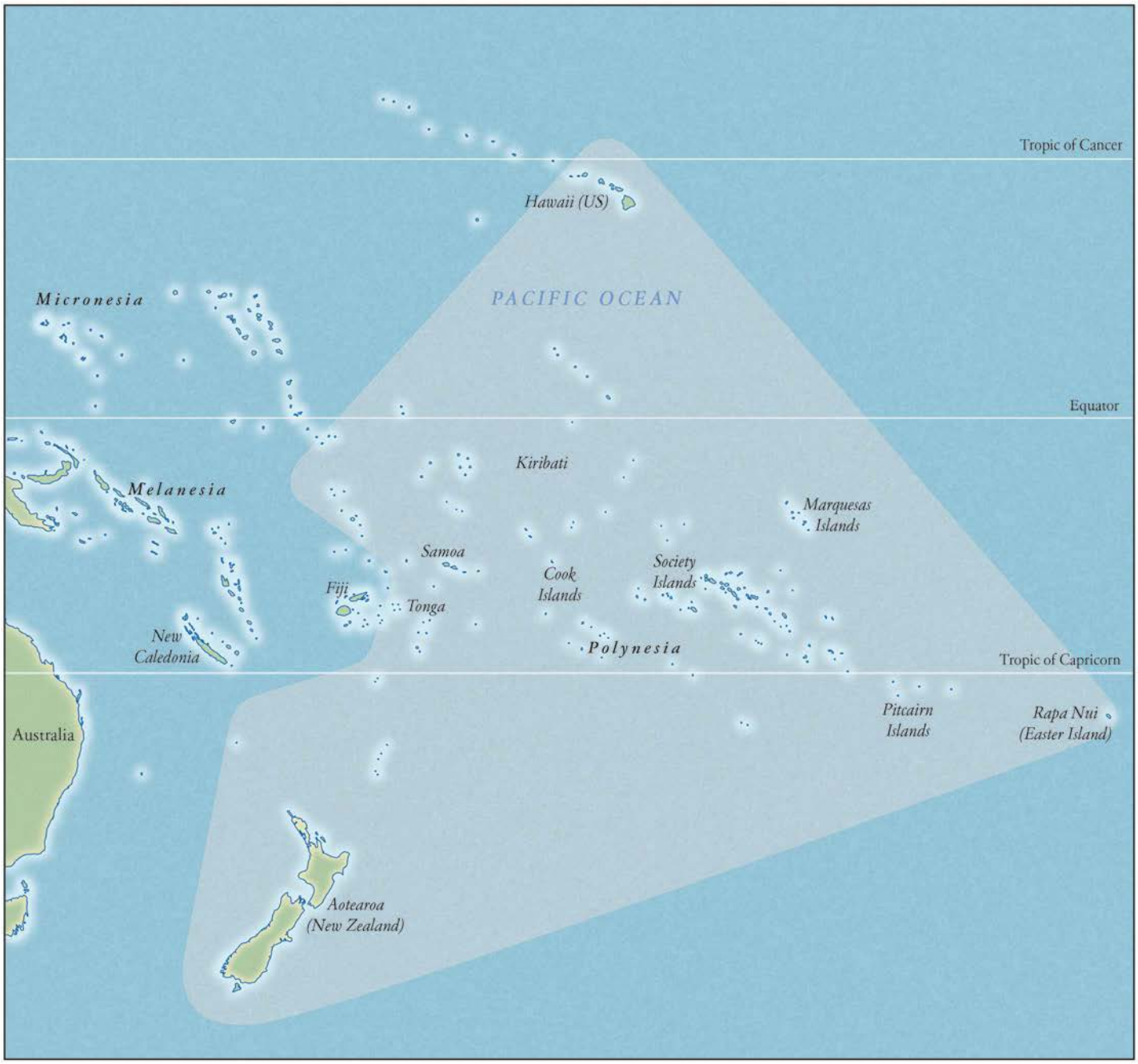
From our earliest beginnings we humans have always been migrants. More than a million years ago, early humans arrived on the shores of what we know today as the Pacific Ocean. As they stood looking out on this ocean, they were unaware that the Pacific was larger than the Indian and Atlantic oceans combined. They were also unaware that beyond the horizon it was full of rocky island chains and coral atolls. But having arrived on its shores they were not yet equipped to venture further. It would be a long time before they could cross the waters of this ocean.

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Timeline



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Source 18.1 The Polynesian triangle in the Pacific

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18.1 Origin and spread of the Polynesians

Theories about Polynesian origins

When European explorers sailed into the Pacific in the eighteenth century, they were stunned to find so many people living on the thousands of islands they encountered. Their first thought was, 'How did they get here?'

Over the past two centuries, **anthropologists**, archaeologists, scientists and historians have been trying to pinpoint the origins of Polynesians and to explain how they spread across the region we today call **Polynesia**. In many cases individual reputations have been staked on the conclusions reached by these experts. From all of the evidence we have managed to accumulate, it is clear that humans occupied Polynesia over a long period of time. However, a number of issues still cause debate among specialists on the subject. Put simply these issues are:

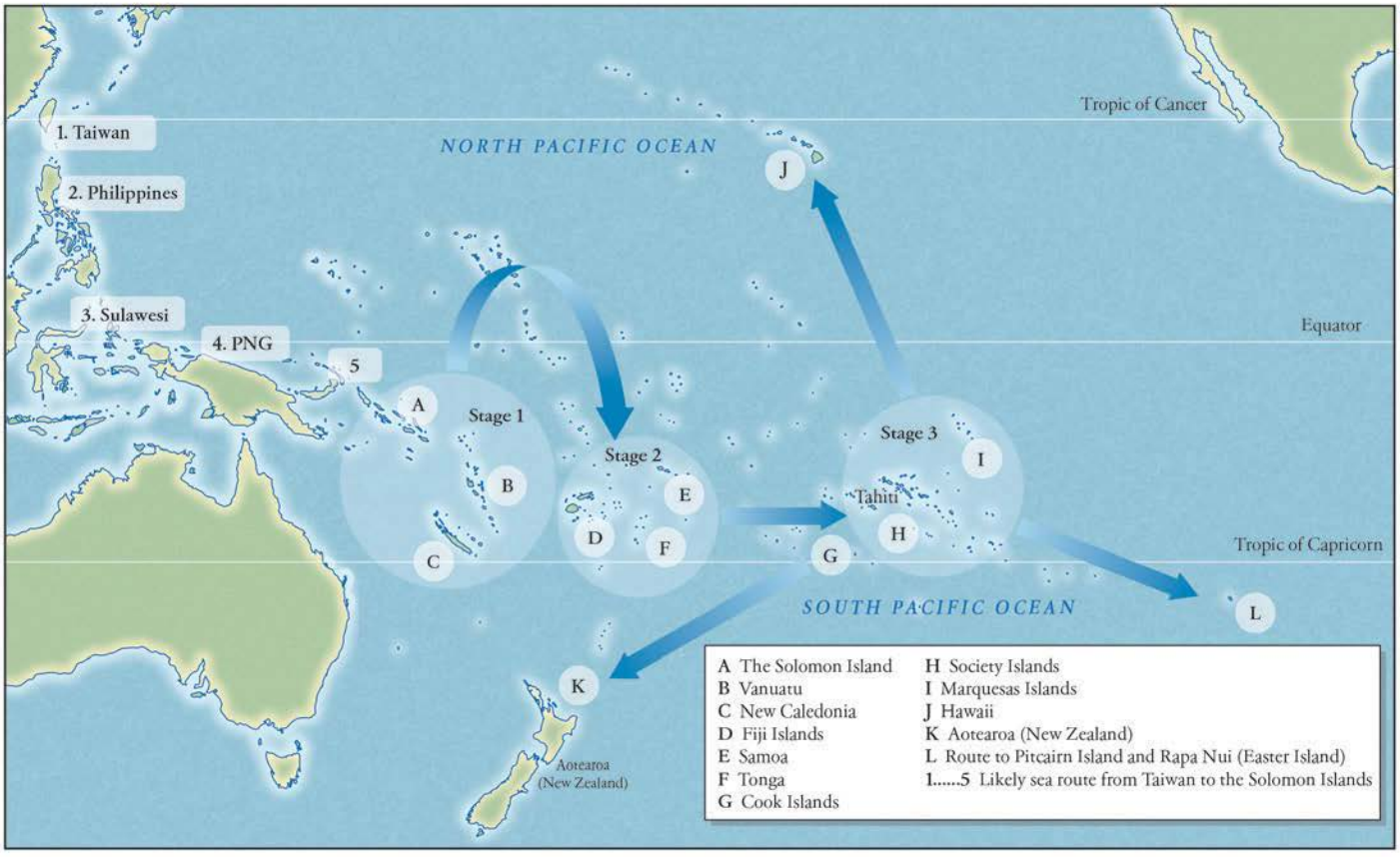
anthropologist an expert in the study of human societies, cultures and their development

Polynesia from the Greek *poly* meaning 'many' and *nesos* meaning 'islands'

- Did the people who would become Polynesian occupy the islands and atolls in the region in carefully planned stages or by a series of happy accidents?
- Did these people travel eastwards from Papua New Guinea or westwards from South America in their occupation of Polynesia?
- How did they manage to successfully navigate the Pacific Ocean across vast distances using primitive technology and without maps?

Planned or by accident?

While this debate continues today, the general consensus is that the people who occupied Polynesia did so in a series of planned stages (see Source 18.2). New Zealand historian Andrew Sharp proposed in 1956 that any argument that Polynesians set out to explore and occupy the



Source 18.2 Stages of occupation of Polynesia

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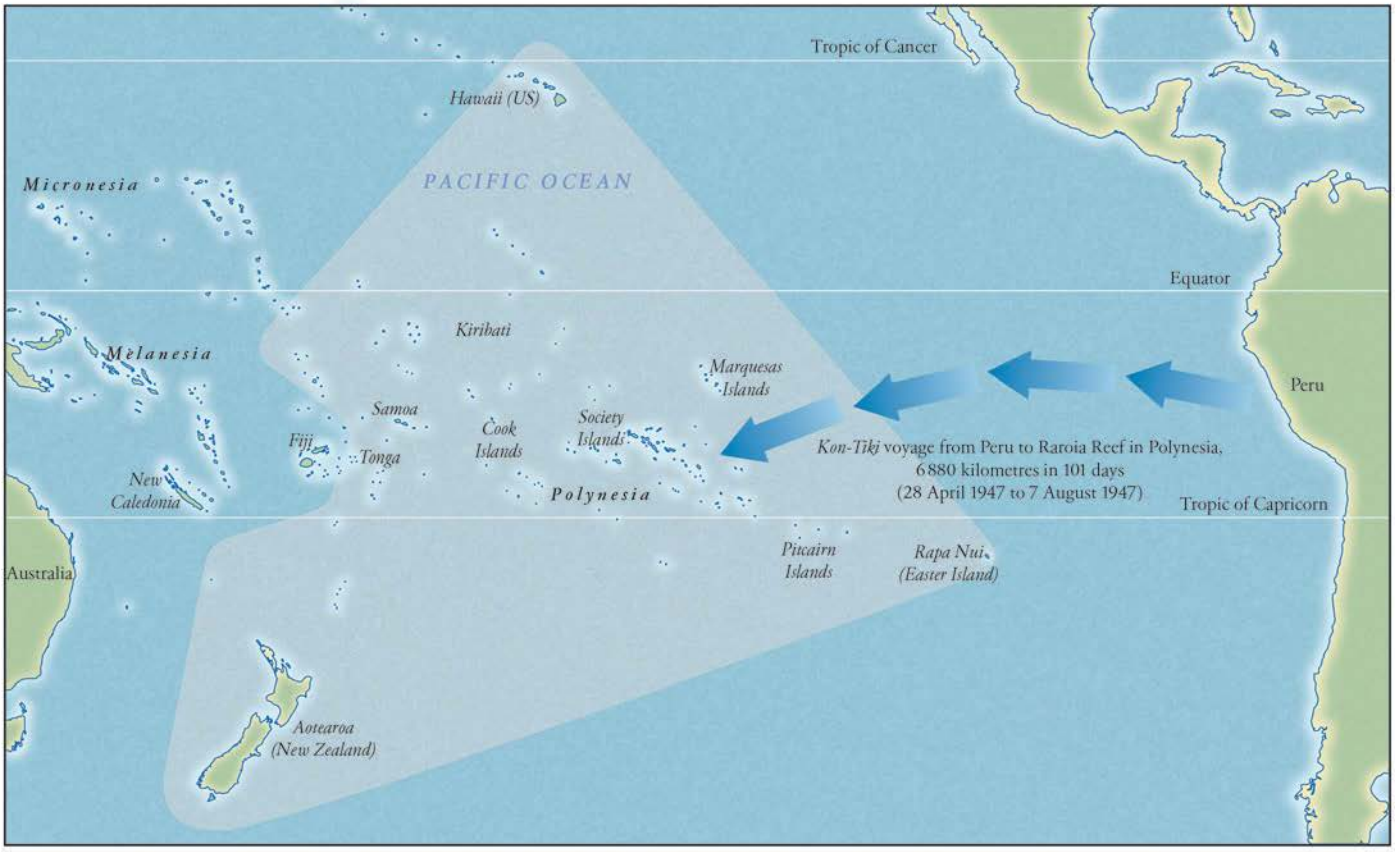
Pacific was little more than 'romantic nonsense'. He argued that occupation of the islands of Polynesia was probably more accidental than intentional. He claimed that the boats of the Polynesian explorers were simply not seaworthy enough, and their navigational equipment not accurate enough, for them to be able to deliberately find land across the vast stretches of the Pacific.

Sharp's views were controversial when he published them and have remained a challenge to the views of the majority of experts on the subject. After navigation experiments were successfully conducted in the 1960s and 1970s, employing replicas of the double canoes that the Polynesians would have used, most scholars today think that Andrew Sharp was mistaken in his understanding, although Sharp continues to argue his case.

From which direction was Polynesia settled?

Just because Heyerdahl was successful in demonstrating that it was possible to sail westwards from South America into Polynesia, it does not follow that he was correct in arguing that Polynesia was settled this way. To be certain, we would need more evidence than this. Surely if the Polynesians had settled the Pacific by sailing westwards from South America, there would be evidence of some transference of traditional crafts, religions, customs and languages from South America as they moved on westwards. This does not seem to be the case, however, although the appearance of the sweet potato in eastern Polynesia does provide a riddle. It is an American vegetable, so how did it appear in eastern Polynesia?

The alternative hypothesis, namely that the Polynesians sailed eastwards out of Melanesia, explains cultural and genetic links between Polynesian cultures and Melanesian and even indigenous Taiwanese cultures. For all the books and lectures that followed his voyage, Heyerdahl might have shown that it was possible to settle Polynesia from South America, but he had not proved it beyond all doubt. There are many scholars who would like to locate the evidence to prove that Heyerdahl was correct all along.



Source 18.3 Voyage of the *Kon-Tiki*, 1947

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To date, however, that evidence has eluded all who have searched for it.

Successful navigators

By c. 40 000 BCE, some of the earliest settlers had worked their way from the Malay Peninsula and the islands of Indonesia and Papua New Guinea to reach the Solomon Islands, east of Papua New Guinea. Archaeology and history know little about the origins of these people, for time has erased much of their imprint. However, one thing is certain: these people were the descendants of those who had arrived on the shores of the Pacific Ocean more than a million years ago.

These early settlers were later followed by migrants from the area around Taiwan in about c. 6000 BCE. Whereas the earliest settlers came overland with short, shallow sea crossings, these later people seemed more confident in their ability to traverse the seas as they island-hopped through the Philippines and Sulawesi (in modern Indonesia) to Papua New Guinea. Arriving at the Solomon Islands they were able to slowly push further over time to what we know today as Vanuatu and New Caledonia. These later migrants raise a number of important questions for students of history.

Why did they leave their homeland to undertake such a perilous journey?

The truth is we do not really know. Perhaps an answer is that migrations to Taiwan from the continental mainland of China put pressure on already established populations on the island. Perhaps more aggressive people arriving in Taiwan drove out the migrants, or the climate of Taiwan might have changed, thus prompting the people to leave. Perhaps the impact of a cyclone or tsunami forced them to leave. Or, perhaps their local resources were exhausted. Unfortunately, reliable evidence of this event, so long in the past, is extremely difficult to come by.

How did these migrants from Taiwan sail over such long distances?

Today, an aircraft flying between Taiwan and the Solomon Islands in a straight line would fly for 5653 kilometres. But the route taken by these early travellers was not a straight line, so the distance they travelled would have been greater. When they left Taiwan it was not in ones or twos, but in larger groups. They brought food and water with them, their families, domesticated animals such as dogs, pigs, and chickens, plus the technology and know-how of the civilisation they had left behind.

As mentioned earlier, they employed a strategy involving frequent stops at islands to gather fresh supplies of fruits and vegetables plus water. This strategy is known as **island hopping**. The rafts they used on the voyage (the technology was not there in c. 40 000 BCE to hollow out logs to build canoes) were specifically designed for use on rivers, inland lakes and inshore seas, not deep and extensive ocean waters. Therefore, sailing from island to island was the most appropriate strategy. We'll never know how many of these travellers were lost in storms at sea or how many were attacked and killed by indigenous people on the islands they encountered. We just have to acknowledge that both were a distinct possibility. The voyage from Taiwan to the Solomon Islands was no pleasure cruise. It was risk-taking at its highest level.

island hopping breaking up a long voyage with stops at many islands, gathering crucial supplies at each one

DEVELOPING YOUR UNDERSTANDING 18.1

1. Briefly explain the concept of 'island hopping'.
2. Why do you think that it was perfect strategy for settling Polynesia?
3. Locate one piece of evidence that indicates that Polynesian languages had a common origin.

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How do we know today that these people living in Melanesia had originated in Taiwan?

geneticist an expert in the study of inherited characteristics in animals and humans (genetics)

DNA testing performed by **geneticists** has revealed a close connection between the people of Melanesia and the indigenous people of Taiwan. The same work revealed that the Taiwanese migrants who came to the Solomon Islands in c. 6000 BCE were also closely connected with the modern people of Polynesia.

Another key piece of evidence is that the languages spoken by Polynesians today belong to a group called **Austronesian**, a family of languages that are today spoken throughout of the islands of Melanesia and the Philippines, along with Madagascar, the Indonesian **archipelago** and (originally) Taiwan. As a result, **linguists** believe there is a strong connection between the Polynesian people and the original migrants who left Taiwan and travelled through the Philippines and on to the Solomon Islands. What we do know for certain is that once the migrants from Taiwan had reached Melanesia, and most notably the Solomon Islands, they intermingled with the indigenous inhabitants of the area – and stayed there. They had gone as far as they were going. However, within two thousand years they were slowly pushing out to what we know today as Vanuatu and New Caledonia.

Austronesian a family of languages spoken in Madagascar, the Pacific and south-east Asia

archipelago a group of islands

linguist an expert in the study of language and its structure (linguistics)

Though they were not yet geographically in the triangle of Polynesia (see Source 18.1 on page 385), stage one of Polynesian migration was complete.

It was their descendants, along with perhaps some of the earlier indigenous inhabitants from the Solomon Islands, who would become the people who reached out in quest of settling Polynesia's many island archipelagos.

The Lapita culture

sherd a broken piece of ceramic material found in an archaeological site (abbreviation of potsherd)

In 1952, American archaeologists Edward W. Gifford and Richard Shulter Jnr discovered **sherds** of pottery at a site they called Lapita in New Caledonia. The pottery was ornate and had been scratched by a toothed instrument in the process of making it. Human faces appeared on many pieces (see Source 18.4). What surprised archaeologists most about the pottery was that it was found at all. No people in Melanesia were using pottery of this form in the twentieth century, so the discovery raised many questions:

- Who were the people that had made this pottery?
- What had become of these people?
- When had it been made?
- What was the meaning of the scratched decoration on the pottery?
- How had the people of Lapita used the pottery?

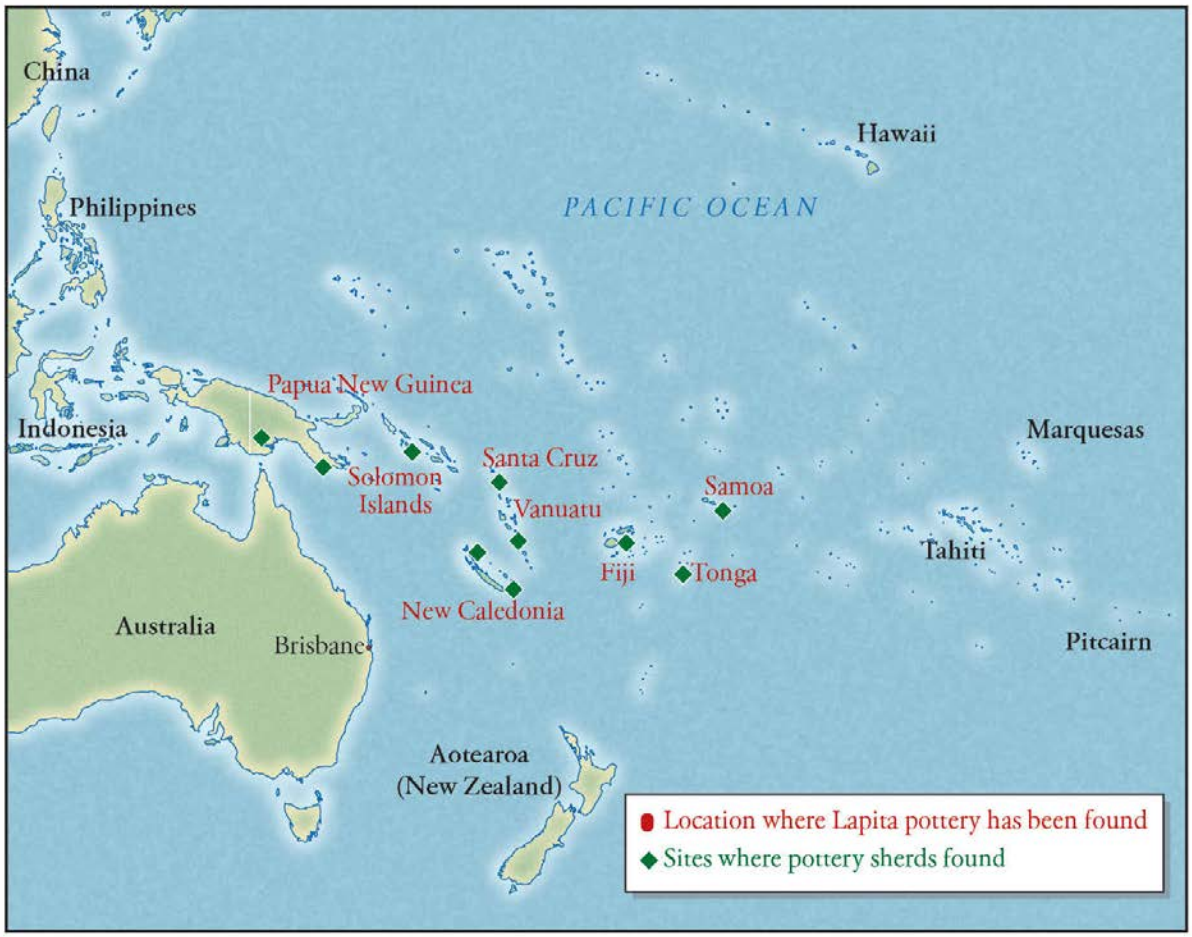
Around 3000 BCE, skilled potters were at work in Taiwan. Archaeologists now believe that Taiwanese migrants brought pottery-making skills with them during their travels in c. 1350 BCE.

These people migrated along the northern coast of Papua New Guinea to the Solomon Islands, ending up in New Caledonia where the original 1952 pottery discoveries were made. Why they had come to New Caledonia at that time is still unknown. Archaeologists have now discovered



Source 18.4 Lapita pottery design

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Source 18.5 Locations of Lapita pottery finds in Melanesia and Polynesia

Lapita pottery in numerous places as far away as Fiji, Samoa and Tonga, quite apart from the original finds in New Caledonia (see Source 18.5). The highly decorated sherds are now described as samples of earlier-Lapita culture.

In 2011, new unexpected finds were reported on the southern coast of Papua New Guinea by Australian archaeologists Bruno David and Ian McNiven. These new finds were less decorated than the earlier discoveries, and archaeologists are now referring to the culture that produced them as later-Lapita culture. Carbon-14 dating of the pottery sherds found in New Caledonia and Vanuatu indicate the remains came from the period c. 1000 BCE to c. 800 BCE. The later-Lapita discovery in Papua New Guinea has been dated as c. 400 BCE (that is, 400–600 years younger than the earlier finds) and has come as a real surprise for the archaeologists, who had always believed the Lapita culture was an island culture.

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DEVELOPING YOUR UNDERSTANDING 18.2

1 Identify some of the historical problems we have today in using the term 'Lapita culture'.
2 How do the pots of the early-Lapita and late-Lapita cultures differ?
3 Go to www.cambridge.edu.au/hass8weblinks and watch the Catalyst program, 'Lapita People' and then answer the following questions:
   - **a** Is the site representative of early-Lapita or late-Lapita culture?
   - **b** What did the archaeologists find at the site?
   - **c** What did the archaeologists discover about the diet of the people at this site?
   - **d** Why do you think that the pottery finds are so important for analysing the history of Polynesia?

Later stages of expansion

Between c. 2000 BCE and c. 1000 BCE, the islands of Fiji, Samoa and Tonga were occupied by Melanesians from Vanuatu and New Caledonia. Today, Fiji is chiefly a Melanesian nation, though there are some among its population who can be considered Polynesian genetically and culturally. Just as their ancestors from Taiwan had done, these migrants took all they needed with them: coconut palms, breadfruit plants and banana plants were part of their baggage, along with pigs, chickens and the occasional stow-away rat. Once more the new populations stopped where they had arrived, adapted to and changed their environment, planted their foods and consolidated their culture. Stage two of Polynesian settlement was complete.

It would be about another 2000 years before migrations to eastern Polynesia began again. By that time, the cultures of Samoa and Tonga were no longer Melanesian. The people had evolved new traditions, new languages and new ways of doing things. Although there were connections with their Melanesian past, by the third century CE they were a new people. They had become Polynesian – occupiers of 'many islands'. Stage three of Polynesian settlement began in c. 200 CE when migrants from Samoa pushed outward to the east, travelling more than 3550 km to the island chain of the Marquesas.

The Marquesas became the springboard for further Polynesian migration south-eastward to Pitcairn Island and, by c. 300 CE, the remotest destination of all, Rapa Nui (Easter Island), 3058 kilometres from the Marquesas. They then moved northward to Hawai'i (3862 kilometres from the Marquesas) by c. 400 CE, and southward to New Zealand by c. 700 CE. Clearly, the people involved in these migrations had confidence in the canoes they used as well as their navigation skills.

Ships and seacraft

Original outrigger canoes – such as that pictured in Source 18.6 on the next page, and still in use today – were not ideal for long sea voyages. The outrigger provided more stability than the simple canoe could do, but in deeper waters, craft like this were too easily flooded and capsized. Much sturdier craft were required for ocean travel.

Over time, Polynesian peoples learned to construct canoes with higher sides on them and with a double hull that was crossed by a decking joining the two hulls. Both Melanesians and Polynesians developed the skills to construct such craft. Topped with a mast and triangular sail, they were able to sail long distances connecting the archipelagos. But how did Polynesian sailors find their way? Sailors in Melanesia and Polynesia had to deal with changing wind directions, currents and variable wave patterns as they crossed the

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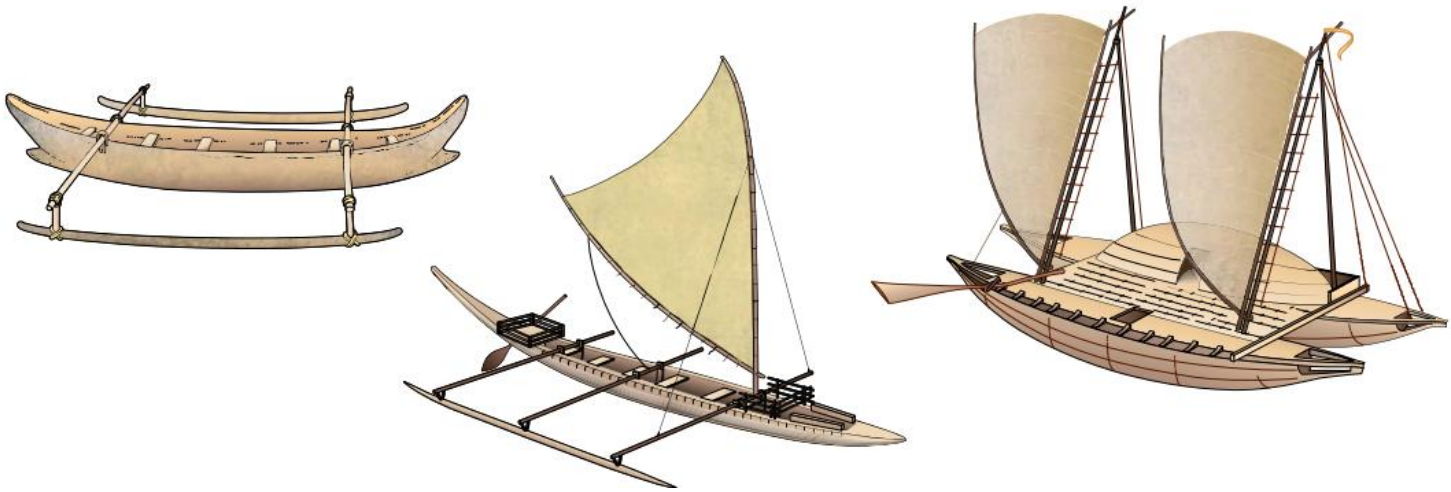
oceans. Just as we might use a geographical map, they invented a unique method of keeping track and recording for later reference the variations they experienced. The invention was the **stick chart** (see Source 18.8). The lines of sticks represented a course to be followed; the knots visible on the chart represented the islands and atolls that would be found on the course between two knots; and curved sticks represented the impact of wave patterns, winds and currents. Each canoe had to rely on many such charts to navigate large areas of ocean.

stick chart a map used by Polynesian navigators that indicated islands, waves and currents across the ocean

The Tahitians introduced the charts to Captain Cook when he arrived there in 1777 on his third and final voyage of the Pacific. He was both intrigued and amazed by this technology, for European sailors weren't able to show the effects of winds, currents and wave patterns on their maps. The charts were used throughout Melanesia and Polynesia, and clearly reveal a cultural transference between the cultures of the two regions.

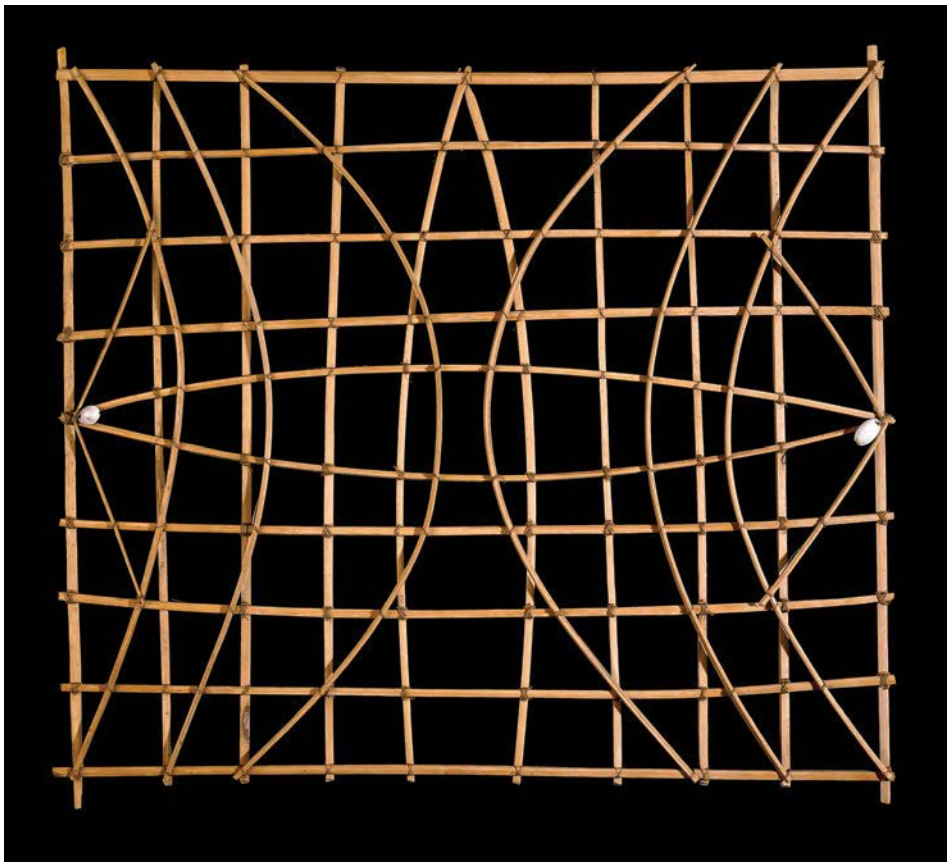


Source 18.6 A traditional outrigger canoe in Tonga



Source 18.7 Canoe development for ocean voyages: the central canoe was joined to the two outrigger floats by two booms, making the craft one unit. Sometimes, the booms supported a whole deck on which people could walk, sit, carry livestock in wooden cages or even shelter under a lean-to construction on board. A mast and a triangular sail made the craft perfect for sailing across deeper waters over long distances. Over time they became even more sophisticated, with two sails and two canoes joined together.

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Source 18.8
A Polynesian stick chart

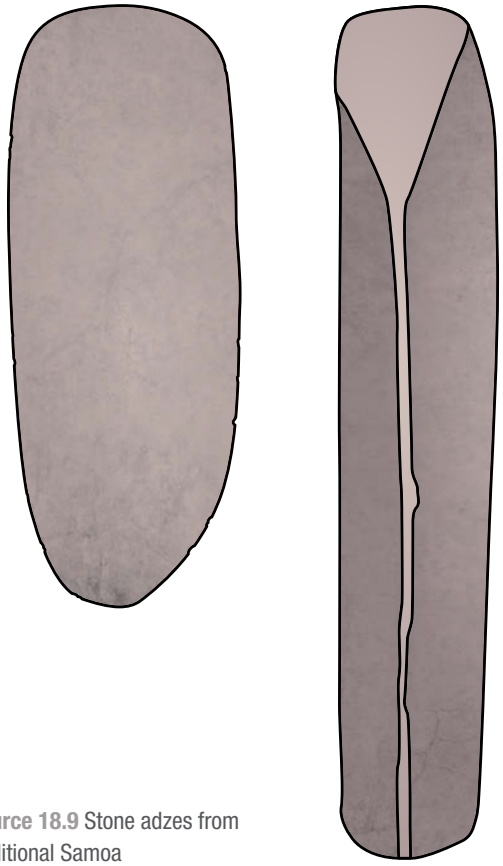
Settlement and isolation

The people who settled Melanesia used rafts lashed together by vines. By the time Polynesia was being settled, breakthrough technology was available to build canoes. The **adze** allowed canoe-builders to hollow out entire logs from trees. The earliest adzes were made of stone.

adze a tool similar to an axe with an arched blade at right angles to the handle, used for cutting or shaping wood

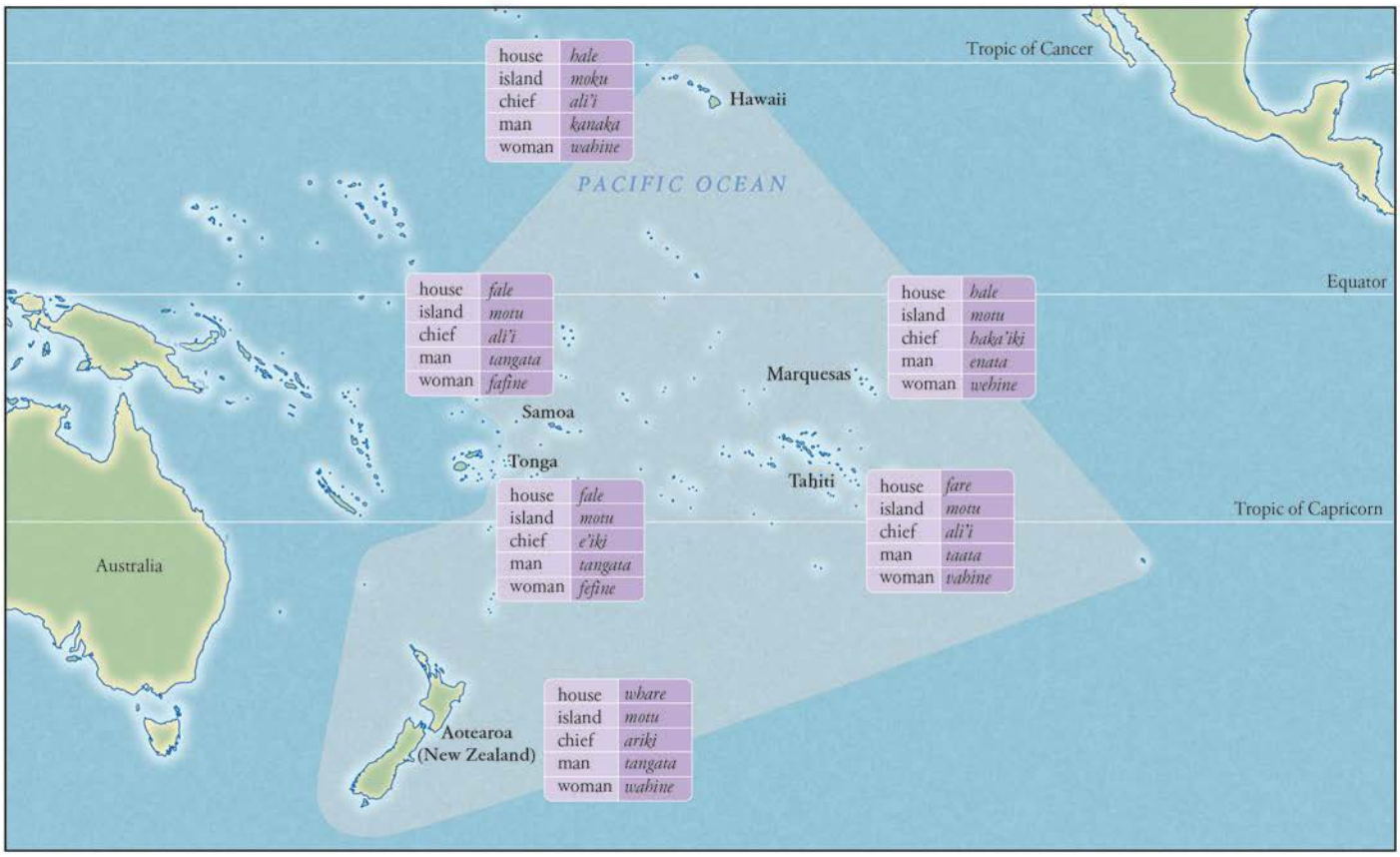
These earliest forms of stone adzes (dating from around c. 2500 BCE) did not have handles attached to them. They were held by the narrowest part and thrust into the wood in a hammering and grinding motion to help shape the wood into the desired shape. The whole exercise took considerable skill and effort. People who built canoes were usually highly regarded in Polynesian society.

From around 1700 BCE new, slimline triangular adzes began to appear in Samoa. Archaeologists believe that either new materials for making adzes became available, or that much more refined work was needed by the craftsmen who used them. As they colonised one group of islands



Source 18.9 Stone adzes from traditional Samoa

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Source 18.10 Some common words in Polynesian societies

after another, the people of Polynesia made use of the same island-hopping strategy employed by their ancestors when they migrated to Melanesia centuries before. When new settlers left their island bound for the horizon, the people left behind experienced isolation from those who had left. By the time Europeans encountered the Polynesians between the sixteenth and eighteenth centuries CE, isolation had become part of cultural life across all Pacific societies. Rapa Nui (Easter Island), for example, lies 4426 kilometres from Tahiti, and 1800 kilometres from its nearest neighbour, Pitcairn Island, both to the west.

To the east of Rapa Nui, 3600 kilometres away, lies the South American country of Chile. By any stretch of the imagination, such distances in times past were significant.

Travelling between islands from one location to another over such distances could not have been possible without keen navigational skills. Rapa Nui is only 24 kilometres long and 11 kilometres wide, so, sailing from Pitcairn or Tahiti, it was a small target to locate in a huge area of ocean. To locate Rapa Nui in the first place, the Polynesians have to be admired for their skills of seamanship as well as navigation.

The Tahitians explained to Captain Cook in 1777 that Polynesians used the sun and stars to navigate from island to island. They were also able to recognise other signs of land as they sailed the Pacific. Bird life at sea indicated that they were within 200 kilometres of land; **flotsam** floating on the waves indicated that they were close to land; and specific cloud shapes forming over islands during the heat of the day also revealed that they were nearing land. Wind and wave patterns were also affected by the proximity of land and they learned to anticipate this over time.

flotsam wreckage or lost cargo from ships found floating at sea or washed up on shore; also pieces of plant life floating at sea

All of the peoples of Polynesia share a common ancestry, yet as they sailed the seas of the region and settled new islands, their isolation from one another saw adaptations of cultural connections. Languages were related, but over time variations in spoken words or vocal sounds had emerged.

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However, when Captain James Cook arrived in Hawai'i on his third voyage in the Pacific in 1777, he had on board a Tahitian man who was instantly able to speak with the Hawaiians that Cook encountered. Captain Cook was amazed, but the Polynesians were not. Source 18.10 reveals how close the language connections are, no matter the location of the Polynesian society.

18.2 Way of life in Polynesian society

coral atoll a ring-shaped reef, island or chain of islands formed by coral

The Polynesians expanded to the many islands throughout the the Pacific Ocean, which comprises one-third of the entire Earth, studded with almost 25 000 rocky volcanic islands and **coral atolls**. Island chains such as Hawai'i and Samoa form archipelagos built by volcanic action.

The earliest settlements by Polynesian people were along the island belt just below the Equator. This allowed the people to predict the climate and the suitability of islands for cultivating the crops they brought with them. It also allowed them to use their knowledge of growing seasons and rainfall patterns. The nature of archipelagos such as Samoa, Tonga, the Cook Islands, Tahiti and the Marquesas allowed the earliest Polynesians to exploit knowledge that was familiar to them as they extended their colonisation of the region. But it was not just the land they were interested in: the oceans and reefs surrounding the islands allowed them to harvest seafood and other resources that formed part of their diet.

Climate

The vast majority of Polynesia lies within the equatorial zone, and has a tropical climate with high rainfall, high humidity, storms and cyclones. The Polynesians had to be highly familiar with, and responsive to, this climate as it dictated which plants would grow, how the natural resources of Polynesia would be used by its inhabitants, the style of architecture of houses and important buildings, the style of clothing worn by people and the food these people would eat.

DEVELOPING YOUR UNDERSTANDING 18.3

1. Explain what you understand about the term 'Polynesia'.
2. Identify three characteristics of the Polynesian islands.
3. Name the tool needed for the construction of ocean-going canoes.
4. Analyse why the DNA evidence for the origins of Polynesians and the archaeological evidence may not be mutually inconsistent.

Agriculture and food production

As they spread across the Pacific Ocean, the people who settled on the islands had the task of making the new lands their home. This involved several steps. Planting the crops they had brought with them was a priority. All Polynesian groups introduced new flora into the lands they settled. Crops such as coconuts, breadfruit, taro and bananas moved eastwards out of Melanesia as people migrated into Polynesia. Some of these products were native to south-east Asia or India and had been carried with migrants during the earlier stage of the migration.

Establishing crops was never easy, but it was vital to the survival of the new settlements. The crops had to supply food, materials for housing, clothing, tools and medicine. There were three stages in the development of agriculture on a newly settled island:

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- the adaptation stage, in which plants were adapted to the new conditions
- the development stage, after the crops had become established, and decisive action was taken to increase the area under cultivation
- the expansion stage, when the demanding needs of a growing population promoted further development and increase of successful crops under cultivation.

Each stage reflected the nature and needs of the society being established. Adaptation reflected a small population, with everybody working together to establish a viable settlement. Development began to reflect the emergence of a **hierarchy** in the society, as well as a significant land clearing. Expansion reflected a fully dev-eloped hierarchical society.

hierarchy a system of organisation in which individuals or groups are ranked one above the other

From the time they lived in Melanesia (before c. 2000 BCE) Polynesia-bound immigrants consumed seafood as well as crop foods. As they explored their way eastwards through Fiji to Samoa, they were always on the lookout for supplies of the seafood they knew so well. Some of this was to be found inside coral reefs in lagoons, but some was found in deeper waters outside the reefs. Using nets and pens, the Polynesian settlers were able to catch seafood. Even they must have been surprised at how rich the waters were.

Occupation of new islands also tied the people to the land they settled. On all islands where settlement had evolved to maturity, a complex social hierarchy emerged. The exact nature of this hierarchy not only reflected the power and authority of certain individuals or groups in society, but also the **folklore** or **mythology** that often supported the social hierarchy. Stories of the gods and their connection with the chiefs, for example, guaranteed the status of the island chief and tied the population not only to the island but to the chief as well.

folklore the traditional customs, traditions and stories of a population, passed down from one generation to another by word of mouth

mythology a collection of myths that belong to a particular people or culture and tell about their history, ancestors, heroes, gods and other supernatural beings

DEVELOPING YOUR UNDERSTANDING 18.4

In groups, discuss the following questions then complete the task.

1. Do members of our Australian community have folklore and mythology?
2. Can you name five examples of the various folklore and mythology present in our community?
3. Select one example of a piece of folklore or mythology and explain it in a poster, using illustrations and text. Historical work requires you to keep records of sources. Ensure you identify the sources you use for your illustrations and text.

Role of key groups and individuals

The social structure of Polynesia was similar to that of many societies in history. The power and authority within the society was given to and exercised by the few (the elite, or the political class), while the majority of the population (the commoners) lived with little control over the shape of their lives. They were required to obey those who had power (the elite), and those in the elite could exercise their power and authority as gently or as harshly as they desired. As is inevitable with cultures spread out over thousands of ocean kilometres, there was a reasonable amount of variation among the different Polynesian nations. The concepts the societies had in common, however, is illustrated by common terms across their languages.

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Chiefs and priests

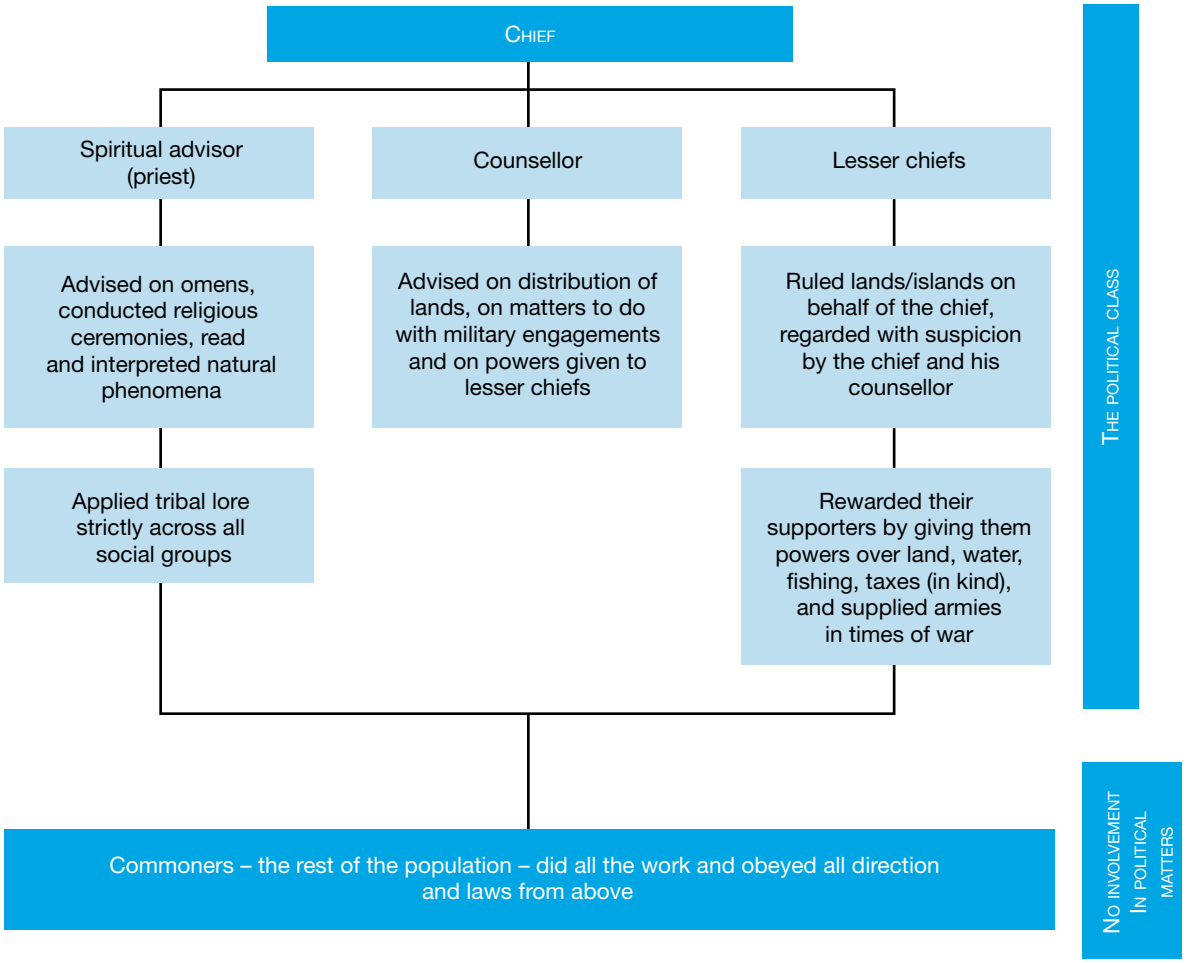
No Polynesian society could exist without its chief. In traditional Hawai'i and Samoa, the chief's title was *ali'i*, while on Rapa Nui (Easter Island) it had changed to *ari'i* and in Aotearoa (New Zealand) it was *ariki* (see Source 18.10 on page 394). The first chief might have been the first leader to arrive on the island or the eldest of a group of chiefs. Alternatively, he may have been the one who could command the most power in the group, perhaps through being successful in war. On Rapa Nui, which was settled around or after 300 CE, there was a legend of a founding chief named Hotu Matu'a. Oral traditions indicated that the eldest child in each generation inherited the title *ariki* and the position of high chief from that time.

The position of chief was never guaranteed. His population could flee his lands and go somewhere else. He could be killed in battle with another island group, or by somebody with a grievance in his own group. An ambitious lesser chief could overthrow him. And if misfortune befell his population, he might be exiled or killed. The very idea of being a high chief rested on the wellbeing of his population. Should earthquakes, volcanic eruptions, cyclones or tsunamis affect his villages, it might be interpreted that the gods were angry with his people and, by extension, with him.

Spiritual advisors or priests were the link between the spirit world of the gods and the chief. They would interpret natural phenomena and the actions of people, and would advise the chief of what action to take in order to please the gods. The priests were also responsible for applying ***mana*** and ***tapu***, two concepts that both legitimised

mana in Polynesian and Melanesian societies, a supernatural or sacred energy force believed to run through all natural things

tapu the behaviours and things that were believed to be prohibited by the gods in Polynesian societies



Source 18.11 Simplified structure of a Polynesian society before European contact

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and reinforced the existing social and political hierarchy. *Mana* was a supernatural or sacred energy force common to both Melanesian and Polynesian cultures. When things were going well, the chief had *mana*. When things were going badly the chief had lost *mana*, and this was a dangerous time for him.

Tapu

Tapu (or *kapu* in some other places in Polynesia) referred to things that were forbidden by the gods, and a breach of the rules of behaviour could be punishable by death. The rules equally affected the elite and the commoners, and men and women. The exact content of these rules varied between Polynesian communities, so it is difficult to generalise about them. However, some common examples include the following:

- It was forbidden for any commoner to allow his or her shadow to cover all or part of the person of the chief or priest.
- It was forbidden for a commoner to enter the house of a member of the elite, or to touch their clothes or their symbols of power.
- Women could not eat with men, and the food of each gender had to be cooked in separate ovens.
- Women were also forbidden to eat certain foods, such as pork, bananas or foods offered in sacrifice to the gods.

From childhood, a Polynesian grew up convinced that, unless *tapu* was respected, bad things would occur – to either an individual or the group. It was a powerful force in traditional Polynesian society.

Historical thought

The English word 'taboo' originates from *tapu*.

Powerful and influential women

Chiefs, or 'kings', were not the only influential forces in Polynesian societies. Some women rose through the ranks to influence the future of their people. Often this happened because they were married to the chief or inherited his position after the chief's death.

Queen Pomare IV in Tahiti was one such woman. Like all Polynesian islands, Tahiti had a royal line. Generally, only men inherited the title, but women were not excluded entirely. If there was no male heir, the queen could rule in her own right. Pomare IV became the ruler of Tahiti at the age of 14. In 1857, she also became the chief of the island of Ra'iatea and married the chief of the island of Bora Bora. In 1860, when her husband died, she reunited the two kingdoms together with Tahiti under her rule. She opposed French control of Tahiti, writing a protest letter to the King of France and exiling herself to Ra'iatea. She battled French control from 1847 to her death in 1877, arguing that because France had never formally proclaimed their ownership of Tahiti, their control was illegal. During her life she had ten children, of whom seven survived to adulthood.

Another prominent Polynesian woman was Queen Kaahumanu in Hawai'i. She was the first



Source 18.12 Queen Pomare IV of Tahiti

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Source 18.13 Kaahumanu, the reforming Queen of Hawai'i. The leis and flowers are still placed on this statue in Honolulu today by those who revere the role Kaahumanu played in preserving the future of Hawai'i and in promoting the education of the young. Photo courtesy of Maria Marsh.

of 17 wives of the chief known as Kamehameha I, who united the islands of Hawai'i under his rule in 1810. At the age of 10, she was given to the chief by her father to demonstrate his loyalty to the chief and his acceptance of his rule. After the death of Kamehameha in 1819, she became co-ruler of Hawai'i with his successor Kuhina Nui. She is best remembered for her devotion to her people, the reform of Hawaiian culture and the integration of Christianity into Hawaiian life.

As Kamehameha I lay dying, Kaahumanu wondered how she might rid Hawaiian culture of its *tapu*. She had noticed European men and women eating together and wondered why the gods had not punished them for breaking what she had always understood was *tapu*. Perhaps, she speculated, their god was more forgiving. She converted to Protestant Christianity and was baptised in the faith in 1825 and began the task of dismantling the Hawaiian *tapu*. She used the Ten Commandments in the Bible to write a set of laws that became the more modern, if not European, system of *tapu* for the Hawaiian people.

Like Pomare IV in Tahiti, Kaahumanu is also remembered for resisting foreign domination in Hawai'i. She believed that education of Hawaiian children would allow them to resist the tricks of the foreigners and would be the best tool to preserve Hawaiian independence. She died in 1832 and on her deathbed was presented with the first printed copy of the New Testament in the Hawaiian language. Statues and memorials commemorating her abound in Hawai'i.

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DEVELOPING YOUR UNDERSTANDING 18.5

1 Imagine being given away to marry at 10 years of age. Describe how the expectations of childhood and adulthood differed between traditional Polynesian and modern Australian societies.

2 Suggest what effect that Kaahumanu's replacement of *tapu* would have had on Hawaiian society.

18.3 Achievements of Polynesian societies

The wide range of Polynesian settlement encouraged the development of a wide range of technologies, arts and artisanal crafts. Polynesians were skilled in the art of making canoes to sail the breadth of the Pacific Ocean. Canoe-builders were held in high regard in all Polynesian societies.

Women became highly skilled in the making of ***tapa*** (also known as *kapa* or *ngatu*) cloth, made from the bark of the papermulberry tree that grows throughout Polynesia. Strips of bark are beaten together using a wooden mallet into a single piece of cloth. Often women would work together on such a task, producing a sheet of cloth about 3 metres wide and between 6 and 15 metres long. Designs were then drawn onto the cloth, which was painted and dried in the sun. The availability today of so many cheap textiles has meant that *tapa* cloth is less popular that it once was, but the islands of Tonga seem to be persisting with the craft.

tapa cloth made from the bark of the Polynesian paper-mulberry tree

The traditional housing in Polynesian villages showed a cultural transference from the ancestral home of Melanesia. Whether it was known as the *fale* (in Tonga and Samoa), the *fare* (in Tahiti), the



Source 18.14 Tongan women sell *tapa* cloth at a market

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whare (in Aotearoa, or New Zealand) or the *hale* (in Hawai'i), it reflected a style that made use of local timbers and thatched plant roofs. Usually many families shared the one dwelling, similar to the 'long house' of Papua New Guinea in Melanesia. Such a design provided tribal security for the group and could be easily repaired if damaged by storms or cyclones. Following the arrival of Christian **missionaries** in the nineteenth century, there was a move away from the use of this design towards the construction of single houses for independent families. With thatched dwellings, the cooking was always done outside in earth ovens. The food of men and women would be prepared in separate ovens, so as to not break *tapu*. These ovens were known in Aotearoa as *hangi*.

missionary a person sent to spread a particular faith in another country

Canoe building and *tapa* making were not the only crafts that were highly regarded in Polynesian societies and by European visitors to the region. Traditional societies also excelled in representing their spiritual ancestors in terms of carving wooden images of them. Such images are referred to as *tiki* (in New Zealand, the Cook Islands, parts of Tahiti and the Marquesas islands), *ti'i* (more commonly throughout Tahiti) or *ki'i* (in Hawai'i). In all cases, the word seems to be related to the origins of the first man, and so is related to creation mythology of the Polynesians. The craftsmen who created these images and many others like them elsewhere in Polynesia were considered to be guardians of the mythology of the community. As such, they were highly respected for their work. Many Polynesian villages had such statues near them in order to show outsiders that the village was protected by *tiki*. The hope of the people of the villages was that evil spirits would be kept at bay, and that only good would come of the statues.

The *moai* on Rapa Nui

The inhabitants of Rapa Nui (Easter Island) took their craftwork to quite another level. They did, for a time, create small wooden statues, but eventually shifted to carving giant statues of stone called ***moai*** (see Source 18.15). Of all the statues in Polynesia, the *moai* made

moai the large stone statues erected by the inhabitants of Rapa Nui (Easter Island)

Source 18.15 Typical *moai* on Rapa Nui (Easter Island)



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the early European visitors to the island gasp when they laid eyes on them. The *moai* seemed to have been created between 1000 CE and about 1500 CE, and, like the *tiki* elsewhere in Polynesia, the *moai* were a representation of the ancestral spirits of those living on the island. Some looked out to sea, and some looked at the villages that early European visitors saw when they arrived. They appear to have been guardians of Rapa Nui.

There are more than 800 such statues scattered over the island. Those pictured in Source 18.15 are located in the quarry where the Rapa Nui people found their volcanic stone. For some reason, they were never moved to where it was intended that they be placed.

Hundreds of the *moai* were moved to specific locations and placed on stone platforms called ***ahu***, which were constructed around the edge of the island. The *moai* were up to 10 metres in height and weighed up to 72 metric tonnes.

ahu platforms on which the Easter Island *moai* were placed

How these were moved is still a mystery, and has caused much debate within scholarly communities. However, archaeological evidence suggests the island's forest was cut down to create rollers on which the islanders could move them. Despite creating these rollers, moving the statues would not have been at all easy. The largest unfinished statue found on the island by archaeologists has been estimated to be 21 metres in height and would have weighed in at 244 metric tonnes – a simply enormous load.

18.4 Use of environmental resources

Polynesia is a difficult and isolated environment, with limited land for growing crops, fragile and sensitive ecosystems, and low-lying land that is vulnerable to changes in sea level. While some Polynesian societies have flourished, others have collapsed – the Rapa Nui civilisation in particular.

What happened to the Rapa Nui civilisation?

The collapse of the once-flourishing Rapa Nui civilisation is a great historical mystery. By the sixteenth century, it was a shadow of what it had once been. When Dutch explorer Jacob Roggeveen encountered it in 1722, he was unaware that he was seeing a civilisation well in decline.

While the civilisation had flourished after people first arrived, some time between 300 CE and 800 CE, later migrations to the island placed significant pressure on the island's population. Unlike other Polynesian islands, the range of seafood was more limited and the range of land animals was small. The original population had spread across the island, forming close clan connections with one another. They would trade with each other, share labour between groups when something had to be done, and intermarry. But unlike the experience of earlier settlers elsewhere in Polynesia, their crops failed miserably. Only the sweet potato seemed to flourish; together with the chickens they brought with them, sweet potato became the islanders' staple diet.

The scientist Jared Diamond has suggested that the deforestation of Easter Island was brought about by the construction of the rollers for the *moai*. This deforestation dramatically reduced the ability of the islanders to feed themselves, as it caused soil degradation and stopped the islanders from building their wooden fishing boats, which of course heavily restricted their access to seafood. When Jacob Roggeveen arrived, he estimated the population to be about 3000 people, but some modern estimates suggest that it was perhaps closer to 10 000. Roggeveen found the people living in reed huts and caves. They were at continuous war with each other, even resorting to cannibalism in bad times. Like all European sailors, Roggeveen did not realise that he and his crew were introducing exotic diseases that would kill many of the island's inhabitants.

In 1770, the Spanish took possession of the island but did not colonise it. What they did do was to kidnap some inhabitants as slaves for their American empire. American sailing ships and sailors from Peru continued this practice in the nineteenth century.

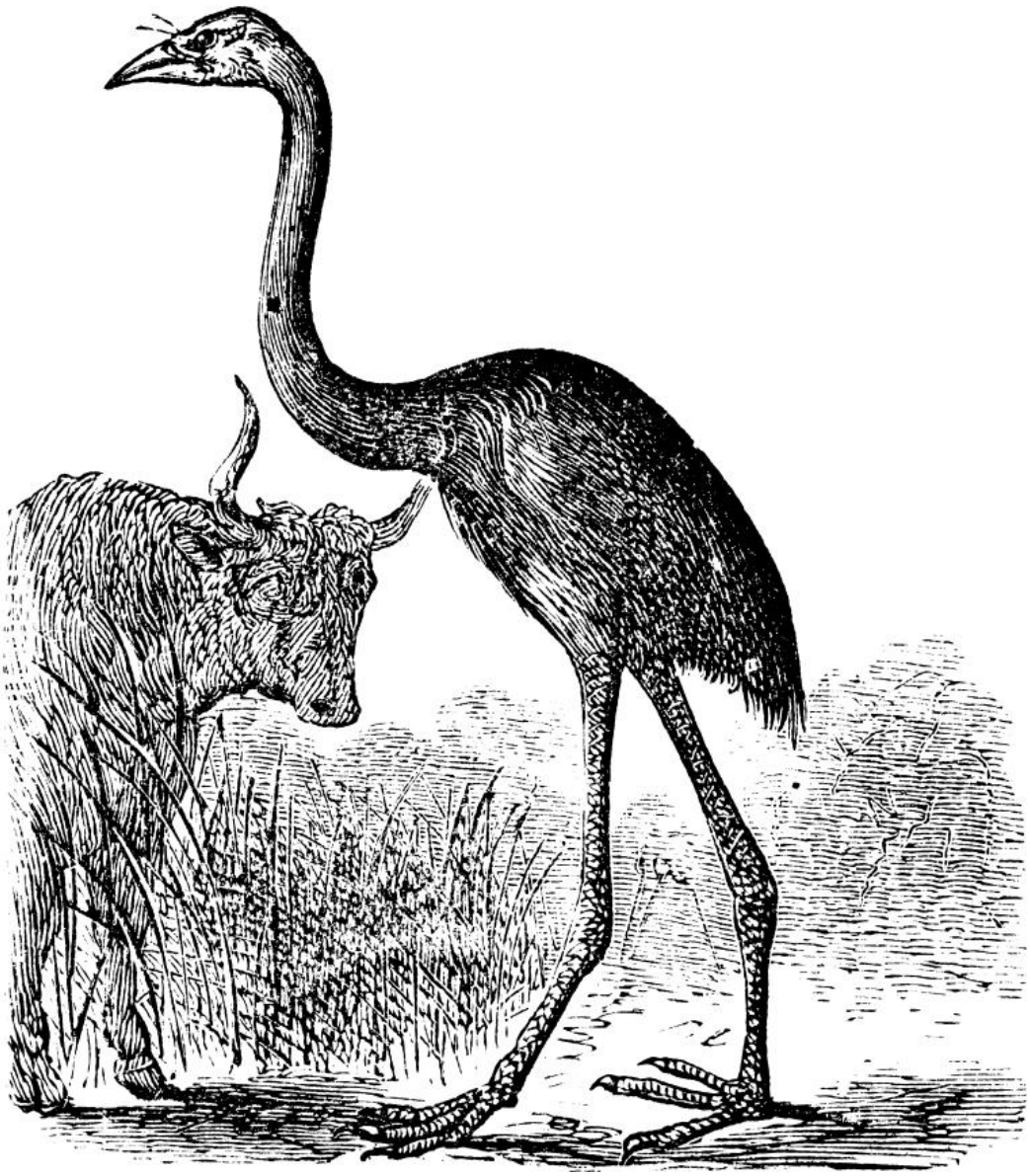
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The food shortage suffered by the Easter Islanders, Diamond suggests, caused internal conflict and the breakdown of traditional social structures. This factor, combined with external interference, slavery and the impact of foreign diseases, undermined the civilisation of Rapa Nui.

Extinction of native species

Across Polynesia, there was a limited range of land-based foods, apart from the food crops that the migrants brought with them. Some islands were infested with snails and insects, and some had large quantities of flightless birds. These birds existed right across Polynesia, though their isolation from each other meant that there were differences in size. Some were as small as parrots or chickens, while others were as large as birds like today's ostrich or emu.

These birds did not have any predators before the arrival of humans, and by the sixteenth century they had been hunted into extinction. Most famously, the New Zealand bird known as the moa – a flightless bird bigger than an emu – was hunted to extinction by the Maori population of Aotearoa by the fourteenth century CE.



Source 18.16 Engraving of a moa, a large, flightless bird once native to New Zealand but now extinct.

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Reflecting and consolidating

Chapter summary

- Polynesia is a triangular region across the Pacific Ocean bounded by Hawai'i to the north, Aotearoa (New Zealand) to the south-west and Rapa Nui (Easter Island) to the south-east.
- The Polynesian expansion was caused by migrations of people leaving south-east Asia and travelling through Melanesia across the Pacific. Polynesian sailors were highly skilled, using well-designed ocean-going canoes and a sophisticated stick chart to navigate the seas.
- Traditional Polynesian societies were highly spiritual, well-organised and complex communities headed by a chief. While the position of chief was often hereditary, it was not guaranteed. He could be killed in battle or overthrown by a rival lesser chief. If misfortune befell his population, it might be interpreted that the gods were angry with him, which could lead to his death or exile.
- Spiritual advisors (or priests) provided a link between the spirit world of the gods and the chief. They would advise the chief of what action to take in order to please the gods. The priests were also responsible for applying *mana* and *tapu*, two concepts that legitimised and reinforced the existing social and political hierarchy.
- On occasion, women would rule Polynesian societies. Queen Pomare IV (Tahiti) and Queen Kaahumanu (Hawai'i) were influential Polynesian women in the nineteenth century.

Source 18.17 A representation of a Hawaiian village



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- Polynesian communities produced many technological achievements, including *tapa* cloth, canoes, communal family dwellings, *tiki* and *moai*.
- Many factors undermined the traditions and continuity of Polynesian societies, especially that of Rapa Nui (Easter Island).

Short-answer questions

1 Who was Thor Heyerdahl and why is he important in the historical analysis of Polynesia?

2 Why was Queen Kaahumanu so important for the Hawaiian people?

3 Compare the role played by Queen Pomare IV in Tahiti with that of Queen Kaahumanu in Hawai'i.

4 How did Polynesian cultures pay respect to their spirit ancestors?

5 Identify two pieces of evidence that support the idea that the Polynesians migrated from west to east.

Source analysis

Study Source 18.17 and answer the following questions:

1 What evidence can you find in this painting to indicate that it depicts a joyful occasion?

2 Locate the chief in the painting. What indicators did you use to identify the chief?

3 Identify commoners in the painting. What indicators did you use to find them?

4 Using this painting as your source, do you think life in Hawai'i was full of harmony, courtesy and abundance? Give reasons for your answer.

5 Evaluate how misleading the painting could be.

Extended-response question

Write a response to the arguments of Thor Heyerdahl and Andrew Sharp in 400–500 words. Consider in your essay the nature of Polynesian navigation and shipbuilding, as well as other explanations for the spread of the sweet potato.

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Depth study 3
Expanding contacts



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19 Mongol expansion (c. 1206 – c. 1368)

Before you start

Main focus

The Mongols were nomadic warriors led by Genghis Khan, who rode out from the remote steppes of Central Asia to relentlessly conquer the greatest land empire that the world has ever known.

Why it's relevant today

The Mongols brought a long period of stable rule, which allowed for the interchange of beneficial knowledge, new technologies and important religions, as well as creating wealthy trading routes between Europe and Asia.

Inquiry questions

- Why did the Mongols become such a powerful conquering force in the thirteenth and fourteenth centuries?
- How large did the Mongol land empire become?
- How did the Mongol leaders treat their conquered peoples?
- How did they govern their vast empire?
- What was the legacy of the Mongol Empire?

Key terms

- Dynasty
- *Khan*
- *Kuriltai*
- Nomads
- Pax Mongolica
- Steppe
- Tribute
- *Yam*
- *Yassa*

Significant individuals

- Genghis Khan
- Kublai Khan
- Marco Polo
- Ogedai
- Sorghaghtani Beki

Let's begin

Genghis Khan and his descendants conquered the largest contiguous land empire the world has ever known, stretching from China across Central Asia to Eastern Europe, by 1300 CE. The highly trained Mongol armies had a well-deserved reputation for ruthlessness and brutality towards their captives, and left towns and cities ransacked.

The conquered Mongol territories served as a bridge between the civilisations of Asia and Europe. Under Mongol rule there was a long period of relative peace and unity under a strict governing code. This enabled trade to flourish, the benefits of new technology and ideas to be shared, and many different cultures and religions to spread across a large region of the world. Rivalries and tensions between Genghis Khan's successors eventually weakened the empire and led to its decline.

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Timeline

CHAPTER EVENTS	WORLD EVENTS
	c. 960 CE Song dynasty rules China
1100 CE	
c. 1167 CE Temujin is born	
1200 CE	
1206 Temujin takes title of Genghis Khan or universal ruler	
1215 Kublai Khan is born; Genghis Khan invades northern China	**1215** Magna Carta is signed in England
1221 Genghis Khan crushes Khwarezm empire	
1227 Genghis Khan dies	
1229 Ogedei becomes Great Khan	
1231 Mongols conquer Korea	
1240 Kiev is razed	
1258 Baghdad is destroyed	
1260 Kublai Khan becomes Great Khan	
1271 Yuan dynasty rules China	
1275 Marco Polo reaches China	**1276** Song dynasty falls in China
	c. 1280 Ottoman Turks rise
1294 Kublai Khan dies	
1300 CE	
	1337 Hundred Years War begins in Europe
	1347 Black Death reaches Europe
1355 Chinese revolts against the Mongols occur	
1368 Yuan dynasty is overthrown; Mongols flee China	**1368** Ming dynasty rules China



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Source 19.1 Map of the Eurasian steppe

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19.1 The Mongols

nomads people who move from place to place

steppe a vast area of grasslands that spans much of Central Asia

Mongols a powerful tribe from Central Asia who set up a great empire

Before the rise of Mongol Empire, Central Asia had long been home to many **nomads** whose lifestyle was based on animal herding. They lived in a remote and sparsely populated region of semidesert and windswept grasslands known as the **steppe.** The term **Mongol** was the name given to one of the many different tribal groups that would eventually form the Mongol nation. The Mongols were natural warriors who were tough, mobile and resourceful on horseback. Their way of life contrasted greatly with the settled or **sedentary** peoples of other Asian countries, such as China and Korea, where there were towns and cities, cultivated farm lands and highly developed cultures. The steppe nomads had lived an unchanging life for centuries, cut off from the rest of Asia. In the thirteenth century, this changed dramatically as Mongol warriors prepared to launch a massive assault beyond the steppes across Asia and into Eastern Europe.

sedentary relating to an inactive or settled lifestyle

Nomadic lifestyle of the Mongols

The harsh and unpredictable environment of the steppe was not suited to farming. Bitter winter temperatures could drop as low as –30°C and remain below freezing for 6 or 7 months. Sudden blizzards could strike at any time and the soil remained frozen for long periods. The short summers were hot with only low rainfall. The vast and forbidding Gobi Desert bordered the Mongol territory to the south, while rugged mountain chains ringed the western lands.

The Mongols were animal herders, caring for large flocks of sheep, goats, camels and cattle. Their most prized possessions were the short, stocky horses that were so vital to their way of life. Even children became skilled riders at an early age. Such a difficult environment meant that the Mongols had to constantly travel with their large herds from one pasture area to another, according to the seasons, in search of grass and water. They relied on the animals to provide them with meat and milk along with wool for rugs, clothing and



Source 19.2 Typical steppe landscape

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Source 19.3 *Gers* in the onset of winter

saddle blankets. The Mongols traded with the settled farming peoples to the south for goods they needed, such as grain and cloth, in return for hides and animals.

The Mongol shelter was a circular tent known as a ***ger*** or *yurt* (see Source 19.3). Wool was pressed into felt and used for the outer covering of the *ger*. It could be quickly assembled on its wooden frame, then easily dismantled and transported, providing the mobility needed by nomadic pastoralists. The portable homestead was windproof in winter and cool in summer. Even today, these homes are still widely used by nomadic peoples in Central Asia.

ger the Mongolian word for 'home'; a tent-like structure suited to the nomadic lifestyle

The basic organising unit of Mongol society was the tribe. Each tribe was divided into clans, who camped and herded together on the steppe. Bound together by **kinship**, the clan was led by a chief or ***khan***. In the event of enemy threat, or in preparation for a lightning raid on the settled farming communities, the clans could be joined into huge groupings known as confederations.

kinship having a relationship by blood or marriage

khan an important leader of the Mongols

Women in Mongol society performed many domestic tasks, such as milking the herds, collecting animal dung for fuel and making felt for the *gers*. They were influential within the family, fought as warriors on occasion and had a voice in tribal councils, but it was the men who dominated leadership of the clans.

Rise of Temujin

Temujin was born around 1167 CE into a warfaring tribe. His father, Yesugei, was a clan leader who was poisoned by rival chiefs when the boy was only 9 years old. Temujin was taken prisoner, but escaped to the mountains for refuge. He vowed to take revenge on the clan that had enslaved him. Temujin was raised by his mother Hoelun, living a very harsh life in exile with few comforts and scarce food. His arranged marriage at age 15 was interrupted by the capture of his young wife Borte by the rival Merkit clan. Temujin led a campaign against the Merkit and rescued his wife. This bold and enterprising act drew many followers.

Temujin went on to defeat all remaining rival tribes (including the Naimans, Keraits and Tartars, who frequently raided and battled each other) and brought them under his control. His reputation as a military leader grew and he soon won further allies, as clan chiefs were keen to attach themselves to such a promising young steppe warrior.

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Source 19.4 Image of Genghis Khan by an unknown Chinese artist

Genghis Khan, universal ruler

Mongol leaders had to show the qualities and skills essential for survival in the steppe environment. Courage in battle and the ability to forge alliances between rivals and to attract followers were vital for a new leader. The lean and dangerous years in exile had taught Temujin to be practical, patient and cunning. He was courageous and daring in battle and had already demonstrated his strong leadership skills in uniting clans and tribal groups. The young Mongol leader had shown that he was ambitious, ruthless and disciplined, with superb organisational ability and strategic brilliance. Temujin had no formal education but took a great interest in the arts and learning.

kuriltai a gathering of Mongol leaders to make important decisions

In 1206, at a ***kuriltai*** or massive assembly of all the Mongol chieftains, Temujin was proclaimed universal ruler of the Mongol tribes and took the new title of Genghis Khan. He had now been elected as the leader of nearly half a million tribesmen. This significant event marked the beginning of the Mongol Empire under his leadership.

DEVELOPING YOUR UNDERSTANDING 19.1

1 Study Sources 19.2 and 19.3, which show typical landscapes of Central Asia.
   - **a** Provide evidence to suggest that the steppes are a harsh environment.
   - **b** Explain how the Mongol peoples adapted to these harsh conditions.
2 Consider how the boy Temujin's early life might have shaped his character.
3 Discuss why Temujin adopted the new title of Genghis Khan.

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19.2 The Mongol army under Genghis Khan

Organisation and tactics

The military organisation that Genghis Khan established was the best armed and trained of the thirteenth century. A key feature of his highly disciplined army was easily managed units based on the decimal system. Soldiers were organised into armies made up of fighting units called *tumens*, which consisted of 10 000 **cavalrymen**. Each *tumen* was then further divided into units of 1000, 100 and 10 warriors. These units were made up of non-tribal groupings, so that the first loyalty for a soldier was to the leader and his Mongol identity rather than to his tribe. Commanders took charge of the training and discipline of the cavalry at each level. The leader of each *tumen* had a close relationship with Genghis Khan and promotions to leadership were given on the basis of ability.

cavalry soldiers who fight on horseback

All males aged from 15 to 60 years were eligible for **conscription** into the army, which was considered a source of honour in the tribal tradition. If a warrior deserted his company, he could expect immediate execution as any form of disloyalty was not tolerated. The battle front appeared like a giant moving city as each *tumen* was accompanied by its herds of livestock, thousands of horses, family members and their *gers*.

conscription compulsory enlistment for military service



Source 19.5 Mongol cavalrymen engage the enemy, from *Jami' al-tawarikh* by Rashid al-Din

Historical thought

If supplies of food were not readily available, Mongols could survive for up to a month by drinking horse's milk or even cutting the horse's neck vein to drink its blood.

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A Chinese chronicler noted they had superior military tactics:

> [B]y nature they are good at riding and shooting. Therefore they took possession of the world through this advantage of bow and horse …

Source 19.6 From *All the Khan's Horses* by Morris Rossabi

The stocky Mongol horses were fast and flexible, which was a considerable advantage in combat, as soldiers were well equipped for speed and manoeuvrability. Each Mongol soldier maintained three or four horses, which could be changed regularly, allowing the cavalry to move over long distances at high speeds without exhausting their animals. The sturdy horses were able to cross rugged terrain and survive on little feed. Warriors could spend up to a week in the saddle and cover distances as great as 140 kilometres per day. In their saddle bags were simple rations of dried meat and yoghurt. The chief weapon used in combat was the Mongol bow, which was made of wood, horn and sinew. The short bow had a very powerful range of nearly half a kilometre and was far superior to any other European bow of this period. Quivers of assorted arrows were strapped to the backs of the archers in readiness for unleashing a rain of arrow fire on the enemy.

The light cavalry relied on the bow and arrow and they were extremely skilled at shooting accurately while mounted in the saddle. A sturdy stirrup, devised by the steppe nomads, enabled the rider to turn while on horseback and fire arrows in any direction, including backwards. The heavy cavalry wore metal armour and carried long lances for close combat after the archers had brought the enemy into disarray. Each warrior carried a curved sword, a battle axe and a dagger, which was hung from the belt.

Mongol armour

Mongol armour was relatively light and made of iron scales, chain mail or even hard leather. Many of the horses were also protected by armour. The helmet was cone shaped, with the upper part made of iron plates. Heavy silk undershirts protected each soldier in the event of an arrow piercing the metal armour.



Source 19.7 Mongol soldiers using the bow, from *Jami' al-tawarikh* by Rashid al-Din

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Technological weapons

The Mongols also adapted technological weapons for use in their warfare. War machines such as siege engines were constructed using the military talents of captive engineers from Persia and China. The siege engines could be transported on pack horses and assembled ready for an attack. The Mongols were skilled in using trebuchets and catapults, both of which could hurl heavy rocks and explosives against a city wall or fortress. Battering rams for bombarding walls, flaming arrows that spread fire inside the walls and smoke bombs were other effective means of attacking fortified positions.

Clever strategies

Clever strategies assisted the Mongols to gain a psychological advantage over their enemies. All campaigns were preceded by scouting parties, who used flags and signal fires to keep the main force informed of the enemy's movements. A separate messenger force carried urgent communications between the *khan* and his commanders. The messengers' bodies were tightly bandaged to allow them to remain in the saddle for days, as they switched from one horse to another to gain maximum speed. A special unit supplied the armies with maps based on the information provided by a network of spies and informers. During the intensely cold winters, the Mongol armies even used the frozen rivers as highways. The Mongol attack would often come from a number of different directions before the fighting force united to begin the major strike. An ingenious battle tactic was the **feigned withdrawal**. With rapid arrow fire coming from the front lines, the troops at the rear would quickly flank or encircle a city. The cavalry would attack the enemy forces, but then pretend to be defeated and retreat from the battle. When the enemy had let its guard down, the cavalry would suddenly re-emerge, wheeling around savagely on their opponents.

feigned withdrawal
a faked retreat, designed to draw enemy forces out of formation



Source 19.8 Mongolian troop using a trebuchet in a siege, from *Jami' al-tawarikh* by Rashid al-Din

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Fear as a tactic

The Mongols deliberately employed terror tactics in their warfare, building up a horrifying reputation as the 'devil's horsemen' by their conquests. As these chroniclers lamented:

> In the countries that have not yet been overrun by them, everyone spends the night afraid that they may yet appear there too.

Source 19.9 Original quote from Islamic historian Ibn al-Athir

> Invasions would be preceded by a delegation warning the city to surrender or suffer the consequences. Every town or city that resisted or refused to surrender was subject to destruction. This was widely publicised and was part of the element of terror conveyed throughout the empire. One man who escaped from the pillage of Bukhara in 1220 relayed the grim tidings: They came, they sapped, they burnt, they slew, they plundered and they departed.

Source 19.10 Original quote from Persian historian Juvaini, c. 1250

DEVELOPING YOUR UNDERSTANDING 19.2

1. Draw a diagram to illustrate how the army based its organisation on the decimal system.
2. Consider the aspects that made the Mongol army so successful. Build up a summary diagram of as many aspects as possible.
3. Imagine you are a soldier in Genghis Khan's army. Describe what your life on a typical day's campaign is like. Include the challenges and hardships you experience.

A merciless conquering force

As the Mongols swept out of the steppe lands into new territory, they were noted for their cruelty and wide-scale destruction in battle. They would first offer the enemy the opportunity to surrender and pay taxes (or **tribute**) rather than having their town or city plundered and destroyed. If the city refused to surrender, the Mongols would mercilessly ransack it and slaughter its inhabitants.

tribute money paid by one state to another in acknowledgement of military submission

> His greatest pleasure in life was making war, defeating enemies, forcing their beloved to weep, riding on their horses, and embracing their wives and daughters.

Source 19.11 Genghis Khan was remembered for this philosophy.

Many other accounts detail the cruelty of the Mongols in their attack on Baghdad:

- The Grand Library of Baghdad with its precious documents and books on medicine and astronomy were destroyed.
- At least 90 000 fleeing citizens lost their lives.
- Magnificent old buildings such as mosques, palaces, treasuries and hospitals were looted and ruined.
- The network of irrigation canals that supported agriculture around the Tigris River was severely damaged and never repaired.
- The caliph was captured and trampled to death, along with most of his family.

As a result, Baghdad remained in ruins and depopulated for several centuries, although today it is the large capital city of modern Iraq.

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Source 19.12 The caliph crosses the bridge over the Tigris to meet Hulagu Khan, Baghdad, 1258 (from a fifteenth-century illuminated Islamic manuscript)

Historical thought

Survivors of the siege of Baghdad said that the waters of the Tigris ran black with ink from the huge quantities of books flung into the river, and red from the blood of philosophers and scientists who were killed.

DEVELOPING YOUR UNDERSTANDING 19.3

1. Search for evidence to support the view that the Mongols were a merciless conquering force. How would their victims have suffered in these invasions?
2. Study Source 19.12, depicting the siege of Baghdad. What does it tell us about the methods of warfare used by the Mongols? What evidence suggests that Baghdad was a wealthy and cultured city?

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19.3 The Mongol Empire expands

Conquest under Genghis Khan 1206–27

By the time of his death in 1227, Genghis Khan controlled an empire that stretched from Persia and the Caspian Sea in the west to China and the Pacific Ocean in the east. It extended south to Tibet and north into Siberia. This represented an area of 26 million square kilometres, about four times the size of the Roman Empire. In 1209, Genghis Khan turned his attention south to the lands of the Xixia, a state of northwest China, devastating buildings and written records and killing tens of thousands of civilians. In 1211, he led his armies across the Gobi Desert against the Jin **dynasty** of northern China. A long campaign against the capital Zhongdu (Beijing) saw a ruthless conquest in 1215 and rich new resources gained.

dynasty a succession of rulers from the same family

Then Genghis Khan headed far across Central Asia and set out to demand the submission of the Khwarezm Empire, a wealthy kingdom to the west of the steppe in the region of modern-day Iran. He managed to conquer most of the great urban centres of the Islamic world. These included prosperous cities such as Samarkand and Bukhara, where the arts and sciences flourished and beautiful buildings abounded. Great atrocities were committed and the Khwarezm Empire was brutally destroyed.

Death of Genghis Khan

On his way back to Mongolia in 1227, Genghis Khan died following a fall from his horse, and was buried in an unknown location on the steppe. All those who knew of the burial place were killed and the resting place remains undiscovered to this day. Before his death, he divided the empire among his sons and immediate family, warning against the dangers of quarrelling among themselves for the riches of the empire. He nominated Ogedai, one



Source 19.13 The Kalyan minaret of Bukhara (in modern-day Uzbekistan), dating from 1127. Genghis Khan was so impressed with the minaret that he decided not to destroy it. The highest structure in Central Asia, it was used as a watchtower and lighthouse for trade caravans. Today it is the only remnant of the pre-Mongol invasion in Bukhara.

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of his four sons, to be his successor as the great *khan*. At the kuriltai following Genghis Khan's death, the great empire was divided into **khanates** or kingdoms under his sons and grandsons; these were later to become the four great khanates. But Genghis Khan's death was by no means the end of the Mongol Empire and its ongoing expansion.

khanate area or territory under the rule of a *khan*



Source 19.14 The Mongol Empire in 1227 at the time of Genghis Khan's death

Expansion after Genghis Khan

Ogedai, 1229–41

During his 12-year reign, Ogedai directed the Mongol armies into further campaigns and conquests. He presided over the greatest expansion of the Mongol Empire. The Mongols invaded the steppe lands of Russia, Western Asia and Persia, and reached Eastern Europe under the military leaders who were the grandsons and descendants of Genghis Khan. Ogedai built a grand new capital at Karakorum on the Mongolian steppe, which was completed in 1238.

Mongol expansion in the Middle East

Under Genghis Khan's descendants, the Mongols conquered either by force or through voluntary submission the areas we know today as Iran, Iraq, Syria and Turkey. A lack of grazing lands handicapped the Mongols from expanding further south. In 1260, The Egyptian Mamluks prevented the Mongols from expanding further west, defeating them decisively in Syria.



Source 19.15 The coronation of Ogedai, from *Jami' al-tawarikh* by Rashid al-Din

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Expansion in East Asia

The most significant campaign was to continue the invasion of China, destroying the Jin dynasty and ultimately overwhelming the Song dynasty. The country of Korea (or Goryeo as it was known) was invaded in 1236 and made a subject state, as was Tibet. Unsuccessful attempts were made to conquer Japan and Vietnam.

Expansion in Europe

The Mongols were for a century or more Europe's most formidable and dangerous eastern neighbour. The Mongols invaded Russia, destroying the major cities of Eastern Europe such as Kiev, Ryazan and Vladimir. They stormed into Poland and the city of Krakow was burnt to the ground. The Hungarian army was crushed and the Mongol invasion is believed to have killed up to half of Hungary's 2 million people.

Control extended into the countries of Austria, Bulgaria, Croatia, Serbia and Romania, which became vassal (or subject) states, accepting Mongol rule and paying tribute to the *khans*. The Mongols may perhaps have made further conquests in central Europe had it not been for one significant event: the news of Ogedai's death in 1241. As was customary, the leaders returned to Mongolia to elect a successor at the *kuriltai* at Karakorum. The Mongol army withdrew from central Europe, never to return in force again. By 1260, the struggles over the leadership and succession had led to a gradual breakdown of the empire. The different branches of the family jostled for position, with feuds and wars breaking out between them. The domains were split into four separate territories or khanates and governed as independent realms by Ogedai's sons and grandsons, as follows (also see Source 19.16):

1 *Golden Horde*. This influential western Mongol Empire encompassed European Russia as far west as the Danube River and as far south as the Black Sea. It is likely that the Golden Horde gained its name from the golden tent used by the *khans* and the Mongol word *horde*, meaning army camp. It was ruled by Batu



Source 19.16 The Mongol Empire in 1294

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Khan, a grandson of Genghis Khan, from the splendid new capital Sarai. Turkish became the main language and Islam the official religion. Trade with the Mediterranean merchants was promoted.

2 *Ilkhanate.* An area of the Islamic world including Iran and Iraq, it was ruled by Hulagu, also a grandson of Genghis Khan, who was noted for conquering Baghdad.

3 *Chagatai Khanate.* A smaller area of northwest China and Central Asia in the region of Uzbekistan, it included the great cities of Samarkand and Bukhara. This was assigned to Genghis Khan's second son Chagatai.

4 *Yuan dynasty* (or Empire of the Great Khan). This khanate included China, Mongolia, Korea and Tibet, and was ruled by another grandson, Kublai Khan. Failed attempts were made to conquer Japan and the lands to the south of China.

DEVELOPING YOUR UNDERSTANDING 19.4

Study Source 19.16 and answer the following questions:

1 Calculate the land distance from east to west that was under Mongol control by 1294 CE.

2 Which of the khanates respectively controlled Russia, Korea and Persia?

3 What parts of Asia were *not* controlled by the Mongols?

Sorghaghtani Beki, mother of the great *khans*

Sorghaghtani Beki was Genghis Khan's daughter-in-law and the mother of four sons, all of whom became great *khans* of the Mongol Empire. She was married to Tolui, Genghis Khan's youngest son, and raised each of their four sons – Mongke, Hulagu, Arik and Kublai – to be leaders who would inherit their grandfather's legacy. Although she herself was illiterate, she recognised the importance of a good education for each of her sons. Each son learnt a different language that the Mongols needed to administer their vast empire. She believed that it was important for the Mongols to build up the economies of their subject peoples in order to increase both production and taxes, so she encouraged the Chinese peasantry.

Although she was a Christian, Sorghaghtani practised religious toleration and gave support to all the major religions. She introduced Kublai to the ideas of Confucian scholars to help him understand and later rule China. This powerful and wise Mongol woman died in 1252.

Governing the conquered lands

Not all of the inhabitants of the conquered cities were put to death. Those towns that surrendered without a fight were usually spared the worst fate, but the people were still treated as slaves and required to pay heavy taxes or tribute payments to the Mongol khans as the price of their deliverance. Horsemen taken as prisoners were placed into the Mongol armies. Skilled people such as engineers and **artisans** were retained by the Mongols, but were not required to pay taxes as they were valued for their contributions. They were often resettled to other locations in the empire and lived miserable lives in the service of their Mongol masters. Objects fashioned from gold and silver, woven textiles and paintings were all highly prized by the Mongol upper classes, as they had no artisan class of their own.

artisan a skilled tradesperson

Teachers, lawyers, musicians and artists were also spared and exempted from paying taxes. Scholars who were learned in astronomy and medicine were often employed as advisors.

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The *Yassa*

Genghis Khan devised a legal code in order to govern the empire. It set out rules to be observed for everyday life and imposed strict penalties, even death, on those who disregarded the code. The ***Yassa*** set out an orderly and systematic method of collecting taxes, along with rules governing conduct in battle, the treatment of slaves and the allocation of grazing lands. Theft or vandalising of property was strictly forbidden. Animals were not to be hunted in the breeding season. The Mongol nobility were expected to share much of the same hardship as ordinary individuals. The *Yassa* also forbade the abduction of women, and **decreed** that men should be occupied only with hunting or war. Horse stealing and defection from the army were both offences punishable by death. This traditional set of laws was inscribed on scrolls, seen only by the *khan* or his closest advisors, but the rules were well known and followed by the people. In this way, Genghis Khan was able to maintain strict discipline, safety and sound organisation across his empire.

Yassa a code of laws that helped to govern the Mongol Empire

decree a rule or law issued by a central authority

Pax Mongolica

Across their unified empire, the Mongols were able to guarantee the safety and security of travellers and promote strong links between the various parts of the empire. They achieved this through the **Pax Mongolica**, or Mongol peace. They were very supportive of trade and commerce, and maintained good road networks such as the **Silk Road** for the merchant caravan trains that criss-crossed Central Asia. This was most important in allowing goods, ideas and new knowledge to be transmitted across a wide region of the world.

Pax Mongolica a long period of relative peace and stability across Central Asia

Silk Road a network of trade routes that linked Asia with Europe and the Mediterranean world

Source 19.17 A mountain pass on the Silk Road in western China



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Historical thought

According to legend, a woman carrying a sack of gold could travel safely from one end of the Mongol Empire to the other.

Religious tolerance

The Mongols were quite tolerant of different religions in their empire, although the majority of Mongols were shamanistic in belief (that is, they worshipped nature spirits). Tax benefits were offered to religious leaders – including members of Buddhist, Christian, Islamic and Jewish faiths – to help to win their support. All groups were able to worship without fear of persecution throughout the empire. There were few existing places of worship because of the nomadic lifestyle. Under Ogedai, however, mosques, churches and temples were built in Karakorum. Three of the four khanates eventually favoured Islam over other faiths. The Mongols were also receptive to foreigners and envoys from popes, artisans, mathematicians and astronomers were welcomed at Karakorum.

The *yam*

The Mongols created an extensive postal relay system along the trade routes stretching over the vast empire. This was known as the ***yam*** and was used by merchants, travellers and especially the messengers who frequently journeyed between China, the Middle East and Europe. The *yam* helped maintain fast transfer of important information from one part of the empire to another. Well-guarded relay posts were set up at regular intervals along the major trade routes and were stocked with supplies of food, horses and lodging. Riders changed horses at these posts, which were approximately 40 kilometres apart, or else they relayed the mail on to a new rider. The Mongol riders were able to cover exceptional distances of up to 200 kilometres per day.

yam an efficient mail system using fast horse relay in the Mongol Empire

DEVELOPING YOUR UNDERSTANDING 19.5

1. Explain why animals weren't allowed to be hunted in the breeding season.
2. Identify three classes of people that were exempt from taxation under Mongol rule. Why do you think these classes of people did not have to pay tax?
3. Discuss why the Mongol religious policies could be seen as unusual.

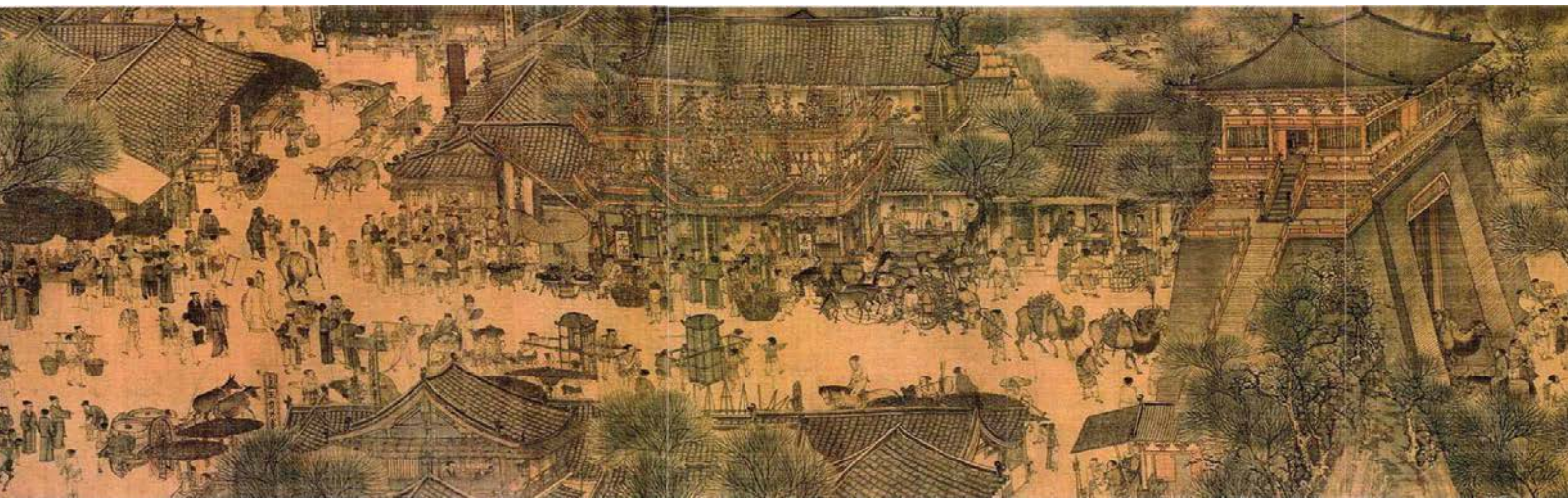
19.4 Mongol rule in China

China before the Mongol conquest

China was an advanced civilisation. Under the Song dynasty of the thirteenth century, science, technology, literature and the arts flourished. It was a sedentary society of peasant farmers who grew crops such as rice and tea and cultivated silk worms. China's population and its economy were growing rapidly, with an estimated population of 90 million at the time. More people were living in the cities, which were very large by the standards of this period.

However, China was not a united country, with the northern Jin and Xia dynasties and the southern Song dynasty in conflict with each other. China had always faced threats of invasion from the nomadic animal herders to the north. The Mongols were hard to defeat and the Chinese

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Source 19.18 A portion of the 5.3 metre Qingming scroll, depicting city life in Kaifeng during the twelfth century

resorted to maintaining an uneasy peace with them by annual payments of silk and money. The Chinese regarded the Mongols as uncultured and barbaric. The Great Wall was built over many centuries to prevent raids and invasions from these warring tribes.

Kublai Khan establishes a powerful empire in China

Kublai Khan became the Great Khan of the Mongol Empire in 1260 CE. He was determined to complete the conquest of China, begun by his grandfather Genghis Khan, by defeating the southern Song dynasty. Despite fierce resistance, the last Song ruler was finally overthrown and in 1271 Kublai Khan declared himself emperor of the new Yuan dynasty (1271–1368). This was the first non-Chinese dynasty to rule the whole of China.

Kublai Khan had a deep fascination with Chinese civilisation but also wanted to retain much of his traditional Mongol identity. He resided in a lavish Chinese-style palace in his newly built capital of Daidu (present-day Beijing), laid out with Chinese-influenced buildings. It was also known as Khanbalik: the city of the emperor. Kublai Khan adopted a largely Chinese lifestyle. He also built a magnificent summer palace at Shangdu (or Xanadu).



Source 19.19 Portrait of Kublai Khan painted in the Chinese style

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> [He is] the most powerful of men, in subjects, lands and treasures, that there is on Earth or ever was, from the time of our first father Adam to this day.

Source 19.20 Italian explorer Marco Polo described Kublai Khan in extravagant terms

Yet he preserved the distinction between Mongol and Chinese people by forbidding marriage between them and encouraging traditional customs. Mongol women refused the Chinese practice of foot-binding, and maintained the hunts, feasts and ceremonies they enjoyed in Mongolia. It was even said that the *khan* had steppe grass sown in the courtyard of the imperial palace to remind him of his Mongolian homeland. The Chinese subjects resented Mongol rule, regarding the leaders as insensitive to Chinese culture and likely to endanger Chinese traditions. A different social structure developed that was headed by the Mongols.

The new advisors directly below them served in key positions as government administrators and tax collectors. Beneath these were the northern Chinese, followed by the southern Chinese at the bottom of the rung, whose power was limited to holding minor government positions.

Historical thought

The communication system under Kublai Khan consisted of an extraordinary 1400 postal stations, which used 50 000 horses along with many thousands of oxen, mules, carts and boats.

Building programs

Apart from the new capital and the luxurious summer palace, Kublai Khan began many other ambitious building projects. These included extending the Grand Canal to Beijing, which made shipping grain from the south much easier, and completing an extensive postal station network.



Source 19.21 Kublai Khan on a hunting expedition with the empress; note the Mongolian furs worn over silk robes

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Labour for these projects was recruited from the peasantry, which was a source of anger to them. The Mongols further developed the navy, creating the Mongol war fleets that were used in the costly failed invasions of Japan (see Chapter 17).

Foreign trade

Under Kublai Khan, the Mongols continued their policy of supporting merchants and encouraging trade. China became the most productive trading and manufacturing centre of the era. Merchants brought all manner of luxury items and useful goods to the Mongol court via the Silk Road routes. They rarely travelled the entire distance overland, instead trading the goods at regular intervals from one middleman to another. Merchants were given tax exemptions and allowed to use the relay stations of the empire. Kublai Khan expanded the use of paper money and invited foreign merchants from Europe, Persia and India to visit China.

DEVELOPING YOUR UNDERSTANDING 19.6

1. Identify when Kublai Khan established the Yuan dynasty.
2. Name two ways in which the Yuan dynasty encouraged the growth of trade.
3. List some of the benefits that the separation of Mongol and Chinese people had for the Yuan dynasty. Analyse the effect of this policy on the longevity of the dynasty.

Marco Polo – adventurer and traveller

Many travellers, envoys and missionaries did make the challenging journey to China during the relative safety of the Pax Mongolica period. One of the most renowned was Marco Polo, who set out from Venice as a 17-year-old boy in 1271 CE, accompanying his father and uncle. He spent 17 years in China in the service of Kublai Khan. His accounts documented his epic journey, which took 3 years traversing the Silk Roads of Central Asia, crossing the Gobi Desert and travelling throughout much of China.

Marco Polo marvelled at the use of paper money made from mulberry bark, and was overawed by the size and splendour of China's cities. He was curious about the burning of black stones (or coal) and praised the efficiency of the postal system.

Marco Polo made a long sea voyage back to Venice where the story of his travels was written in prison after he was captured during a war against the rival city of Genoa. It was through the eyes of Marco Polo and his accounts that Europeans first learned about the civilisations to the east.



Source 19.22 A portrait of Marco Polo, who said: 'I only wrote half of what I saw.'

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Source 19.23 According to Polo, the Gobi Desert consisted entirely of mountains of sand and valleys with nothing at all to eat.

China after the Mongol era

In the last years of Kublai Khan's reign, the dynasty was beginning to weaken. His building projects had been enormously costly and the public works projects in irrigation and flood control could no longer be sustained. The Yellow River flooded disastrously, causing a decline in agriculture and the economy. The failed naval campaigns to conquer Japan were financially ruinous, weakening the Mongol forces and undermining their reputation. The luxurious lifestyle of the Yuan court created resentment among the heavily taxed peasants. In addition, subsequent Mongol emperors following Kublai Khan's death in 1294 were less able rulers.

In the south, rebel forces were gathering and beginning to drive the Mongols out. The Yuan dynasty was finally overthrown in 1368 and the Mongols fled north to their homelands. Zhu Yuanzhang, a rebel peasant leader, became the founding emperor of the Ming dynasty, which was to rule China for the next three centuries (1368–1644). China became a closed society, and was virtually isolated from the rest of the world for many hundreds of years.

RESEARCH 19.1

Investigate the reasons for the unsuccessful invasions of Japan during the Yuan dynasty.
or
Use your research skills to discover more about the journeys that travellers and merchants such as Marco Polo undertook.

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DEVELOPING YOUR UNDERSTANDING 19.7

1 Explain what enabled Marco Polo to travel such an extraordinary distance across Asia.
2 Discuss why his journey is of such interest to historians today.
3 Analyse how Mongol rule during the Yuan dynasty affected the lives of the Chinese people.
4 Design a portion of a scroll that illustrates life in the imperial palace during the Yuan dynasty.

Decline of the Mongol Empire

Like many dynasties, personal ambition and rivalry began to take root among the descendants of Genghis Khan. The weaknesses were foreshadowed after Ogedai's death when succession disputes became commonplace. Kublai Khan and his brother Arik-Boke both competed for title of *khan* after Mongke's death. Hulagu of the Ilkhanate and Berke of the Golden Horde were at civil war with each other. These bitter internal divisions meant that the once-united empire under Genghis Khan began to fragment.

High death tolls due to the outbreak of the plague also weakened the empire and interfered with trade along the silk routes. The Mongols were defeated and humiliated as they tried to invade new territories in Japan and south-east Asia. The fall of the Yuan dynasty in 1368 signified the end of Mongol supremacy across Asia.

19.5 Consequences of Mongol expansion

The terror unleashed by the Mongol invasions cannot be overstated: a wasteland of the cultured cities of Central Asia were left in the wake of the Mongols. Civic and religious leaders were massacred, innocent women and children were put to the sword, and enemy soldiers butchered. Ancient irrigation systems were destroyed, and large areas depopulated, many of which never recovered. Researchers estimate the death toll from Mongol conquests to be at least 30 million people.

By contrast, new learning and knowledge benefited East and West alike. Chinese innovations such as printing, paper currency, the compass and gunpowder reached Europe. Persian knowledge of mathematics, astronomy and science was brought to China, while Chinese books on medicine and agriculture travelled to the West. The knowledge of world geography expanded and travellers' stories sparked interest in the exploration of a sea route to China.

The Mongol peace and code of law provided a long period of stability. This enabled safe passage for merchant caravans, artisans and missionaries who could travel freely.

Trade between Europe, the Middle East and Asia was promoted. Chinese produce like silk, jade, tea and porcelain were in great demand in Europe. Carpets and weapons travelled from the Middle East. Spices, silver, fine cloth, horses and new plants and foods moved eastwards along the trading routes from Europe. The trade routes brought great wealth to the traders and the caravan cities.

Tolerance and openness to new ideas meant that cultural exchanges increased and the distribution of the major religions became much more widespread in this period. Buddhist, Christian and Islamic faiths spread along the trade routes, as did styles of music, art and dance. An unintended consequence of Mongol expansion was the spread of the bubonic plague to Europe and North Africa. Flea-infested rats carrying the plague travelled with the soldiers and horses across Central Asia to Europe. The dreaded **Black Death**

Black Death the great outbreak of bubonic plague in the fourteenth century

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became the greatest killer of all in the fourteenth century (see Chapter 20).

Never again were nomadic tribes able to assert their dominance over large regions and threaten sedentary civilisations. The Mongol conquests were 'the last and the most dreadful of all the nomadic assaults on civilisation'.

The advent of powerful guns and improved fortifications, the rise of new dynasties (such as the Ottomans of Turkey), the dawn of sea conquest and the growth of new trading powers were all about to change the face of global history. In the space of 200 years, the Mongol Empire grew and fell.

China eventually took over much of Mongolia and it remained part of China until the fall of the Manchu dynasty in 1911. Today Mongolia occupies a similar region of Central Asia as it did in Genghis Khan's time.

Historical thought

In Mongolia today Genghis Khan is regarded as a national hero. His name can be found on buildings and on products such as sweets, banknotes and liquor. Even the international airport is named after him! Genghis Khan sits astride a horse on top of an enormous statue near the capital city of Ulan Bator. Many of his descendants still herd cattle on the Mongolian steppes in the traditional nomadic lifestyle, just as they did in Genghis Khan's time.



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Reflecting and consolidating

Chapter summary

- The harsh steppe grasslands of Central Asia were home to many nomadic tribes who were noted for their superb horsemanship, courage and toughness.
- The organising genius of Genghis Khan transformed warring Mongol tribes into a unified and highly disciplined military machine.
- The Mongols set out on relentless conquests under Genghis Khan and his descendants that saw them invade China, Persia, Russia and Eastern Europe during the thirteenth century, creating the largest contiguous land empire in history.
- Noted for their cruelty and ruthlessness, the Mongols slaughtered those who did not surrender willingly and plundered their towns and cities.
- Mongol reign brought a long period of relative peace and trade, a strict governing code, religious tolerance, new technologies, and the beneficial transfer of culture and ideas across Asia, the Middle East and Europe.
- Under the Yuan dynasty of Kublai Khan, China became a united country in which trade, culture and technology flourished.
- Power struggles and leadership disputes began to weaken Mongol supremacy and the fall of the Yuan dynasty in 1368 marked the end of the Mongol Empire.

Short-answer questions

1 The Mongols have been described as 'the devil's horsemen'. Do you think this is an appropriate term?

2 What was the Pax Mongolica? Why was it important in promoting trade and the flow of ideas across Asia?

3 Suggest four qualities of Genghis Khan that made him such a notable leader.

4 Explain the benefits the rule of Kublai Khan brought to China.

5 Outline the factors that led to the decline of the Mongolian empire by the mid-fourteenth century.

Source analysis

Study Sources 9.24 and 9.25 and answer the following questions:

1 What is taking place outside the walls of Vladimir (an important city in Russia) in Source 19.24?



Source 19.24 Mongols outside the walls of Vladimir, 1239



Source 19.25 Returning to Vladimir, 1239

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2 Explain why the second image of Vladimir (Source 19.25) is so different.

3 Do you think the two images together provide useful source materials for historians? Can they give an accurate picture of Mongol conquest?

Extended-response question

Do you consider that the expansion of the Mongol Empire had a negative or a positive impact on the peoples of Asia and Eastern Europe? In a short essay, present a well-planned argument that sets out your main points and supports your position.



Source 19.26 Statue of Genghis Khan in modern-day Mongolia

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20 The Black Death in Asia, Europe and Africa

Before you start

Main focus

The Black Death was a devastating plague that swept across Europe, North Africa and Asia during the fourteenth century.

Why it's relevant today

The Black Death was a major crisis in history that caused an immense loss of life and hastened significant economic and social changes in the late Middle Ages.

Inquiry questions

- What was the Black Death and how was it caused?
- How did the disease spread across such a vast area in Europe, Asia and North Africa?
- In what ways did people respond to the onset of the Black Death?
- What were the immediate and long-term impacts of the Black Death on fourteenth century society?

Key terms

- Bubo
- Flagellant
- Life expectancy
- Pandemic
- Penance
- Plague doctor
- Silk Road
- Sumptuary law

Significant individuals

- Brother John Clyn
- Jeuan Gethin
- Marchionne di Coppo Stefani
- Pope Clement VI

Let's begin

The fourteenth century world was devastated by a global pandemic known as the Black Death. From its origins in China, this plague spread along land and sea trade routes and reached the Mediterranean Sea in 1347. The lethal duo of the plague-infected black rats and the fleas they harboured caused the disease to spread rapidly across Europe, North Africa and the Middle East. Medical doctors and authorities alike were powerless to prevent millions of terrified people from contracting the frightening symptoms of the plague. Some 75 million people are thought to have perished during the Black Death, the greatest medical disaster of the Middle Ages. Such a great loss of population resulted in significant social and economic changes. These included labour shortages, a weakening of the feudal system, loss of prestige for the church, greater social mobility and peasant rebellion.

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Timeline

CHAPTER EVENTS	WORLD EVENTS
c. 1300 CE	
c. 1330 CE Origins of the plague in north-east China	**1315–22** Great Famine strikes northern Europe
1334–47 Plague moves west along caravan routes from China	**1337** The Hundred Years War begins
1347 Mongol armies spread plague at Kaffa; plague enters Italy; plague enters Egypt	
Late 1347 Plague spreads around Mediterranean sea ports	
1348 Plague reaches Paris and southern England	**1342–52** Clement VI is pope in Avignon
1349 Plague spreads across England and Ireland, and reaches Scotland and Norway	
c. 1350 CE	
c. 1352 Plague enters Russia and begins to abate	
c. 1360 CE	
	1368 Mongol Empire is overthrown in China; Ming dynasty begins
c. 1370 CE	
	1378 The Great Schism takes place with rival popes in Rome and Avignon
c. 1380 CE	
1381 Peasants' Revolt takes place	
	1387 Chaucer starts writing *The Canterbury Tales*



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Source 20.1 Map of Europe at the time of the Black Death

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20.1 Life in the fourteenth century

Living conditions

Some 650 years ago, European cities, towns and villages were very different places in which to live. Populations were growing rapidly, with medieval towns and cities becoming very congested and unhealthy. People emptied their garbage and dirty water into the narrow unpaved lanes. **Sanitation** was very basic, with streets often used as open sewers, which eventually seeped into sludge choked rivers and streams. King Edward III of England in a letter to the lord mayor of London in 1349 complained that the streets and lanes were 'foul with human faeces, the air of the city poisoned to the great danger of men passing'.

sanitation the provision of adequate facilities such as toilets, and services such as garbage collection, to promote community health and hygiene

> [There was] filth running in open ditches in the streets, fly-blown meat and stinking fish, contaminated and adulterated ale, polluted well water, unspeakable privies and epidemic disease … which were experienced indiscriminately by all social classes.

Source 20.2 Conditions in Bristol, Britain's second largest city

Medical knowledge

Medical knowledge was very basic in the fourteenth century as there was little understanding of the causes of disease. Treatment by poorly trained doctors was a risky business and medical remedies were largely based on superstition and ignorance. It was commonly believed that illness arose from 'miasmas', or deadly airborne vapours, and that God sent illness as a punishment.

A common principle of medicine was the theory of the four humours. These were fluids in the body which included black bile, yellow bile, phlegm and blood. It was believed that these humours had to be in balance in order to maintain good health and that any imbalance was a major cause of health disorders. Bloodletting, often by attaching leeches to the body, was a popular method of treatment, as were numerous herbal remedies. The church prohibited the dissection of corpses, so little was known about the workings of the human body. Operations could very easily result in death as there was no knowledge of antibiotics or of the need to sterilise surgical instruments. Hospitals were places of isolation of the sick – or homes for the blind, lame or elderly – rather than being places to regain health.

life expectancy the average length of time that a given population is expected to live

Life expectancy was very low: barely 30 years on average. This was due in part to the high number of children dying in infancy, along with deaths in childbirth and the high toll brought about by infectious diseases spreading rapidly in overcrowded conditions. If individuals survived the dangers of childhood, they could expect to reach the age of 50.

Already weakened by war, famine and malnutrition, Europe in the mid-fourteenth century was ripe for a tragedy such as the Black Death. It was not until the nineteenth century, some 500 years later, that medical advances proved that **epidemics** could be blamed on poor sanitation, overcrowding and unhealthy diets.

epidemic a disease that affects many people at the same time

The small houses that belonged to the poor had clay floors that were covered in dirty straw or rushes, with animals often living under the same roof. Peasants' houses had no glass windows, so there was very little sunlight. Nor were there chimneys, so smoke from the fire escaped through a hole in the thatched roof. Without running water or bathrooms, personal hygiene was poor as people rarely bathed and their clothing was often visibly dirty. Rats and other vermin such as lice and fleas flourished in these unsanitary conditions and shared a close relationship with people.



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DEVELOPING YOUR UNDERSTANDING 20.1

1 Discuss the three main reasons why there was little anyone could do to prevent or cure the Black Death.
2 Explain why the plague spread so quickly in medieval towns and cities.
3 Research the important advances made to medical understanding in the 1800s by an individual such as Edward Jenner, Edwin Chadwick, Joseph Lister or Louis Pasteur. Suggest how these advances might have made a difference for people affected by the Black Death. Share your findings with your class in a brief PowerPoint presentation.

Importance of religion

The medieval church had an active influence on people's lives. Across Europe, the Catholic Church was a powerful and wealthy organisation. The spiritual leader of the church was the pope, who was based in Rome, but there were also French popes in Avignon from 1303 to 1377. The vast majority of people were deeply religious in medieval Europe. The church's teachings were carefully observed and people attended church every Sunday to hear the Latin mass being conducted by the priest. Beautiful stone cathedrals were slowly being built, which testified to the importance and role of the church in society.

Every village had its own parish church and clergy who organised charitable works, provided education and tended to the needs of the sick. Each peasant family was required to give the church an annual tithe of one-tenth of all they had produced during the year. Monks, friars and nuns lived in monasteries and convents, devoting their lives to worship and good deeds such as caring for the sick. People relied on the church to provide explanations for misfortunes that occurred, regarding events such as the plague as signs of **divine** anger and God's punishment for people's sins. In the Islamic world of North Africa and the Middle East, people similarly believed that misfortune was a sign of Allah's displeasure.

divine relating to a god or gods

20.2 Origins and spread of the Black Death

By 1347, the dark shadow of a sinister plague had arrived from China to begin its deadly path across Europe and North Africa. Its fearful victims called it the great pestilence, plague or the great mortality, and within 4 or 5 years it would take the lives of up to one-third of the population. This major event in history later became known as the Black Death.

What was the plague?

The plague was a large-scale infectious disease, which has appeared throughout history and at times spread rapidly when people travelled over long distances in large numbers. In the fourteenth century it was characterised by three related forms: the bubonic plague, the pneumonic plague and the septicaemic plague.

Bubonic plague

This was the most commonly seen form of the plague, and it killed two-thirds of its victims. A person experienced egg-sized swellings or **buboes** on their neck, armpits and groin. The pus-filled buboes continued to expand until they burst. These symptoms were followed by an outbreak of black spots, fever, headache and vomiting, with death occurring in 5 to 7 days.

bubo a painful pus-filled swelling of the lymph nodes, characteristic of the bubonic plague

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Pneumonic plague

This form attacked the respiratory system and was characterised by coughing and the discharge of blood. It resulted from airborne transmission via sneezing or coughing and had a fatality rate of 95%.

Septicaemic plague

This was more rarely seen and almost always fatal. This version attacked and poisoned the blood system of the patient causing very rapid death. The plague was termed 'the Black Death' due to the internal bleeding that occurred in all three types of the disease, causing large black bruises to appear on the skin. The grotesque appearance of the victims and the swiftness with which the disease struck made the plague especially terrifying.

> We see death coming into our midst like black smoke, a plague which cuts off the young, a rootless phantom which has no mercy or fair countenance. Woe is me of the shilling in the armpit: it is seething, terrible, wherever it may come, a head that gives pain and causes a loud cry, a burden carried under the arms, a painful angry knob, a white lump. It is of the form of an apple, like the head of an onion, a small boil that spares no-one. Great is its seething, like a burning cinder, a grievous thing of an ashy colour.

Source 20.3 Welsh poet, Jeuan Gethin, died shortly after writing this description in 1349.

A disease spread by infected rats and fleas

The source of the plague was traced back to the black rat and the oriental rat flea. The rats were carriers of the *Yersinia pestis* bacteria that caused the plague. They were frequently infested by fleas. After biting the rat, the flea became the carrier of the deadly plague bacteria, which then began to multiply in the flea's gut. Transmission to humans occurred when the biting flea passed bacteria into the human bloodstream. The disease was also spread by tiny droplets of bacteria in the air from coughing by an infected person.

The causes of the plague were not understood in the fourteenth century and so there were no cures. Doctors were quite powerless to prevent the disease, which rapidly spread in overcrowded conditions via infected people, clothing and corpses, as well as the rats and fleas.

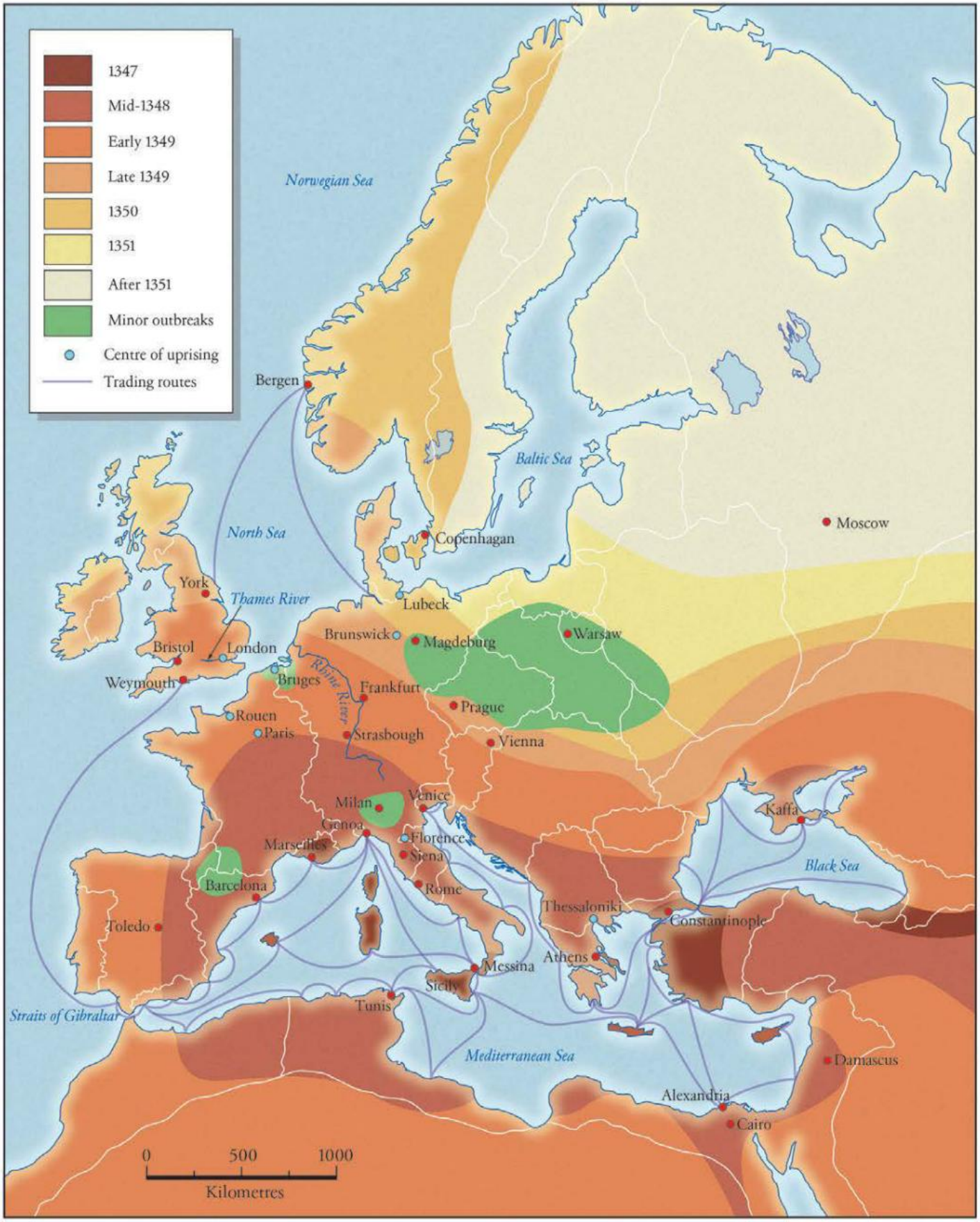


Source 20.4 Fleas were carriers of the plague bacteria (*Yersinia pestis*), which multiplied in their gut.

Historical thought

The plague bacillus (*Yersinia pestis*) was identified by a French doctor, Andre Yersin, in 1894, and found to be a disease spread by rats and fleas. It was not until 1932 that sulfur drugs were used as an effective treatment for the plague – over six centuries after the Black Death occurred!

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Source 20.5 Progress of the plague from Central Asia across Europe and North Africa c. 1347–52 CE

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DEVELOPING YOUR UNDERSTANDING 20.2

1 Explain why the plague became known as the Black Death.
2 Construct a flow diagram to explain how a person might fall ill with the plague.
3 Identify what Jeuan Gethin means by the 'shilling in the armpit'.
4 Imagine that a member of your family contracts the plague in London in June 1349. Describe the terrible events of the next 5 days.
   a Ensure you include a description of the symptoms you observe and the progress of the disease.
   b Explain how your family responds during this time.
5 Research modern-day pandemics that might be compared with the bubonic plague. Can you suggest any similarities in the ways in which people might respond to an outbreak of that disease? In what ways are we better able to cope with epidemics than people in the fourteenth century?

Where did the Black Death originate?

The origins of the plague appeared around 1334 in north-eastern China. From there the plague spread south within China, striking down millions of people in its wake. It also began its long westward journey with the Mongol horsemen across the dry steppes and rugged mountains of Central Asia towards Europe, the Middle East and North Africa. By 1346, the shores of the Black Sea were plague-ridden.

Historical thought

Cats were killed in medieval times by superstitious people who considered them to be associated with the devil. Had there been more cats, the local rat population could have been kept down, lessening the spread of plague-infected fleas from host to host.

The role of expanding trade routes

By the fourteenth century, significant land and sea trade links existed between Europe and Asia. The expansion of the Mongol Empire had opened up trade along the **Silk Road** routes and there was strong demand in Europe for silk, spices, jewels, furs and perfumes from China. Merchants, **trade caravans**, pilgrims, postal carriers, soldiers and nomads all travelled many thousands of kilometres overland on these well-maintained routes in very harsh conditions. Sea trading routes in the Mediterranean Sea were busy thoroughfares with many ports of call. There were also sea routes through the Straits of Gibraltar to England, Holland and Germany. Several large navigable rivers across Europe linked the sea ports to inland cities.

Silk Road a network of trade routes that linked Asia with Europe and the Mediterranean world

trade caravan a group of merchants travelling together with their goods

Rats and the oriental rat flea were regular passengers along all these trade routes: hitching a ride with the Mongols' horses and hiding in

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their grain bags, infesting the food stores of the trade caravans, or lurking inside the crates of the merchant ships and then scurrying down the mooring ropes when the ships were in harbour.

The Black Death strikes Europe and North Africa

It is believed that the plague first arrived in Europe during 1347 from the Black Sea port of Kaffa. Mongol armies besieged the port where Italian merchant vessels from Genoa docked. Plague had broken out among the Mongol troops and the infected corpses were loaded onto huge catapults by the survivors and tossed over the walls of the city. The Genoese ships fled Kaffa carrying their plague-ridden cargoes and crew, and set sail for Messina in Sicily. Here they unloaded not only their trading goods but the dreaded Black Death. From then on, the plague's spread was dramatic and unstoppable.

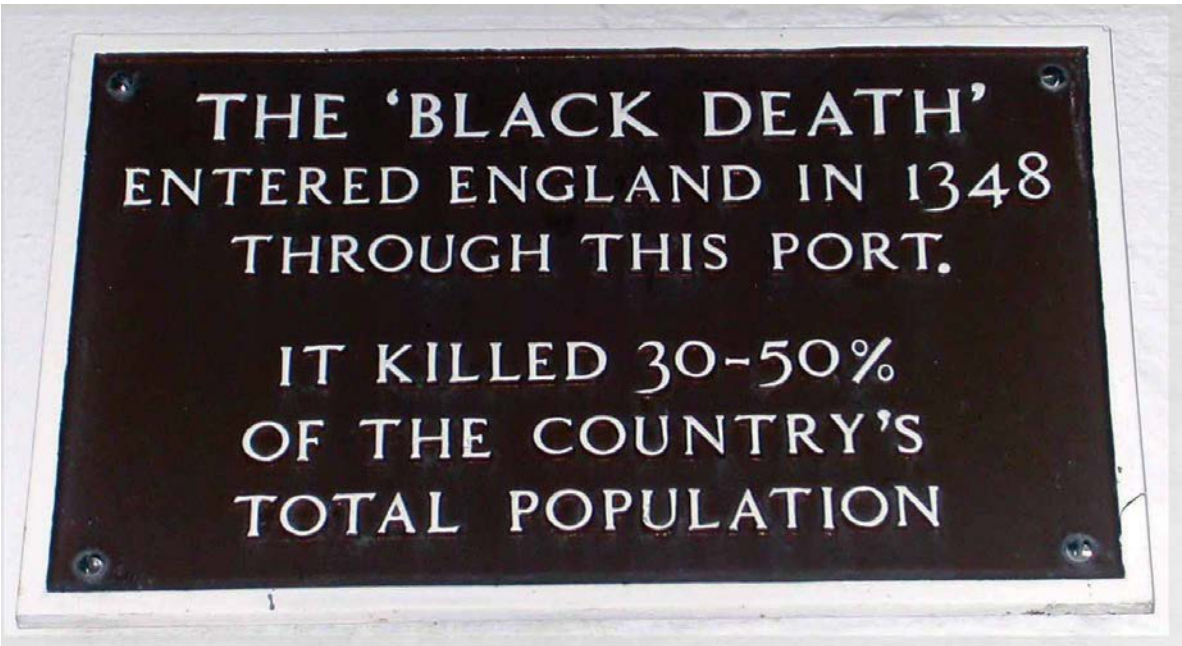
A swift and horrifying progression

Within a few days, Sicily's rat and human populations were infected. From Sicily the plague quickly spread north into Italy and around the ports and fishing villages of the Mediterranean Sea. The great trading ports of Genoa and Pisa became entry points for the plague in northern Italy. In the same year, the citizens of Alexandria in North Africa, the Turkish city of Constantinople and the French port of Marseilles all began to reel from the plague.

By June 1348, the plague had travelled north to Paris and south-east to Palestine and Syria. By the end of that year, the town of Weymouth on the southern coast of England had become the entry point for the plague's deadly progress across Britain. London, the country's principal port, had trade connections throughout Europe. Ships sailed up the River Thames into the city, while roads linked London to the ports of Bristol and Southampton. By late 1348, the plague had reached the city. In 1347–48, the plague gained hold in Egypt.

Cairo was at the crossroads of the spice trade route between Europe and Asia, and this city was especially severely hit, as evidenced by the corpses piled high in mosques and along roadsides. Other Islamic countries also suffered, with cities such as Damascus and Mecca recording severe outbreaks of the plague.

It was estimated that the plague's advance reached over 3 kilometres per day. Trading barges along the Rhine River and road passes through the Alps helped the plague to reach Germany by 1349. Later in that same year, the plague arrived



Source 20.6 A plaque in Weymouth, England, noting the entry of plague in 1348

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in Scotland and Ireland. It jumped to Norway on a wool ship from London via the chief trading port of Bergen, then travelled even further north to reach the Viking settlements of Iceland and Greenland by 1350. The dreaded disease had extended east to the streets of Moscow in Russia by 1352.

Very few parts of Europe escaped the plague. Only remote, mountainous or less-populated areas seemed immune from its onslaught. Poland was one country that experienced a lower toll. Having killed one-third or more of Europe's population, the plague then began to slowly decline.

DEVELOPING YOUR UNDERSTANDING 20.3

1. Look at a map to find the distance between Beijing in north-east China and the Black Sea. Using this information, determine the average speed (per year) of the spread of the Black Plague.
2. Identify where and how the plague entered Italy.
3. Research on the internet or in the library some of the locations in Europe that were not severely affected by the Black Death. Identify some features that these locations had in common.

Effects on the population

Living through the Black Death was a deeply shocking experience. Daily lives were marked by death, grief, a sense of helplessness, chaos and despair. Medieval graffiti etched in Latin during 1349 in England provides an insight about how people felt:

> wretched, terrible, destructive year, the remnants of the people alone remain.

Source 20.7 Translation of medieval graffiti on the walls of St Mary's church in Ashwell, England

When the telltale swellings and black spots appeared, no one was safe. Towns and cities were hit disproportionately hard by the plague. Rich and poor alike were at the mercy of the disease, but it was the poor and undernourished – including peasants, labourers, clergy and artisans – who suffered most of all. Giovanni Boccaccio, an Italian writer, observed darkly that the victims 'ate lunch with their friends and dinner with their ancestors in paradise'.

The wealthy often fled from urban centres to the countryside, but the plague soon followed them there. There are many references to the deaths of upper-class citizens, such as nobles,



Source 20.8 Fear of the plague in the house of Fitzeisulf, from a Canterbury Cathedral window

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bishops and lords of manors, although their mortality rates tended to be significantly lower. Edward III's daughter, the 15-year-old Princess Joan of England, died in France in 1348 en route to Spain for her marriage to Pedro of Castile. The Archbishop of Canterbury was struck down the following year, as were his two successors. In Tournai, Gilles le Muisit concluded: 'No one was secure, whether rich, in moderate circumstances or poor, but everyone from day to day waited on the will of the Lord.'

The population remained in a state of constant terror, believing the plague to be a mark of God's wrath. Many were so afraid of infection that they left loved ones to die alone. Others fled their homes in panic. St Mary's Abbey in York recorded that there were 'hardly enough living to care for the sick and bury the dead'. Animals such as dogs, chickens, oxen and sheep also showed the same symptoms and died of the plague.

While many people fled the Black Death, and many more suffered heart-rending losses, the uncertainty of daily survival caused others to live for the moment. They devoted their days to pleasure-seeking and excesses of all kinds such as gambling and drinking in taverns. Boccaccio observed that while some people took to prayer:

> others were drawn to the opposite opinion … affirming that drinking, seeking pleasure, singing, amusements, satisfying one's every appetite, laughing and mocking reality are the best medicine for such an evil …

Source 20.9 Giovanni Boccaccio, writing in *The Decameron*

Historical thought

Consumption and popularity of alcohol in Europe increased dramatically during this period as it was taken as a remedy for the Black Death.

20.3 Responses to the Black Death

Flagellants

flagellant a person who whips themselves to make amends for their sins

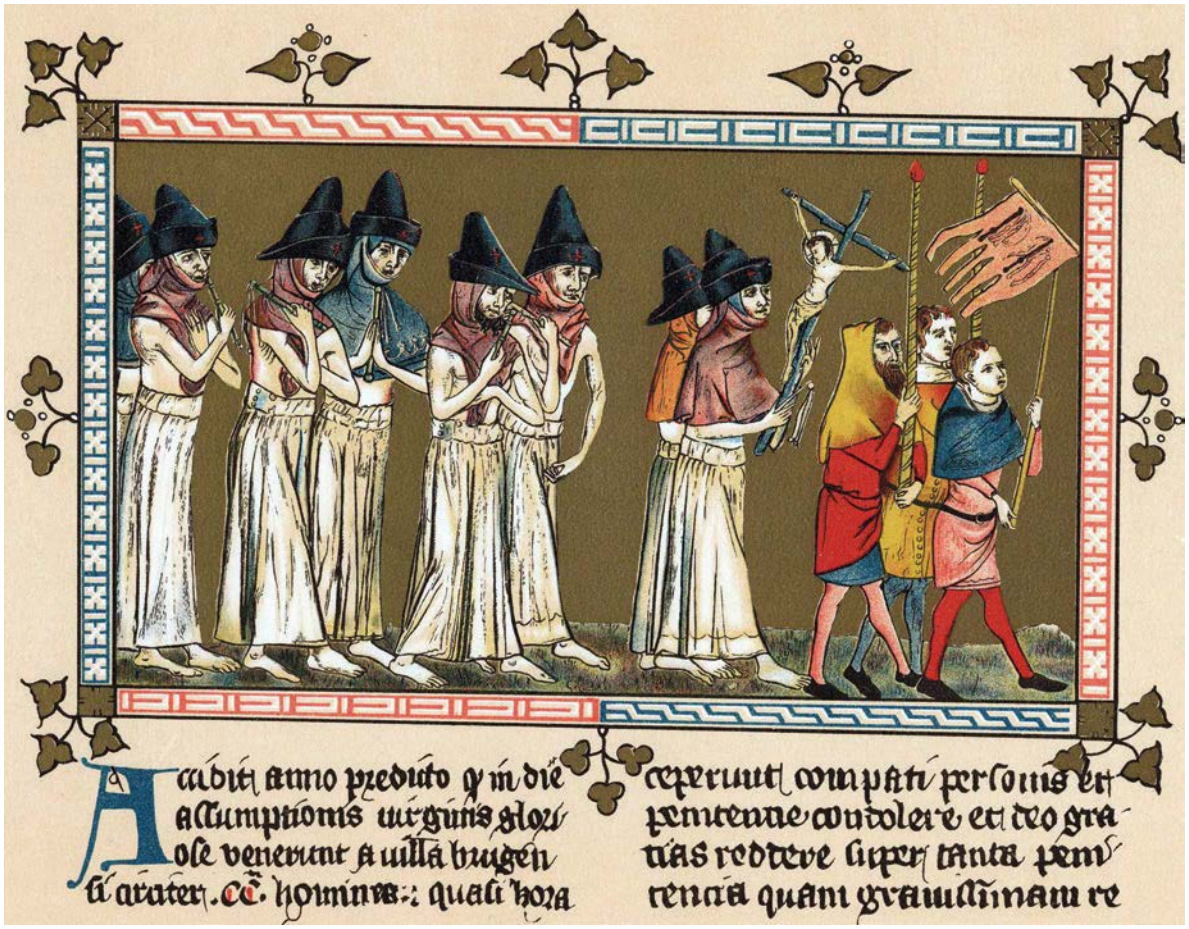
Renewed religious fervour and even fanaticism grew in the wake of the Black Death. One of the more extreme responses to the plague was that of the **flagellants**.

These were unruly bands of people wandering through the countryside and towns inflicting all sorts of punishment on themselves. They wore white robes, capes and hoods, which were pulled down around the waist so they could beat themselves with leather whips tipped with sharp metal. They believed that by doing **penance** in public they would make amends for the sins of humankind. Pope Clement VI eventually condemned the flagellants and the authorities were ordered to suppress them.

penance an act of self-punishment to make amends for one's sins



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Source 20.10 A flagellants' procession in the Dutch town of Tournai, 1349

Scapegoats

Some groups became easy targets of blame. Despite the fact that they, too, were dying horrible deaths, minority groups including Jews, gypsies, 'witches' and foreigners were persecuted. Jewish people were particularly singled out and accused of causing the plague by poisoning the drinking



Source 20.11 Jews being burned alive during the Black Death

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water in wells. In Strasbourg, 2000 Jews were killed by angry mobs, while in Mainz and Cologne thousands more lost their lives. Across Europe, more than 350 massacres of Jews took place, especially in Spain and Germany. Pope Clement VI issued orders for the protection of Jews and gave them refuge in Avignon, pointing out that they were dying like everyone else, but his voice was hardly heard against the general outcry.

People thought witches brought harm to society by causing illness or bad luck. The churches regarded witches as evil as they were associated with worship of the devil. Witchcraft trials steadily increased as the fear and anger associated with the Black Death was directed against the often vulnerable people who were identified as witches. Lepers and others with skin diseases also became easy targets. In Cairo, Muslim women were blamed for bringing Allah's wrath in the form of the plague and were forbidden from leaving their homes.

> No poultry should be eaten, no waterfowl, no pig, no old beef, altogether no fat meat … It is injurious to sleep through the daytime … Fish should not be eaten, too much exercise may be injurious … and nothing should be cooked in rainwater. Olive oil with food is deadly … Bathing is dangerous …

Source 20.12 Advice from the medical faculty, Paris 1348

Historical thought

Pope Clement VI, who resided in Avignon, was ordered by his doctors to sit between two huge fires to breathe pure air and ward off the plague. As the plague bacillus is destroyed by heat this may well have been an effective measure!

Sufferers were treated by measures designed to draw poison or infection from the body by bloodletting, lancing the buboes or the application of hot plasters. People turned to all sorts of bizarre remedies in desperation. Marchionne in Florence wryly concluded:

> Those who especially profited from the plague were the chemists, the doctors, the poulterers, the undertakers, and the women who sold mallow, nettles, mercury plant and other poultice herbs for drawing abscesses. And those who made the most were these herb sellers.

Source 20.13 From *The Florentine Chronicle* of Marchionne di Coppo Stefani

Towns rang church bells loudly to drive away the plague as this was done in crises of all kinds. People used sweet-smelling herbs such as rosemary or pine to ward off evil odours. They resorted to charms, magic cures and astrology in the hope of surviving the disease.

plague doctor a medical officer employed to treat plague victims; often he had limited medical training

Plague doctors (see Source 20.14) were hired by many towns



Source 20.14 'Doctor Beak of Rome' in the typical garb of the plague doctor

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to attend the sick. Pope Clement VI hired several in Avignon to visit victims of the plague. These well-paid but poorly trained volunteer doctors must have presented an extraordinary spectacle indeed. The plague doctor wore a wide-brimmed hat and a mask in the shape of a bird beak. The beak was filled with herbs and spices to overcome the bad air believed to carry the plague. Red glass eyepieces inset into the mask acted to ward off evil. They wore a long black overcoat coated in wax or suet to minimise skin exposure. A wooden cane was used to examine patients without touching them directly. It is not known if the plague doctors were effective; like the flagellants they may even have unknowingly contributed to the spread of the plague.

Powerless authorities

Many cities did attempt measures to combat the spread of the plague by placing a ban on incoming ships – Venice, for example, had a 40-day quarantine of vessels on an island away from the city – but this measure was designed to exclude people rather than the flea-infested rodents, and was largely to no avail. A partly effective measure to combat the plague may have been the decision of the authorities in Milan to wall up houses where people had the plague and isolate both the sick and the healthy inside. Milan's death toll of 15% was lower than most other cities.

DEVELOPING YOUR UNDERSTANDING 20.4

1. Name a common feature of the groups persecuted during the Black Death.
2. Describe how witches might have been identified by those conducting witchcraft trials.
3. Assess whether the flagellants would have been more or less likely to contract the plague compared with the general population. Give reasons for your answer.

20.4 Effects of the Black Death

A death toll of unimaginable proportions

The most striking feature of the **pandemic** was the scale of the death toll it exacted. This was a worldwide phenomenon: a shared experience across medieval Europe and the neighbouring region of North Africa, as well as the Middle East, India and China. In Europe, an estimated 25 million people lost their lives, one-third of the total population at that time. In China, the early plague outbreak caused enormous loss of life with 5 million deaths in Hubei province alone. Outbreaks in the Chinese empire may have contributed to a total death toll as high as 25 million people. China's population dropped from 125 million to 90 million by the middle of the fourteenth century, with Mongol invasions and famine also contributing to loss of life.

pandemic an infectious disease that spreads over a large area of the world

Across Europe, the experience of individual countries was repeated over and over. In France, the **hearth tax** surveys recorded that Provence lost 60% of its people. In the villages of Normandy, black flags were flown from the church steeples to warn people of the presence of the Black Death, but 30% of the population perished nevertheless. In the Italian city of Venice, 60% of people died within 18 months of the plague's onset. The small country of Norway was brought to the brink of extinction as two-thirds of its population died. This may have been due to the cold northern climate and the prevalence of pneumonic plague. Switzerland's population decreased from 800 000 to 600 000, while Spain's plague mortality was estimated to be

hearth tax a tax imposed on each hearth, and therefore on each family unit

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30% of the population. North Africa also suffered greatly, especially those port cities that had close links to the Italian merchants. At the height of the plague, Tunis and Cairo lost 1000 people per day. Egypt lost roughly half of its population over the fourteenth century due to the Black Death and later outbreaks of plague. It seems that the countries first affected by the plague around the Mediterranean Sea, along with those that had multiple entry points (such as Britain), suffered the greatest population losses. Countries such as Germany, where the plague arrived later, generally experienced a lower percentage loss of their population.

Assessing the Black Death toll

It is hard for historians to estimate accurately the true extent of the death toll. While Pope Clement VI added up the European death toll to a precise figure of 23 840 000, there were only basic ways of recording such information in the fourteenth century. There is a scarcity of records, although some useful evidence remains from a range of source materials such as church registers, manorial records, hearth-tax details, cemetery records and eye-witness accounts from the time.

We know that crowded cities were worst affected and that some groups in society – such as the poorer classes, the clergy and doctors – suffered most of all. Personal accounts by writers of the time provide many insights, but some of these may have been exaggerated because of the widespread terror. The experience of the plague varied across regions and among different social classes so average figures need to be examined with care.

Examples of conflicting estimates from England show why a modern historian cannot be as precise as Pope Clement VI was about the Black Death toll.

- The Weymouth plaque to the plague victims records that 30–50% of the population died.
- Ralph Higden of Chester, a contemporary chronicler, declared: 'Scarcely a tenth of mankind was left alive.'
- A monk from Malmesbury, Wiltshire wrote: 'Over England as a whole a fifth of men, women and children were carried to the grave.'
- Dene of Rochester noted: 'In this pestilence scarce one-third of the population remained alive.'
- The Museum of London Archaeology currently estimates that 75 million people worldwide fell victim to the pandemic. An estimated 25 million Europeans lost their lives. In London, the plague wiped out 40 000 people, which was half of the city's 80 000 population, while in the towns and countryside up to half the population of men, women and children perished.

DEVELOPING YOUR UNDERSTANDING 20.5

Examine the sources that describe a range of death tolls experienced in England and answer the following questions:

1. Why do you think the sources vary so widely?
2. Can a historian draw accurate conclusions about the loss of life? If not, why not?
3. Which source or sources do you consider to be the most reliable?

Immediate effects of the Black Death

Because the death toll was so great, and the onset of the plague so rapid, there were simply not enough people to carry out daily tasks or to comfort the sick and bury the dead. Brother John Clyn, a friar of Kilkenny in Ireland, lamented:

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> [T]he plague stripped villages, cities, castles and towns of their inhabitants so thoroughly that there was scarcely anyone left alive in them. The pestilence was so contagious that those who touched the dead or sick were immediately affected themselves and died, so that the penitent and confessor were carried together to the grave. Because of their fear and horror, men could hardly bring themselves to perform the pious and charitable acts of visiting the sick and burying the dead … It was very rare for just one person to die in a house, usually husband, wife, children and servants all went the same way, the way of death.

Source 20.15 Brother John Clyn on the effects of the plague

The friar died shortly after writing his account in 1349. Monks and priests such as John Clyn assisted the sick in the monasteries and performed the last rites and burials. Consequently they were very susceptible to the plague, and religious orders were badly affected by the loss of great numbers of clergy. In England, the cities of Exeter, Winchester, York and Norwich all lost roughly half their priests. The churches were unable to hear confessions or offer last rites due to the scarcity of clergy. Pope Clement VI offered remission of sins to all who died of the Black Death in an effort to counteract the fears of those who were about to die without receiving the last rites.

Cemeteries quickly became overcrowded: mass graves and plague pits such as those in Siena were commonly used. In Avignon corpses were thrown into the Rhone River until burial pits were dug.

In London a new cemetery was hurriedly opened by the Bishop of London at East Smithfield. The photo in Source 20.16 shows recent archaeological excavations at the site. These suggest that the dead were buried with respect as they were neatly stacked five deep in well-ordered individual graves. The burial scene at Tournai shown on page 443 indicates that plague victims there were fortunate enough to have coffins.



Source 20.16 Cemetery excavations of Black Death victims, Smithfield, London

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Scarcity of labour

The overwhelming sense of powerlessness and fear was further complicated by severe shortages of labour and craftsmen. Shops and businesses closed, fields were no longer worked and rural villages were abandoned with houses remaining empty. When in 1349 King Edward III ordered the streets of London to be cleaned up the council replied that it could do nothing as the street cleaners had all died of the plague! Wages began to rise for labourers, but landlords' income fell as less rent was received from peasants. Food soon became scarce as there were insufficient workers to tend animals or bring in the harvests. Governments across Europe responded by forbidding the export of food to other countries and setting price controls on grain. Universities and schools closed down so education suffered, and courts were adjourned so that wills were not able to be settled. Parliament was suspended in London in 1348. Craft guilds were forced to shorten the length of apprenticeships in order to provide enough skilled labourers as quickly as possible. In Siena where half the inhabitants of the city died, work was abandoned on the great cathedral due to the loss of its stone masons and has not been completed to this day.

In Italy, writer and politician Marchionne described the situation in the prosperous city of Florence (Source 20.17).

> No industry was busy in Florence: all the workshops were locked up, all the inns were closed, only chemists and churches were open. Wherever you went, you could find almost nobody: many rich good men were borne from their house to church in their coffin with just four undertakers and a lowly cleric carrying the cross … Woollen merchants and retailers when they came across cloth could sell it for whatever price they asked.

Source 20.17 From *The Florentine Chronicle* of Marchionne di Coppo Stefani

DEVELOPING YOUR UNDERSTANDING 20.6

You undertake a journey across the countryside during 1349 at the height of the Black Death. En route you encounter many peasants, some Jews, a monk, a doctor, a nobleman and his family, and a group of townsfolk who seem to be living for the moment. They are eager to share stories about their personal experiences of the Black Death. Working in small groups, prepare a script and present a role-play that explores some of the different responses that people had to the Black Death.

Long-term effects of the Black Death

Significant social and economic changes that were already taking place in society were hastened by the impact of the Black Death.

Economic effects

Weakening of the feudal system

feudal relating to a system under which peasants were granted use of farming land and, in return, were obliged to provide services and loyalty to the lord of the manor

Because so many peasants died, labour became very scarce. **Feudal** landlords were desperate for people to farm the land, so were forced to compete for peasant labour. Peasants could now demand higher wages and better conditions. Their obligation to remain on the **manor** lands was lessened, allowing them to leave their current employment and seek the highest wage on offer. This weakened the feudal structure. Villages and hamlets were

manor the great house and lands of a rich nobleman

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often left deserted and the amount of cultivated land shrank.

In 1351, the English Parliament responded to the peasants' demands for freedom and increased earnings by passing the *Statute of Labourers*. This prevented workers from moving in search of a better job and also pegged wages at pre-plague levels. Peasants could be punished by fines or by being placed in the stocks, but the statute was difficult to enforce. Peasants were further angered in 1350 when a poll tax was introduced. Designed to help fund the Hundred Years War, it changed a tax on communities to a tax on individuals who had survived the plague.

Peasant unrest

There were peasant uprisings in many parts of Europe. In France, rural peasants rebelled in the Jacquerie Revolt of 1358, while the textile workers of Florence protested in the Ciompi Rebellion of 1378. The Peasants' Revolt of 1381 saw rebellion flare across much of England. Peasants marched to London under the leadership of Wat Tyler demanding an end to **serfdom** and the poll tax. None of these uprisings was successful and each was quickly put down by the authorities.

serfdom the system whereby a person is bound to work the land of their master in return for a small amount of land from which to feed their family

Lives slowly begin to improve

Eventually the population decline meant cheaper and more plentiful land, more available food and rising incomes for the peasant class. Meat and dairy consumption also rose as farmland was increasingly used as pasture for animals.

Social effects

Social mobility

As peasant incomes rose and their standard of living improved, they began to increase their social status. New people began to move into key positions in society in government and the church. Lower classes began to dress in better clothing and began to eat some of the foods that had traditionally been the preserve of the upper classes. In England, the upper classes tried to stop these changes and a **sumptuary law** was passed in 1363. This limited the colour and quantity of cloth that ordinary people could use in their dress. Nobles could now ensure that peasants did not begin to dress or act as if they belonged to a higher class.

sumptuary law a law that regulated what peasants could wear so that they couldn't begin to dress or act as a member of a higher class

The Danse Macabre

The mood of despair and gloom following the Black Death was often reflected in works of art. Skeletons and the persona of death featured in many paintings alongside the living, amid scenes of everyday life. The realistic depiction of human suffering and the symbolic use of the skeleton acted to remind people of the everpresent possibility of a gruesome death. These disturbing images portrayed the view that death strikes everyone without exception. They became known as the Danse Macabre, or the Dance of Death, and can still be seen in frescoes and murals in churches and public buildings.

Loss of prestige by the church

The position of the Catholic Church weakened after the Black Death. It had been powerless to cure the plague or banish the disease. The loss of monks and priests had been disproportionately great, while hastily trained and inexperienced clergy replaced those who had perished. The church struggled to maintain its credibility and suffered a loss of respect for its authority. However, it did gain in wealth as people often left money or property to the church when they died.

Improvements in medical understanding

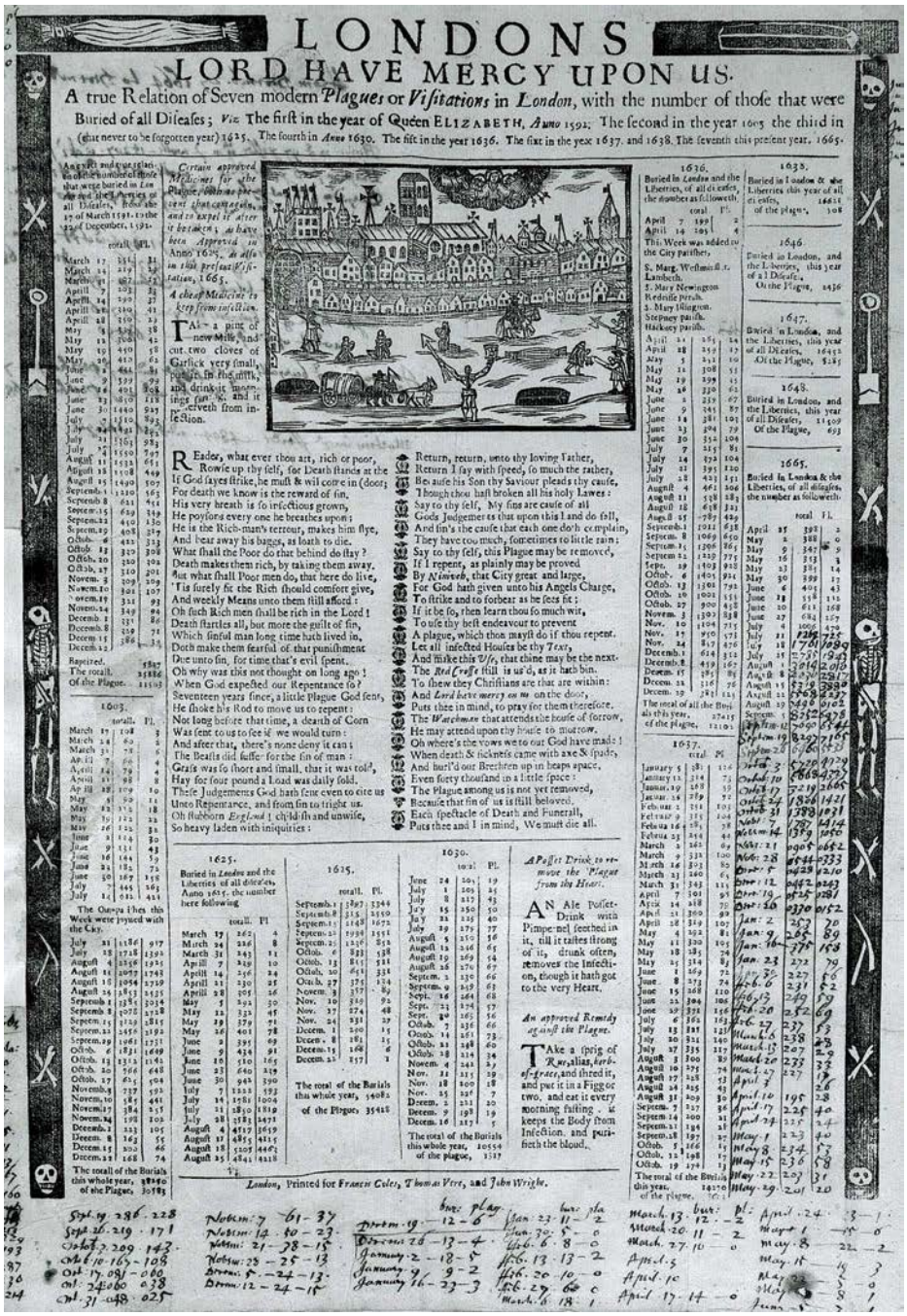
Medical science gradually improved as the Black Death had highlighted its serious shortcomings. There was new emphasis on understanding the human body, and the teaching of anatomy and surgery in universities improved. Autopsies were increasingly performed, which led to greater accuracy in the study of anatomy. The use of herbal cures was questioned as people saw that they did not affect the progress of the epidemic; indeed, some of the potions actually worsened the condition of the sick! Medical books began to be written in the local spoken language rather than in Latin. Hospitals began to treat the sick and to isolate people who were suffering from the same illness. Greater attention was given to improving much-needed public sanitation. Survivors eventually had a

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better life due to higher incomes and greater social mobility. Population gradually returned to pre-plague levels, although it was to be many decades, even centuries, before this occurred in some places. The plague was to return regularly during the next three centuries to haunt Europe, but never again with such devastating consequences. The Great Plague of London in 1665 and the Great Plague of Vienna of 1679 were both reminders of the terror of the Black Death years.

Historical thought

Another deadly pandemic, known as the Spanish flu, occurred early in the twentieth century. Estimates by the World Health Organization suggest the flu killed between 40 million and 50 million people between 1916 and 1919.



LONDONS
LORD HAVE MERCY UPON US.

A true Relation of Seven modern *Plagues* or *Visitations* in *London*, with the number of those that were Buried of all Diseases; *Viz.* The first in the year of Queen ELIZABETH, *Anno* 1592. The second in the year 1603. the third in (that never to be forgotten year) 1625. The fourth in *Anno* 1630. The fift in the year 1636. The fixt in the year 1637. and 1638. The seventh this present year, 1665.

Certain approved Medicines for the Plague, both to prevent that contagion, and to expel it after it hath seiz'd; as have been Approved in Anno 1603. as also in this present Visitation, 1665.

A cheap Medicine to keep from infection.

Take a pint of new Milk, and cut two cloves of Garlick very small, put in the same, and drink it morning fasting, and it preserveth from infection.

Reader, what ever thou art, rich or poor, Rowse up thy self, for Death stands at the If God sayes strike, he must & will come in (door; For death we know is the reward of sin, His very breath is so infectious grown, He poysons every one he breathes upon: He is the Rich-man's terrour, makes him flye, And bear away his barges, as loath to die. What shall the Poor do that behind do stay? Death makes them rich, by taking them away. But what shall Poor men do, that here do live, 'Tis surely fit the Rich should comfort give, And weekly Means unto them still afford: Oh such Rich men shall be rich in the Lord! Death startles all, but more the guilt of sin, Which sinful man long time hath lived in, Doth make them fearful of that punishment Due unto sin, for time that's evil spent. Oh why was this not thought on long ago! When God expected our Repentance so? Seventeen years since, a little Plague God sent, He shoke his Rod to move us to repent: Not long before that time, a dearth of Corn Was sent to us to see if we would turn: And after that, there's none deny it can; The Beadle did suffe- for the sin of man: Grass was so short and small, that it was told, Hay for four pound a Load was daily sold. These Judgements God hath sent even to stir us Unto Repentance, and from sin to fright us. Oh stubborn *England*! child-ish and unwise, So heavy laden with iniquities:

Return, return, unto thy loving Father, Return I say with speed, so much the rather, Bes ause his Son thy Saviour pleads thy cause, Though thou hast broken all his holy Lawes: Say to thy self, My sins are cause of all Gods Judgements es that upon this I and do fall, And sin's the cause that each one doth complain, They have too much, sometimes to little rain: Say to thy self, this Plague may be removed, If I repent, as plainly may be proved By *Nineveh*, that City great and large, For God hath given unto his Angels Charge, To strike and to forbear as he sees fit: If it be so, then learn thou so much wit, To use thy best endeavour to prevent A plague, which thou mayst do if thou repent. Let all infected Houses be thy Text, And strike this *Vse*, that thine may be the next. The *Red Crosse* still is us'd, as it hath bin, To shew they Christians are that are within: And *Lord have mercy on us* on the door, Puts thee in mind, to pray for them therefore. The *Watchmen* that attends the house of sorrow, He may attend upon thy house to morrow. Oh where's the vows we to our God have made! When death & sickness came with axe & spade, And hurl'd our Brethren up in heaps apace, Even forty thousand in a little space: The Plague among us is not yet removed, Because that sin of us is still beloved. Each spectacle of Death and Funerall, Puts thee and I in mind, We must die all.

A Perfect Drink to remove the Plague from the Heart.

An Ale Posset-Drink with Pimpernel seethed in it, till it tastes strong of it, drunk often, removes the Infection, though it hath got to the very Heart.

An approved Remedy against the Plague.

Take a sprig of *Rue*, alias, *Herb-of-grace*, and shred it, and put it in a Figg or two, and eat it every morning fasting. it keeps the Body from Infection. and purifieth the blood.

London, Printed for *Francis Coles, Thomas Vere*, and *John Wright*.

Source 20.18 A London newspaper from 1665 announces the spread of the plague.

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Reflecting and consolidating

Chapter summary

- The Black Death was the most devastating outbreak of disease in human history, a terrifying fourteenth century plague that wiped out a third of Europe's population between 1348 and 1352. Comparable losses were experienced in China and North Africa.
- The disease travelled primarily along the medieval trade routes from China to Europe and North Africa, where it then spread very rapidly, carried by infected fleas in overcrowded, dirty towns and cities.
- The three forms of the plague attacked rich and poor alike and fearful populations across Europe and North Africa believed that the Black Death was a punishment for their sins.
- Doctors and authorities were powerless to respond as there was so little understanding of the causes of disease. People turned in desperation to superstitious remedies or looked for scapegoats to blame.
- The short-term impact of the Black Death included a death toll of unmatched proportions, severe shortages of labour and lives that were thrown into upheaval and despair.
- The Black Death hastened economic and social changes that were already taking place in Europe. These included a weakening of the feudal system, a decline in the authority of the church, and an increase in social mobility.

Short-answer questions

1 Explain how living conditions in medieval towns and cities assisted the rapid spread of the Black Death.

2 Identify the trading routes that were significant in the spread of the plague across Europe and North Africa.

3 Consider why there were no effective measures to combat the Black Death in the fourteenth century.

4 Outline four long-term impacts of the Black Death on medieval society.

5 Analyse why it is difficult for historians to be accurate about the death toll arising from the Black Death.

Source analysis

Study Source 20.19 and answer the following questions:

1 What evidence is there in this image that the monks have contracted the plague?

2 Why would it be important for them to receive the priest's blessing?

3 Examine why the death toll of the clergy was generally higher than that of the population at large.



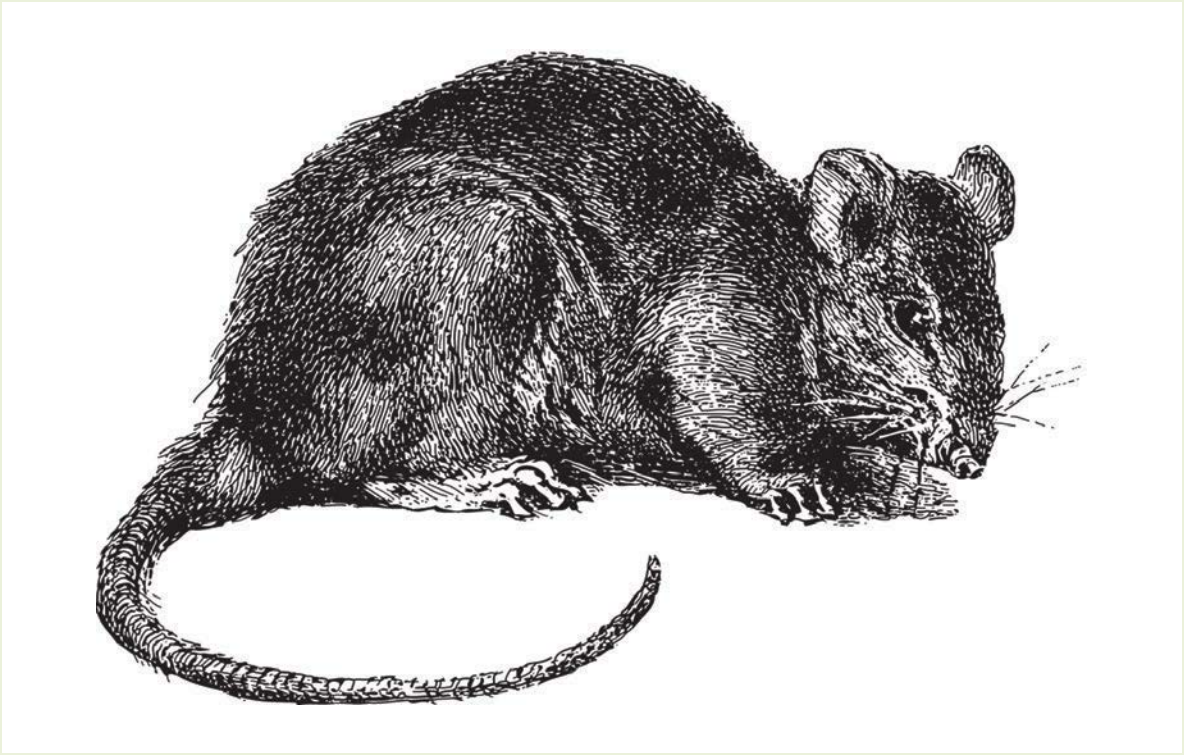
Source 20.19 Monks disfigured by the plague receive a blessing from a priest.

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Extended-response question

To what extent can the rat be blamed for the spread of the plague across Asia, North Africa and Europe and for the immense death toll? Discuss this question carefully, showing your understanding of the role of the rat in spreading the plague in the fourteenth century. What other factors also affected the spread of the disease and size of the death toll?



Source 20.20 Black rat (*Rattus rattus*), from a vintage illustration



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21 The Spanish conquest of the Americas (c. 1492 – c. 1572)

Before you start

Main focus

During the last Ice Age on earth, migrants crossed the Beringian land bridge into the Americas. They owned this world in isolation for thousands of years, until confronted by strangers from the east.

Why it's relevant today

Studying the conquest of the peoples of Mesoamerica and South America allows us to reflect on how the Spanish reacted to changes in their world. They had fought against the Moors for their liberty and imagined all other peoples to be aliens. Their unwillingness to appreciate the cultures of the 'New World' saw them introduce European savagery to what was already a violent world.

Inquiry questions

- Who were the people of the Americas and what were the essential features of their cultures?
- When did the Spaniards arrive in the Americas and why did they go there?
- What did they find there and how did this impact on the relations between the indigenous peoples and the Spaniards?
- What were the longer-term impacts on the world of indigenous Americans of Spanish colonisation?

Key terms

- Ajaw
- Conquistador
- Epidemic
- Mesoamerica
- Olmec
- Pre-Columbian
- Segregate
- Subjugate

Significant individuals

- Atahualpa
- Christopher Columbus
- Diego de Almagro
- Francisco Pizarro
- Hernán Cortés
- Itzcaotl
- King Ferdinand I and Queen Isabella II
- Malinche (Doña Marina)
- Moctezuma
- Paolo dal Pozzo Toscanelli
- Tlacaelel

Let's begin

The Spanish first arrived in the Caribbean in the fifteenth century. To their surprise they found entire cultures flourishing in these lands that they had not known even existed. But the Spaniards had not come to gaze admiringly on these new cultures; instead, they had come to plunder.

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Timeline



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Source 21.1 The Americas (with the modern-day country borders)

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21.1 Pre-Columbian life in the Americas

The people who became the earliest Americans first began arriving in North America between 50 000 and 35 000 years ago, approximately the same time as Aboriginal and Torres Strait Islander peoples were first settling Australia. These early Americans had crossed the land bridge (today's Bering Straits) from North Asia, probably following herds of bison, mastodons and mammoths, as well as other migrating animals. But there may have been other more direct motives for their migration. Perhaps they were fleeing dramatic climate change or some greater catastrophe. Or they might have been fleeing an imagined or a real enemy, whose hostile actions were driving them further eastwards. The events occurred so long ago that we will never really know what prompted this daring migration. At best, any attempt at explaining the reasons has to be regarded as speculation.

Long into the distant past, the Ice Age glacial sheets connected Alaska with Siberia into a geological region known as Beringia, thus allowing for the movement of herds and humans between the lands masses. These migrating people were hunters and gatherers who could never imagine life in settled communities. Only their descendants would come to experience that, but it would be thousands of years into the future. The ice sheets melted sometime between c. 11 000 and 10 000 BCE, and rising sea levels made further migrations more difficult, trapping both migrating game and humans on the American continent.

Over time, and through natural exploration, these early migrants fanned out into the interior of Alaska and Canada, or followed the coastline of Alaska into Canada and North America. By around 11 000 BCE, they had settled the entire American continent from north to south. By no means could it be said, however, that these people were alike: the cultures of the people who first settled the Americas developed significant diversity through time. Still, they shared some surprising common elements.

How many **pre-Columbian** Americans there were at the time of the arrival of Christopher Columbus in 1492 CE is a matter for dispute among **anthropologists** and historians. In 1928 an American **ethnologist**, James Mooney, suggested that the indigenous population of what is today the United States was as low as 1.15 million by the sixteenth century. Indigenous Americans in the nineteenth century argued that it had been much higher. In 1934, American anthropologist Alfred Kroeber estimated a population as high as 8.4 million from north to south, with at least half of that number living in the Caribbean and South America. Kroeber's calculations held sway well into the 1960s.

pre-Columbian a term used by historians, anthropologists and archaeologists to describe the cultures in America before the arrival of Christopher Columbus in 1492 CE

anthropologist an expert in the study of human societies, cultures and their development

ethnologist an expert in the study of character traits of populations

But the use of statistics as evidence in history is always open to question. The method of calculation, the assumptions behind the numbers, and the conclusions drawn from them are always problematic. Mooney and Kroeber belonged to a school of thought that assumed that the impact on indigenous American cultures of post-Columbian European colonisation was small. By the 1970s, however, new scholars revisited the question. According to historian Alan Brinkley, they concluded that the indigenous American cultures had been 'catastrophically decimated by European plagues not long after the arrival of Columbus'. American historians Alfred Crosby and William McNeill produced evidence of dramatic depopulation of indigenous tribes because of the influence of diseases such as smallpox, measles, tuberculosis and other plagues imported from Europe. American anthropologist Russell Thornton takes great care to remind us that evidence of population numbers before or after Columbus is not a good indicator of the quality of life of the indigenous people. The impact of the arrival of the Spanish on the population and their quality of life must be considered together.



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DEVELOPING YOUR UNDERSTANDING 21.1

1 Explain how the earliest Americans were able to migrate on to the continent.
2 Identify why the timing of this migration is important.
3 List 10 other things that were occurring during this time elsewhere in the world (you may wish to refer to the other chapters in this textbook).

Civilisations of Mesoamerica

Even before Christopher Columbus set sail from Spain to the 'New World', the American world (from north to south) was already old. By 1485 when he first began promoting the need for his voyage, there were an estimated five hundred nations scattered throughout the Americas. Some were semi-nomadic; some lived in villages and had developed agricultural practices similar to any European town; and some were developing sophisticated cultures equal to anything found in Europe. However, this was a world unknown to anybody in Europe. Columbus believed that by sailing west from Spain he would land on the coast of China or Japan, and then sail south-east to the Spice Islands in Asia. The Olmec, Maya and Aztec civilisations in **Mesoamerica** and South America were the first cultures encountered by the Spanish after the arrival of Columbus in 1492. Each is explored further in the following sections.

Mesoamerica the area of Central America before the arrival of the Spanish

The Olmec

The first civilised society in Mesoamerica was the Olmec. These people appear to have occupied the southern parts of modern-day Mexico around 5000 BCE, but like all migrating tribes they would take time to establish themselves. The earliest remains of their civilisation appear to date from c. 1500 BCE and their civilisation appears to have collapsed by c. 400 BCE. In their prime, they established sites such as San Lorenzo Tenochtitlán, which was abandoned by 900 BCE, when they moved their capital closer to the sea, at La Venta. Why the original city no longer served its purpose is still in dispute. Some experts think that a dramatic climatic impact had forced the move; however, because there was evidence of vandalism at Olmec sites, others argue that a civil war – or an invasion – had erupted, forcing the survivors to move. Increasingly the idea of invasion is losing traction. The most recent arguments suggest that vital river systems dried up or changed course, interrupting the lives of the people of San Lorenzo Tenochtitlán.

The geographical features of the region near La Venta were similar to that found in ancient Mesopotamia, Egypt, India and China. In all of these places, there was a strong river system suitable for transport and water supply, and rich alluvial soils allowing for successful and sustainable agriculture. This meant that a large population could be maintained at this new site. It appears that the Olmec planted crops such as maize, beans, squash, manioc (cassava root), sweet potato and cotton along riverbanks between flood periods. They also employed slash-and-burn agriculture to create new fields when old planting areas became exhausted. Fruits such as cacao and avocado helped to supplement the diet of fish, turtle, snake and molluscs from the nearby rivers, and crabs and shellfish in the coastal areas. The domesticated dog seems to have been the single most important source of animal protein, even though they had access to jungle sources such as possums, raccoons, rabbits and deer. But the diet was indeed rich and diverse.

The Olmec became proficient at constructing early styles of stepped pyramids of about 30 metres in height. The pyramids were made from clay and topped by wooden temples. These structures would, over time, influence all future cultures in Mesoamerica and would reach their most significant in the later Maya and Aztec periods. It appears that in the era dominated by the Olmec, they served a spiritual function. The Maya and

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Aztec would expand this further by using their step pyramids for ritual human sacrifices.

In all of the Olmec cities sculptures were created of massive stone heads (see Source 21.2), 2–4 metres in height and often weighing as much as 18 tonnes. This style of stone sculpture also would influence sculpture in future dominant cultures in Mesoamerica. The Olmec were skilled at sculpting in jade and obsidian, as well as stone. They also developed a calendar and a system of written signs, including a symbol for zero, which Europeans did not possess until the Middle Ages.

The European symbol for zero was inherited from the works of Islamic writers, but this was long after the Olmec were using their own.

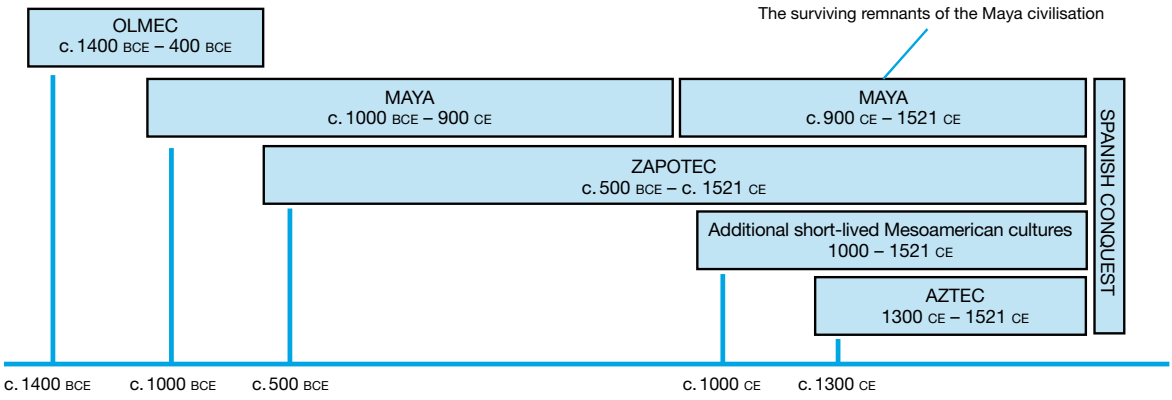
By c. 400 BCE, the Olmec culture had mysteriously collapsed. Archaeologists and historians still puzzle over the reasons. Again some have sought explanations in climatic disruptions, but many today look to earthquakes and volcanic eruptions as the likely cause. But as their 'writing' is a mystery to us (and because we have so very little of it), we may never know. The explanation might be a combination of things, but perhaps a neighbouring civilisation simply absorbed them as it grew.



Source 21.2 Olmec stone head

Historical thought

The Olmec were responsible for beginning a tradition that would be picked up by future Mesoamerican cultures: the ball game. Across time, the custom of a solid rubber ball being used in a stone court with sloping sides became a feature of Mesoamerican cultures. The evidence we have for this is the earliest surviving balls, as well as figurines of notable players.



Source 21.3 Timeline of Mesoamerican cultures

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DEVELOPING YOUR UNDERSTANDING 21.2

1 Identify the evidence in the text to support the view that the Olmec people lived a civilised lifestyle.

2 Explain why historians may dispute over whether or not the Olmec civilisation died out.

The Maya

One likely candidate for the absorption of the Olmec is the Maya, a civilisation that would emerge in c. 1000 BCE and endure until c. 1000 CE. When the Spanish arrived in Mesoamerica, they found the Maya culture alive and well in people living near the ruins of the old civilisation – but none of them could remember all of its details. The Maya culture did not just 'spring up' in the year 1000 BCE. Over time it had evolved its own cultural values and traditions, as well as absorbing some from the Olmec as well. Just like the Olmec before them, they had been developing strong trade routes across Mesoamerica to supplement their local resources. The Maya civilisation developed on the Yucatán Peninsula in modern-day Mexico, though their empire would stretch into modern-day Guatemala, Belize, El Salvador and Honduras. The map in Source 21.4 provides some idea of the scope of the Maya Empire at its peak, as well as its proximity to the old Olmec cities of San Lorenzo Tenochtitlán and La Venta. The Maya were clearly a dynamic culture.

The most recent historical view is that the Maya culture was first established on the Pacific coast, suggesting that over time they extended their influence over the Yucatán Peninsula. They traded with cultures throughout Mesoamerica, and in the beginning controlled the export of cacao trees to other parts of the region, as well as the trade in jade and obsidian. The Maya even traded with island communities such as the Taino in the Caribbean. These were the people Christopher Columbus would first encounter on his arrival in the 'New World' in 1492.

Like the Olmec before them, the Maya used slash-and-burn techniques to establish new plantations for crops. Their primary crops were maize, beans and squash. They ate corn straight from the cob and produced a flat bread from it (to make tortillas) and also used it to make tamales. Other crops such as chilli peppers, wild onions, pumpkin, avocado, papaya and pineapple all added diversity to the diet. For meat they usually relied on the domesticated dog, turkey or ducks, but also included wild deer (although this eventually became a meat for the nobility), armadillo, tapir, monkey and a wild pig called a peccary, as well as the odd manatee (or sea cow), all often varied sometimes by birds, turtle and iguana. Their proximity to the sea also encouraged them to eat molluscs, fish, lobster and shellfish. Essential to the diet was also a range of herbs and spices: salts, allspice, vanilla, white cinnamon and so on.

Social organisation

The Maya civilisation was not a single entity with a clearly defined capital or centre of power. None of the Maya cities reached the size or sophistication of the later Aztec capital Tenochtitlán, which comfortably supported a population of well over 100 000. Indeed, it seems that the Maya cities were more designed as religious centres rather than political ones. The housing that surrounded each city was relatively rustic – made of stone or mud with thatched roofs – yet the actual religious temples were constructed with precision and attention to detail.

Each city had its political head or ***ajaw***, as well as its ruling elite or nobility. Maya society had evolved with a hierarchy of a ruling elite (including priests) and commoners. The *ajaw*'s position was hereditary, a quality they had in common with European monarchies of the time. But the Maya did not have a single overriding leadership: each kingdom within their loose federation of states was ruled

ajaw the modernised term for a Maya ruler, lord, king or political leader

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separately. This made it quite difficult for the Spaniards after Columbus to subdue the Maya civilisation, even though it was already in tatters by that time. Yet it must be acknowledged that a sense of a Maya 'empire' emerged because of the common nature of economic, intellectual and spiritual traditions and customs across the various kingdoms.



Source 21.4 Map of the Maya Empire

Historical thought

The Maya made a drink from ground-up cacao beans mixed with chilli peppers, cornmeal and honey, which they called *xocolatl* (actually pronounced 'nahuatl'). The drink was exclusively for the nobles and the Maya *ajaws* (rulers). It appears that the Maya were the first people to cultivate and domesticate the fruit of the cacao tree. Without it, we would not have chocolate.

Beliefs

Like the Olmec before them, and the Aztec who were to succeed them, the Maya believed in multiple deities or gods. The priest class was hereditary, with positions handed from father to son, or a close relative if there was no son. Often, the *ajaws* and members of the nobility also played a spiritual role in their kingdoms. Most anthropologists and historians agree that there seems to have been a 'professional' priest class in the Maya world that fulfilled a range of tasks from private and public rituals to large festival celebrations and human sacrifices.

To the Maya, the influence of their deities was everywhere. It was in the wind, in the sun, the moon, the soil, the crops and the water. Their gods also had many manifestations, often matching the cardinal points of the compass (east, west, south and north). Sometimes they would be linked to dominant animal species in a region. Sources vary

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on the names of the deities or the spelling of the names, but one thing seems clear – gods were often regional and not worshipped universally throughout the loose Maya Empire. But some gods seemed to take a prominent position. Maya *ajaws* were believed to be intermediaries between the gods and the people, and were considered to be semi-divine. When they died, they were buried in elaborate tombs filled with all sorts of offerings for them to take into the 'afterlife'. All Maya understood the afterlife to be a dangerous and unpredictable voyage. It meant travelling through the underworld, which was occupied by many sinister gods, all represented by the jaguar – the symbol of darkness. Unlike Western and Middle Eastern religions, 'heaven' was only an option for those who had been sacrificed or for women who had died in childbirth. Apart from this, all Maya recognised that the fate of their *ajaw* and the common people was to go to the underworld after death. Their personal and individual fate was unpredictable once there.

For the Maya, their science and religion were considered to be one and the same thing. For their time and place, the Maya developed an impressive system of mathematics and astronomy, far ahead of anything in Europe in the same time. Both science and religion were intimately connected to their religious rituals. Their mathematics included a system by which numbers could be coded plus the use of zero; in astronomy, they accurately calculated a solar year, compiled precise tables of positions for the Moon and Venus (in the past as well as into the future), and were able to predict solar eclipses. The Maya were also obsessed with time, as understanding and predicting various cycles of time allowed them to adapt to and best make use of their natural world. The Maya also believed that the world had been created five times and destroyed four times, so all life lived on borrowed time. They dated the origins of their culture to 11 August 3114 BCE and their calendar even forecast the end of this life on 21 December 2012 CE. Most informed scholars of Maya history are not convinced by the current gloom-and-doom merchants about this matter.

Until the middle of the twentieth century, most anthropologists and historians had promoted the image of the Maya as a peaceful culture, obsessed with higher-order pursuits such as mathematics and astronomy. Since we have translated most of their hieroglyphics, we now have a different perspective of the Maya. In fact, human sacrifice seems to have been a central Maya religious practice. It was believed to encourage fertility, demonstrate commitment to the religious beliefs, and to satisfy the desire for blood for the gods. The Maya were convinced that their gods were nourished by human blood, and ritual bloodletting was seen as the only means of making contact with them. The Maya believed that if they ignored these rituals, cosmic disorder and chaos would result.

At important ceremonies, the sacrificial victim was held down at the top of a pyramid or on a raised platform while a priest made an incision below the rib cage and ripped out the heart with his hands. The heart was then burned in order to nourish the gods, and the victim hurled down the steps of the pyramid. It was not only the captives who suffered for the sake of the gods: as the mediators between the gods and their people, the Maya *ajaws* and nobility underwent ritual bloodletting and self-torture. The higher one's position, the more blood was expected. Spines were jabbed through the ear or genitals, or a thorn-studded cord was passed through the tongue, and the blood was spattered on bark paper or otherwise collected as an offering to the gods.

Like the Olmec before them, the Maya built step pyramids. Instead of clay, however, they used limestone rock. On average, the height of Maya pyramids was about 30 metres. Maya city complexes have revealed that there were two types of pyramids: the first was used for religious rituals and festivals (including human sacrifices), and the second to promote civic pride by acting as a reflection of the power and prestige of the *ajaw* and his nobility, and in honour of a selected god of the kingdom. Both types of pyramids had steep staircases leading to the top, some pyramids with two sets of stairs, and others with four. The top of the pyramid was always flat, and a temple for rituals was built there. When priests performed their rituals on the religious pyramid, they climbed the stairs in front of the assembled population below. This act symbolised climbing from earth to heaven.

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If the Maya thirst for blood (a quality they would come to share with their successors, the Aztec) was not enough, they painted their pyramids a vivid 'blood-red' colour. Today, most of that colour has been washed away. The redness of the ritualistic pyramids highlighted their spiritual nature and their connection with their gods. The Maya domestic housing for the common people was much simpler and smaller. They were made of perishable organic materials, which is the main reason why no intact examples from the period have been found. Most researchers believe that they were much like the rural houses still seen throughout the region today. As Spanish conquerors were mainly interested in the significance and social power of religious and civic buildings, they paid little attention to the habitats of the common people.

Most sources today describe Maya houses as being built on low platforms that defined the space of each family plot of land (which may have included a family cemetery). A low wall of neatly stacked stones may have surrounded each plot of land. Inside the wall there may have been a well, a toilet, a chicken coup for the family's chickens, a small private garden of foods, and perhaps a laundry adjacent to the house.

The house was one rectangular room with rounded corners, no windows and one central door built to face east. Sometimes there was another door that led to a second hut, used as both a kitchen and a chicken coup. In the traditional kitchens, women would cook on a grill set over three rocks. When the hammocks were hung at night, the main, single-roomed house was converted into a dormitory.

The floor in a Maya home was made of a foundation of gravel covered with white packed soil. The walls had a wood matrix that was covered with mud and straw (adobe), and then whitened with lime. Sometimes (although this was rare) a house would have wooden floorboards.

The roof itself is made of a frame of wood lashed together to form beams. The beams were then thatched with native palm fronds. As the Maya had no nails, all of the joints in the home were tied together with a supple, tropical vine called a liana.

End of the Maya

Just as we do not know what brought an end to the Olmec civilisation before them, we are at a loss to explain the mysterious and apparently

Source 21.5 A Maya pyramid from Chichén-Itzá



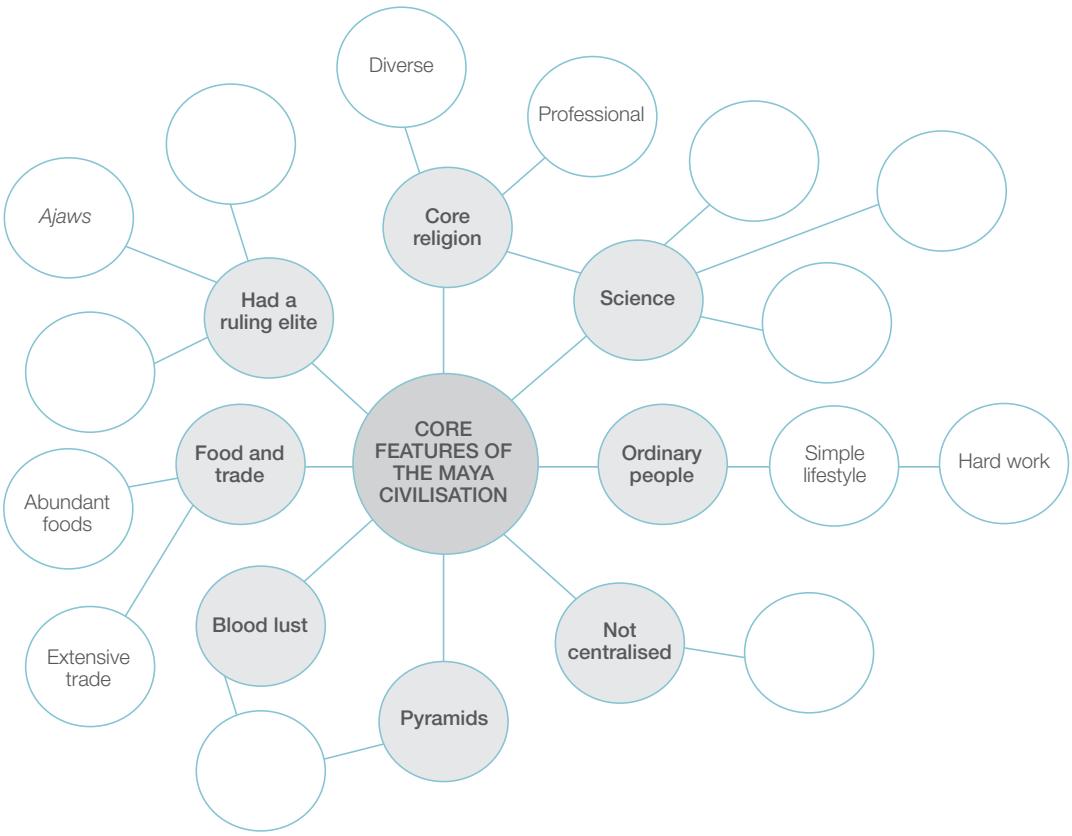
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sudden end to the Maya civilisation sometime in the tenth century CE. Did the civilisation run into climatic difficulties, or did their slash-and-burn agriculture fail them so badly that they could not recover? Perhaps they fought among themselves so much that it destroyed the fabric of the life that had sustained them for more than a thousand years. The explanation for their collapse may lie in the fact that they had never managed to reach the status of a centralised empire that their descendants, the Aztec, would reach. But one thing is clear to us: the collapse of the Maya all those years ago sends a clear signal to our highly developed world that even advanced civilisations may not be permanent unless we first imagine our end, and then take positive steps to avoid it. Despite their advanced skills, it seems that the leadership of the Maya were unable to do that, and therein lays the real mystery.

What is also mysterious about their end is that when the Spanish arrived six centuries later, they found people living in the same manner as the ancient Maya, speaking in the same language or dialects, but who had no direct knowledge of their ancestors. How does a strong culture disappear from the face of the earth and yet somehow survive in small communities, even though the people have no direct memory of the original culture? This is a puzzle that ethnologists, anthropologists and historians have yet to resolve.

DEVELOPING YOUR UNDERSTANDING 21.3

Using the graphic organiser below, summarise the core features of the Maya civilisation.



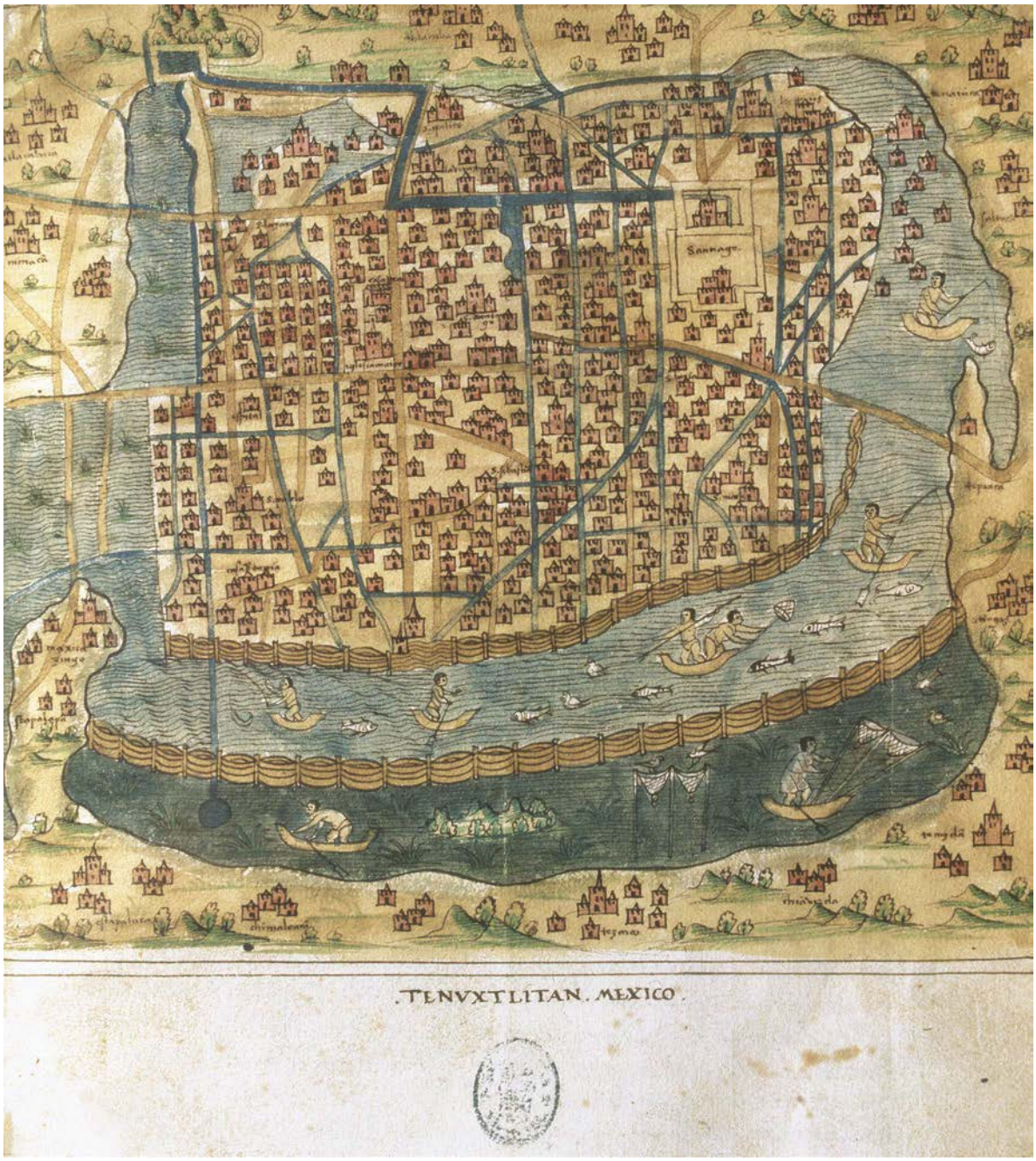
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The Aztec

Smaller and short-lived civilisations came and went following the end of the Maya. Legend has it that one of seven tribes in a place called Aztlán, called the Mexica, left the northern regions of Mexico or southern United States, where it was dry and arid. They were looking for better lives for themselves and their families. Over the course of a century they wandered before arriving in the valley of Mexico. The existence of Lake Texcoco filled with water was probably a reason to look upon this site as favourable for a new homeland.

Social organisation

By c. 1350 CE this tribal group were building a capital city on an island in Lake Texcoco. They began with temples and causeways to bring water to their city. Over time, and in the hands of many rulers, that city would become the fabled Tenochtitlán – a city capable of supporting more than 100 000 people at its peak. In 1452, the city



Source 21.6 An artist's impression of the city of Tenochtitlán

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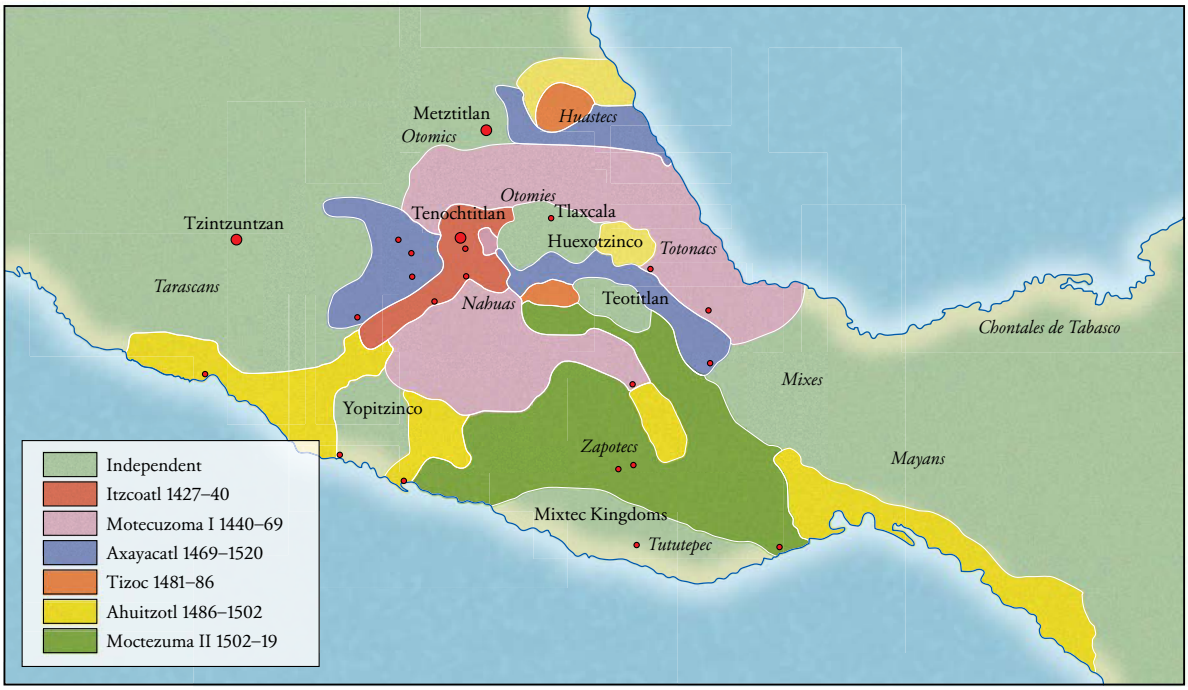
was flooded and destroyed, and famine hit the population. Between 1458 and 1490, the empire recovered chiefly by conquering other tribal groups and seizing their lands and resources. Under the kingship of Moctezuma II (some sources use the name Montezuma), the Aztec Empire even expanded into what had once been Maya territories. But it was local tribal groups such as the original inhabitants of Texcoco – the Tlacopan and Tepanacs – that would be **subjugated** first.

subjugate bring under domination or control by conquest

Tenochtitlán was rebuilt as the resources of the empire improved. Unlike most other Mesoamerican cultures before them, the Aztec centralised authority in their empire. In this way, they were inspired by the short-lived civilisation to the south that preceded them: the Toltecs. The Aztec centralised authority from the earliest times in their migration to the valley of Mexico and Lake Texcoco. Perhaps an explanation for this is that King Achamapitchli (c. 1376–96) wished to prevent breakaway groups being formed during the migration. As the Mexica people established the city and their empire (becoming known to us as Aztec), it became even more important to ensure that subjugated people were kept under control. Having a centralised authority made this easier.

The wealth and power of Tenochtitlán and the Aztec Empire came about chiefly during the reign of King Itzcaotl (c. 1428–40). He engineered a triple alliance between the Aztec, the people of Texcoco and the people of Tlacopan. Together they crushed the people of Azcapotzalco. But, as is often the case in royal matters, Itzcaotl was not the supreme ruler. His nephew and royal advisor, Tlacaelel, seems to have been the real power behind the throne. As the empire and its power grew, Tlacaelel began a reform program of Tenochtitlán's political, religious, social and economic structures. One of the first steps he took was to destroy the history books of the Aztec, and to set about creating a new one that was suited to the times and the newfound power of the Aztec. He wanted the Aztec people to know their history as a reflection of this new city, not the hungry years as they migrated south. Under the reforms, Huitzilopochtli replaced Quetzalcoatl at the head of the **pantheon** of gods. Tlacaelel also organised the construction of a new temple dedicated to Huitzilopochtli. Until the arrival of the Spanish, it was used for human sacrifices.

pantheon all the deities of a people or religion considered collectively



Source 21.7 Map of the expanding Aztec Empire

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Beliefs

Like the Maya before them the Aztec were convinced of the need to sacrifice people. Many of the victims were captives from war, particularly those from the Tlaxcala people (to the south-east), whom Tlacaelel persuaded Itzcaotl (and the other kings he later served) not to absorb into his empire. We will never know the reason for this because it was never recorded. It has been suggested by some historians that the decision was aimed at having the Aztec people permanently prepared for war. The nearby presence of (and apparent rivalry with) the Tlaxcala people gave the Aztec army every opportunity to train new warriors in battle as **skirmishes** took place all the time. Apart from prisoners of war, other sacrificial victims included those who had committed serious crimes. Treason, theft and cutting down living trees were all crimes punishable by death in Aztec society, as were adultery and frequent drunkenness. Another capital crime was the wearing of cotton clothing by commoners, as this was the exclusive claim of the nobility and kings.

skirmish an unplanned battle between parts of opposing armies

Whether or not it was accurate, the news of the blood-drenched ceremonies in Tenochtitlán struck terror into the hearts of people such as the Tlaxcala, who were destined for sacrifice if captured. Festivals and sacrifice were almost continuous in the Aztec ceremonial year, with many other gods apart from Huitzilopochtli deserving of their share of blood. Each February children were sacrificed to the maize gods on tops of nearby mountains. In March, prisoners fought to the death, as they would have done in the days of the gladiators in ancient Rome. After these battles, priests would skin the dead and parade around wearing those skins. In April, a maize goddess would receive her share of Aztec children. And so it went on through the year. It has been estimated that shortly before the Spanish arrived, between 50 000 and 200 000 victims a year were being sacrificed in Aztec ceremonies. The first Spaniards who came to Tenochtitlán claimed they could smell the blood of the victims everywhere in the city.

End of the Aztec

An Aztec legend foretold that the god Quetzalcoatl – who had once lived on Earth, and who had once been at the head of the pantheon of Aztec gods – would one day return to claim the land and the Aztec people. The prediction even identified the exact year, month and day of his return.

On that very day, King Moctezuma II was told of a man who had arrived in Aztec territory. He wore unusual clothes, spoke a language hitherto unknown to the Aztec and his skin was white. Perhaps this was Quetzalcoatl who was predicted to arrive – of this Moctezuma could not be sure. Moctezuma initially resisted any thought of contact with this man, but eventually, together with his priests and advisors, Moctezuma II decided it was best to approach this man with caution and so sent ambassadors bearing gifts to meet this man. The year was 1519 CE. Moctezuma and his Aztec people could not know that their world would be no more within 2 years. Moctezuma would be dead – his city burned, looted and destroyed – and his people would be subjugated under Spanish conquerors. Their culture would be crushed by the Spaniards, their ancient books destroyed and their religious artefacts smashed. The surviving people would be forced to either work with the Spanish to conquer the rest of Mesoamerica, or become slaves within their own land. This story is examined later in this chapter.

The Inca

Much further to the south, on the western coast of South America, several attempts had been made to establish a civilisation. By the time the Spaniards were conquering Mesoamerica, the Inca had established their empire in what we know today as the country of Peru, along with parts of modern-day Ecuador, Bolivia, Chile, Argentina and Columbia.

Like the Aztec to their north, the Inca Empire was highly centralised. Its political and administrative centre was Cuzco. The empire had grown by both the military conquest and peaceful absorption of other cultures. By the early sixteenth century CE, the Inca Empire stretched along the west coast of South America for about 4000 km.

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DEVELOPING YOUR UNDERSTANDING 21.4

1 Explain why you think that the Aztec were able to build a stronger and more powerful civilisation that the Maya before them.

2 Reflect on why Tlacaelel, the Aztec ruler's advisor, persuaded the Itzcaotl not to form an alliance with the Tlaxcala people to the south of Tenochtitlán.

3 Using evidence, justify the claim that human sacrifice was central to Aztec religious beliefs.



Source 21.8 Map of the Inca Empire

Within the reigns of two supreme rulers, Pachacuti and Topa Inca (both known as Sapa Inca), the empire developed a complete centralised organisation and a road network of more than 22 500 kilometres. These roads could not be compared with the smooth and paved roads of the Roman Empire, however. Like the Mesoamericans to their north, the Inca did not possess knowledge of the wheel, so did not require smoothed roads. However, the road network was essential to the system of trade and communication established by the Inca civilisation. It connected to suspension bridges that spanned ravines, allowing trade and communication to continue unimpeded. Messages were also sent from place to place along these roads, and housing was built along them to shelter the message couriers. We can only wonder whether all of the detail of the messages got through every time. Perhaps the messages were essentially simple: orders for an army to ready itself to fight or to go to a particular place; or news about a ruler's death or the name of his successor.

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The same network of roads supported trade. Teams of llama made slow but steady progress along the roads, carrying raw materials and supplies throughout the empire. All empires require political, social and economic control. Just as the Aztec had achieved it to the north in Mesoamerica, so the Inca did in the south.

Social organisation

Like the Maya and Aztec, the Inca had strict hierarchical societies. Western concepts such as liberty or equality did not exist in the minds of those who ruled the Inca Empire – nor in the minds of those who were ruled. Farmers in the empire worked land allocated to them by the ruler and could never own it. They could keep food for themselves and their families, but only at a subsistence level. All food above this level was required to be paid in taxes. Male farmers and their sons could also be required to tend fields owned by the Inca rulers, or their labour might help build roads in their region; they also be could be called into the army to help defend the nation.

Inca families could also be expected to move to new locations under the orders of the Inca ruler. It may well have been to newly acquired territories as the empire expanded. This was a way that the ruler could ensure he had 'friendly' people occupying outlying regions of his empire, and not people who may conspire against him. Families forced to move under such circumstances were often called *mitmakuna*.

Some in society were often selected from a very early age to serve the Inca ruler. These were called the *yanakuna* and the *mamakuna*. They lived in **segregated** communities from each other and the rest of society. The first of them, the *yanakuna*, were young men who cared for the ruler's herds of llamas and alpacas. He could, as he grew up, get married. The *mamakuna* were young women, who could end up doing many things. The most attractive among them might end up in the ruler's harem or given away in marriage to outside rulers who decided to subjugate themselves to the Inca ruler. In general terms they became priestesses in the temples dedicated to the Sun god or they learned the art of spinning the textiles for which the Inca were known, as well as making chicha (a type of maize beer). When the Spaniards first arrived in 1527 in Peru and witnessed the *mamakuna* at work, they thought that they were nuns.

segregate isolate, divided or separate apart from one another

Life in the Inca world was harsh at the best of times. Children were expected to become independent as early as possible. Punishments for misbehaviour were severe, even for children as young as 12 months. Their fathers could be called away to work for lengthy periods and their mothers left to do everything around the house – without any of the aids so common these days. Boys reached maturity at the age of 14, when they were presented with a special loincloth as part of a ceremony to celebrate the day. Girls were usually married by the time they were 16, without all of the ceremony we take for granted with such occasions. For the Inca, marriage was an economic issue, not one of romance. The major crops produced in the small fertile coastline and the dry, arid interior of the empire consisted of 27 varieties of maize, along with potatoes, sweet potatoes, chilli peppers, cotton, tomatoes and peanuts. All of these were unknown to Europeans at the time. The crops were frequently grown in terraced fields, particularly high up in the Andes Mountains. Such an approach allowed them to grow more food in a short period of time, making use of microclimates in regions of their empire. The diet also included the meat of llamas and alpacas, as well as fish near the coast. Unlike Mesoamerican cultures, the Inca built huge stone warehouses where they stored food surpluses, allowing them to survive leaner times.

Beliefs

Just like many of the cultures to their north, the Inca had many deities or gods. It is important to note that many societies begin this way. For example, the Greeks and Romans, to which much of Western culture owes its origins, had many deities. As their empire expanded they were willing to keep the gods of those they subjugated, but to enforce their own as well.

The major gods of the Inca were Inti (the Sun God) and Mama Quilla (the Moon Goddess). There were also gods associated with the stars, the rainbow and the lightning. The worship of the Inca gods took place at the highest peaks that the Inca

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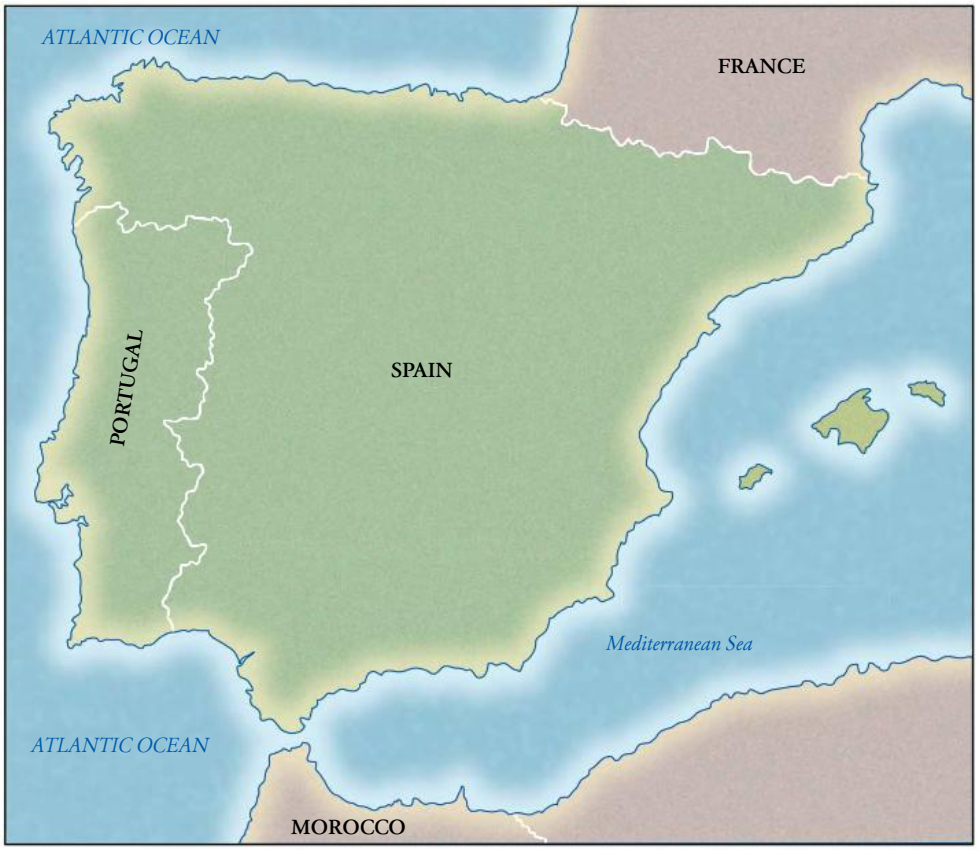
could access, as they held such places sacred. The Inca Temple to Inti was located at Machu Picchu at an altitude of 2434 metres. The city of Machu Picchu was begun sometime between 1460 and 1470 by Sapa Inca Tupac Yupanqui, the ninth and most expansive ruler in the Inca dynasty. It is believed that the city was used for solely religious purposes. Few people outside the ruler's closest advisors were actually aware of its existence, and when the Spaniards began the task of dismantling Inca rule and destroying the civilisation, they were not even able to find it. Its glory as a religious site became apparent to us only in 1911 when an American historian located it – for the first time in centuries.

21.2 Spanish arrival in the Americas

In 1492 Christopher Columbus set sail under the Spanish flag on a voyage to Asia. Two matters distinguished his voyage from others before it: he was going by sea, and he was sailing west over an ocean where no European had previously been. In 1992, Spain and some parts of the Americas commemorated the 500th anniversary of this voyage, which had changed the world forever. But over the 520 years since Columbus set sail, we are now much more aware of the damage his arrival inflicted on the cultures of the peoples of the 'New World'.

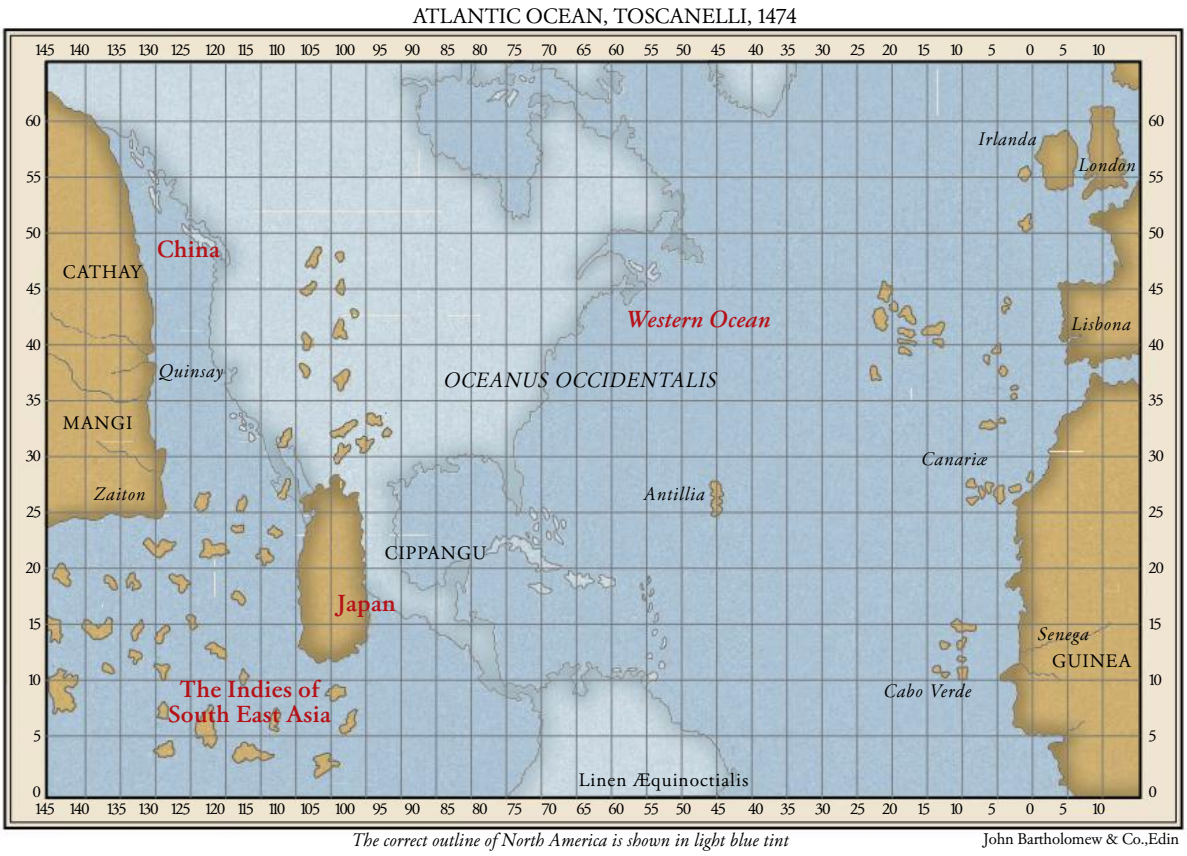
Spain was one of the powerhouses of Europe in 1492. It had only recently driven the Islamic Moors out of its territory, and had united the two kingdoms of Aragon (under King Ferdinand II) and Castile (under Queen Isabella I). The battle to expel the Moors, which ended in 1491, gave Spain a new sense of confidence about itself and its destiny. The killing of 100 000 Moors in that 10-year battle offered a good indication of how the new Spanish rulers would act towards anybody who questioned their authority or challenged their Catholic faith.

Portugal, Spain's rival in all things maritime, was also keen to find its way to Asia, but preferred to sail down the West African coast. Bartholomew Diaz reached the Cape of Good Hope at South Africa (1487–88), and then Vasco Da Gama reached India



Source 21.9 The Iberian 'Old World' powers, c. 1492 CE

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Source 21.10 Toscanelli's map of 1474



Source 21.11 *Columbus Landing at Guanahani* by Theodor de Bry, 1594

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via South Africa (1497–99). Columbus dared to offer Queen Isabella the alternative of sailing west over the Atlantic Ocean. He argued that he could reach China by sailing west in only a matter of weeks, whereas it would take a year or two around Africa. Of course, he did not know that there were two bodies of water to cross – the Atlantic Ocean and the Pacific Ocean – and that there was an entire continent in between.

As evidence in presenting his case to Queen Isabella, he used a map drawn by the Florentine cartographer Paolo dal Pozzo Toscanelli in 1474 (see Source 21.10). Note: Toscanelli's map has been superimposed over the correct position of the Americas, which was not on Toscanelli's map.

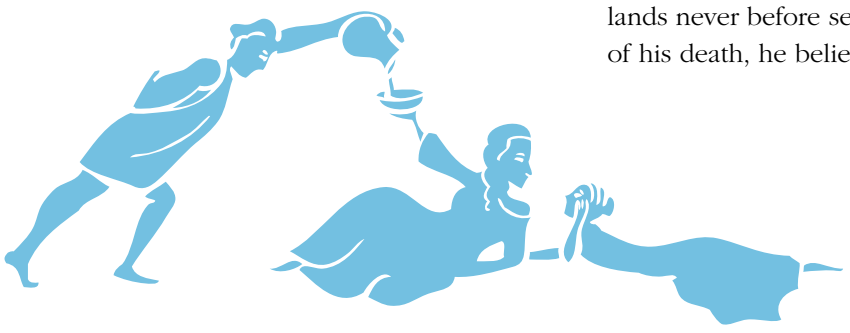
Queen Isabella agreed to finance the voyage of Columbus to Asia. She provided half of the funds for his three ships (the *Niña*, the *Pinta* and the *Santa María*) as Columbus had already secured some funding from Italian investors. On 3 August 1492 he set sail from Spain, making his first landfall at the Canary Islands to resupply before heading on into unknown waters. He left the Canaries on 8 September. On 7 October his crew discovered flocks of birds at sea (usually a sign of nearby land) and on 12 October, at 2 a.m., land was sighted by a sailor named Rodrigo de Triana on board the *Pinta* – though Columbus was to record in his log that he had made the discovery, thus earning a substantial reward for himself. He made first landfall on an island he named San Salvador in the Bahamas, off the eastern coast of modern-day Florida. The indigenous people of the island had already named it Guanahani.

DEVELOPING YOUR UNDERSTANDING 21.5

Look carefully at Source 21.11. This woodcut by Theodor de Bry was completed in 1594. Clearly he was not there on the day of the landing by Columbus at Guanahani. It is a presentation of the event.

1. Identify Christopher Columbus in the woodcut.
2. List what you notice about the way the Europeans are dressed as opposed to the Arawak people of Hispaniola.
3. Offer an explanation for the differences.
4. Explain how the Europeans and Arawak people seem to be relating to each other.

Columbus continued on to the coast of modern-day Cuba, which he took to be Cippangu (or Japan). He then sailed to the island that is home to the Dominican Republic and Haiti of today, naming it Hispaniola. He returned to Spain carrying some indigenous people with him, a small amount of gold and a mysterious plant that would soon be named 'tobacco'. Additional voyages in the region took him right across the Caribbean to Central America and modern-day Panama. Despite his optimism, he never found the River Ganges (in India) that he was seeking; the reason is obvious to us now: he was half a world away from there. He died in May 1506 in his mid-fifties, still not knowing that the discoveries he had made were lands never before seen by Europeans. To the day of his death, he believed he had been in Asia.



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21.3 Impact of the conquest: the Spanish and indigenous populations

Colonisation of the 'New World'

Just 20 years ago the peoples of the Americas marked the five hundredth anniversary of the discovery of the 'New World' by the Venetian-born sailor, Christopher Columbus. To Americans of Italian and Spanish descent, the anniversary was an occasion for celebrations. From this perspective, the voyage of Columbus was a vehicle of discovery and progress. It forged a lasting link between the civilisations of the 'Old World' and those indigenous peoples who had occupied the 'New World'.

However, many residents of the Americas of indigenous and African descent regarded the anniversary in less positive terms. To most of these people, the legacy of the voyages of Columbus was slavery and colonialism. Rather than regarding Columbus as a discoverer, many central and South Americans regard Columbus as an invader who set in motion a train of events that devastated the 'New World' peoples and their cultures. Some pointed out that it was Columbus who was the first to begin the Atlantic slave trade, condemning tens of thousands to a life of slavery.

Others more soberly reflected that Europe's prosperity from the fifteenth century onwards was based, at least in part, on the exploitation of the 'New World'. Five hundred years later, different perspectives have emerged over Columbus and the impact of his voyages.

Disease and death were two consequences. Pre-Columbian America had been isolated from many infections that had plagued Asia, Europe and much of Africa during the medieval era. Indigenous Americans had been spared most of the diseases common to societies that raised livestock. As a consequence, the 'New World' was defenceless against **epidemics** of smallpox, influenza and measles, which were most lethal to adults in their most productive years. The 8 million Arawak Indians who lived on Hispaniola (the site of the first Spanish 'New World' colony) were reduced to ten thousand by 1520 – just 28 years after Columbus's arrival. The 25 million indigenous people in Central Mexico were reduced to 1.9 million by 1585 – within a century of Columbus's arrival. Inca populations in the Andes and Native American populations in North America were also decimated. Source 21.12 indicates the impact of disease on the indigenous peoples of Florida, settled from 1514.

epidemic a disease that affects many people at the same time

The development of the African slave trade was another important consequence of the voyage of

Year	Disease	Percentage decline	Estimated population
1517	—	—	722 000
1520	Smallpox	–50	361 000
1528	Measles	–50	180 000
1545	Bubonic plague	–12.5	158 000
1559	Influenza	–5	150 000
1564–70	Influenza	–10	135 000
1585	Unidentified	–10	121 500
1586	Cape Verde Island fever	–20	97 200
1596	Measles	–25	72 900
1613–17	Bubonic plague	–50	36 450

Source 21.12 Depopulation of indigenous Americans in Florida, 1517–1617

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Christopher Columbus. Within decades, Spain had introduced black slaves and sugar plantations into the 'New World'. With the indigenous population seemingly on the path to extinction, the Spanish and Portuguese turned to African labour, which they used to mine gold and silver, and to raise crops and livestock.

The 'discovery' of the 'New World' offered Europeans an opportunity to consider 'Old World' fears and ambitions in the light of what was found in the Americas. Explorers, and the colonists who followed them, believed that the indigenous Americans seemed to embody a sense of 'innocence', yet they enjoyed freedoms unknown in Europe. Some noted that the indigenous peoples lacked sexual restraints, law or private property, yet appeared healthy and seemingly enjoyed eternal youth. All of these beliefs were based on a superficial awareness of the indigenous cultures – and were mistaken. There were others still who were appalled by the hostility of the indigenous peoples who resisted colonisation, and by the blood lust of the Aztec. These European colonists came to the belief that these people – 'children of the devil' – had to be exterminated.

But the voyages of Columbus also helped to stimulate European philosophical thought. In 1516, just 24 years after Columbus's first voyage, Thomas More published a book in England titled *Utopia*. In its pages, he described an ideal country where poverty, crime, injustice and other ills – which were all well known to the educated classes in Europe – did not exist. More was taking what he had heard and read about the Americas, and the societies found there, in an effort to re-examine the European world. In time, he would not be alone.

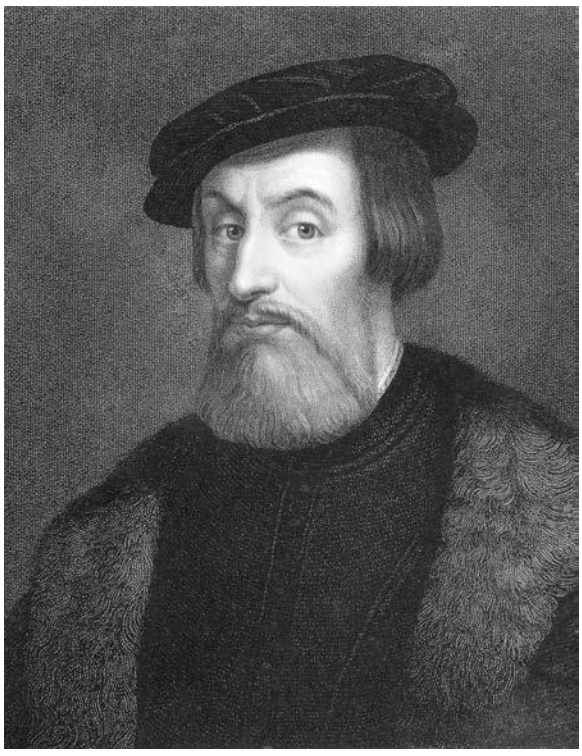
With each voyage sailed by Columbus in the Americas, adventurers, soldiers and colonists followed. Otherwise known as **conquistadors**, they were all seeking to reverse their fortunes. First they came to Hispaniola, but as new lands were identified they began to look over the horizon. The three 'Gs' drove their motivations: all of them sought gold (for personal wealth, the wealth of the Catholic Church or the wealth of a patron back in Spain); some sought glory (for the prestige of Spain and an expansion of its territorial claims); and some worked for God (for the converts they could bring to the Catholic faith).

conquistador one of the adventurers, soldiers and settlers who sailed in the service of Spain and Portugal to help establish their country's empire around the globe

The colonists who came to Hispaniola ill-treated the indigenous people. As the population declined because of disease and brutal treatments, other indigenous people were kidnapped and brought to Hispaniola to replace them. The hostility that developed between the colonists and the indigenous people is, in modern terms, perfectly understandable. The Spaniards believed in their superiority, so it followed in their minds that the Arawaks were, by the nature of things, inferior beings. On the other hand, the Arawaks could not understand why these invaders were so brutal, and why they seemed intent on destroying their culture.

Hernán Cortés and the Aztec

In 1519, the conquistador Hernán Cortés set sail from what is today the modern country of Cuba bound for the land of the Aztec. He would not be the first Spaniard to visit Mexico: two years earlier explorers had encountered hostile Maya forces on the Yucatán Peninsula. Cortés came better prepared



Source 21.13 Portrait of Hernán Cortés

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than that expedition – he brought cannon with him, plus cavalry in armour with their horses. His first landfall was on the Yucatán, where a small band of indigenous Americans offered Cortés and his party some food and refreshments and a small quantity of gold – then asked them to go. Cortés made it clear that he would not go without more gold being given to him. A battle between his army and the local people ensued, and it was not long before 450 local warriors were dead, and many more wounded and in retreat.

The indigenous group surrendered and offered Cortés more gold and gifts, plus twenty of their women. One of the women called Malinche (later changed to Doña Marina) would become first his mistress and then his wife, and would bear him children. But she had a unique capacity: she could speak both the language of the Maya and that of the Aztec. This skill would serve Cortés well as he could utilise her as a translator.

The real target of the ambitious Cortés was not the Maya but the Aztec under Moctezuma. The Aztec ruler had sent emissaries to meet with Cortés and his army.

> The first article presented was a wheel like a sun, as big as a cartwheel, with many sorts of pictures on it, the whole of fine gold, and a wonderful thing to be behold … Then another wheel was presented of greater size made of silver of great brilliancy in imitation of the moon with other figures shown on it, and this was of great value as it was very heavy.

Source 21.14 The Aztec presented Cortés with gifts on his return that had been set aside to welcome the god Quetzalcoatl

In return, Cortés gave Moctezuma's emissaries a demonstration of his cannon and cavalry on horseback. The noise of the first shocked the Aztec



Source 21.15 Cortés is received by Montezuma

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party, and the sight of mounted soldiers on horseback flying along the beach with swords flashing high in the sun terrified the Aztec emissaries.

Cortés requested a meeting with Moctezuma. The emissaries asked him to be patient. Although he had not personally set eyes on Tenochtitlán, Cortés knew it was only about 300 kilometres away. For his mission to be considered a success, he had to push on to the Aztec capital. First he formed alliances with the Tlaxcala people (who for decades had been the sacrificial captives of the Aztec) and then marched on to meet his destiny. Along the way, the two armies destroyed another indigenous population at Cholula. The whole affair seems to have been driven by the Tlaxcala, who wanted revenge against the people of Cholula. Cortés and his army were there to help out.

When Cortés and his men reached Tenochtitlán they were stunned. On 8 November 1519, the Spaniards marched along the causeway leading into the city. The towers, temples and canoes were thick with crowds who gathered to gape at these strange men and their horses. Rather than have him enter the city uninvited, Moctezuma decided to meet Cortés at the entrance to the city. Moctezuma was in a **litter** draped with fine cotton curtains and borne on the shoulders of members of his nobility. He emerged from the litter and placed necklaces of gold and precious stones round Cortés's neck. Cortés placed a necklace of pearls and cut glass around the neck of Moctezuma, but was held back by two lords when he tried to embrace him.

litter a vehicle containing a bed or a seat, enclosed by curtains and carried by men

The Aztec led the Spaniards into the heart of the city, where Moctezuma showered them with more gifts and then housed them in luxury apartments. The Aztec knew about the massacre in Cholula and were taking no chances; they believed that if they were provoked in any way, the Spaniards could behave unpredictably and with great cruelty.

The remainder of Cortés's army had the opportunity to wander the city. Among them was Bernal Díaz del Castillo, who had the presence of mind to continually quiz his fellow soldiers and travellers about their thoughts, which he later published under the title, *The True History of the Conquest of New Spain*:

> [It] seemed like an enchanted vision … some of our soldiers asked whether it was not all a dream … It was all so wonderful that I do not know how to describe this first glimpse of things never heard of, seen or dreamed of before … We saw the fresh water which came … to supply the city … We saw a great number of canoes, some coming with provisions and others returning with cargoes and merchandise … We saw [temples] and shrines in these cities that looked like gleaming white towers and castles: a marvellous sight … We turned back to the great market and the swarm of people buying and selling … Some of our soldiers who had been in many parts of the world, in Constantinople, in Rome, and all over Italy said that they had never seen a market so well laid out, so large, so orderly, and so full of people …

Source 21.16 Díaz del Castillo on Tenochtitlán

DEVELOPING YOUR UNDERSTANDING 21.6

Look back to Source 21.6 (page 464) and to Source 21.16.

1. Outline the essential features you notice about the design of the city of Tenochtitlán.
2. Identify a place you have visited that has had a similar impact on you that Tenochtitlán had on Díaz del Castillo.
3. Reflect on the place you nominated and explain why it stood out so much.

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The constant smell of blood from the sacrificial temples also flooded into the nostrils of the visitors. Cortés was concerned that because his army was trapped within the city – and he was clearly outnumbered – he might not be able to escape. His greatest fear was that he or members of his army might be sacrificed. The issue was how to prevent this from happening. Thus, on 16 November 1519, Cortés placed Moctezuma under house arrest and attempted to rule the Aztec through him. However, the power of the Moctezuma was dwindling in the eyes of his people and the Aztec grew ever more resentful of the attacks by the Spaniards on their religion and their relentless demands for gold.

When resistance broke out among the people of a powerful lakeside ruler, Cortés held a ceremony to formalise Moctezuma's submission to the Christian King of Spain. He installed Christian images on the great pyramid, and set in motion the first attempts to destroy the Aztec idols. Still trying to be reasonable, Moctezuma suggested an astonishing compromise: the placing of his gods on one side, the Christians on the other. Cortés had to leave the city to settle a dispute with another group of conquistadors. While he was away he managed to recruit almost 10 000 Tlaxcala and additional Spanish soldiers to support his cause. On his return, he discovered that the Spaniards he had left in the city, under the leadership of Pedro de Alvarado, had panicked during the Festival of Huitzilopochtli when thousands of enthusiastic revellers packed the city squares. In the mistaken fear that his group was about to be attacked, Alvarado ordered the soldiers to slaughter the revellers. Cortés discovered these soldiers besieged in their apartments by the people of Tenochtitlán, who were now prepared to overthrow Moctezuma and kill the Spaniards to avenge their compatriots' deaths. Under the cover of darkness, the Spaniards and their Tlaxcala allies attempted to flee the city. In the following days, the Aztec warriors killed almost 5000 of Cortés's army as Cortés attempted to retreat.

In May 1521, Cortés returned with a larger army, cannon, cavalry and 25 000 Tlaxcala warriors. Cortés ordered that the fresh water supply to the city be cut off, and blockaded the city to prevent both people escaping and supplies entering the city across the water of the lake. What Cortés did not know was that in the 10 months or more that he had been away from Tenochtitlán, smallpox had decimated the population of the city. The Aztec had been busy sacrificing people to the gods to stop the sickness, but to no avail. A new ruler, Guatemoc, had replaced Moctezuma. Cortés had him arrested and tortured to reveal the whereabouts of the Aztec gold, and then he gave orders for the city of Tenochtitlan to be destroyed. The mighty Aztec Empire was no more.

Francisco Pizarro and the Inca

Francisco Pizarro first made a tentative foray into Peru in 1528. He then hurried back to Spain to seek an audience with the new King Charles V of Spain, showing him his souvenirs of his visit to Peru. He told the king that he had heard of an empire similar to that of the Aztec and was seeking royal permission to conduct a more thorough investigation. King Charles must have been impressed, for in 1529 Pizarro was given approval to return to Peru without the interference of any other Spanish official in what was quickly



Source 21.17 Portrait of Francisco Pizarro

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becoming called Spanish America. Pizarro organised his expedition and set sail for Peru in January 1531.

Pizarro arrived in Peru at an important time: the Sapa Inca, Huayna Capac, had died. There is some evidence that he had died of smallpox, first introduced to the Americas when Cortés was attacking the Aztec at Tenochtitlán in Mexico in 1519. Now it had reached Peru.

The Inca ruler's advisors urged him to name a successor before he died. Some later said that he had chosen his son Huascar, who was the Sapa Inca's representative in Cuzco, the capital. However, others who witnessed the Sapa Inca's death were convinced that he had nominated Huascar's half-brother, Atahualpa, who was in control of the northern part of the empire at Quito. A civil war erupted over who had the right to the throne.

Spanish writing of the time praised the civil war because they knew it aided their conquest of the Inca civilisation. On the other hand, Inca observers knew that the civil war had undermined their capacity to resist the Spanish invasion.

The armies of the two contenders for the Inca throne fought their battles. For a while it appeared that Huascar had the upper hand, when Atahualpa's army was routed and he was captured. His escape was an inspiration to his army as it remobilised to support him. In the end, Atahualpa was successful when his half-brother was captured.

All the while, Pizarro had landed his own army in Peru. He had two advantages over the Inca: he had Inca translators with him who could communicate with ordinary Inca people as they marched to the Inca city of Cajamarca; and the Inca army had been too focused on its civil war to offer any resistance. But it would be the Spanish weaponry that would be the difference. Like Cortés before him in Mexico, Pizarro had steel swords, cannon, cavalry on horseback and mechanical crossbows. Atahualpa had been first convinced that Pizarro was a god, but one of his trusted advisors who had met Pizarro assured him they were not gods at all. Atahualpa planned to meet with Pizarro at Cajamarca, but when he arrived in the city in 1532 he found that there was nowhere for him and his army to stay – the Spanish had already occupied every available space. Pizarro sent one of his priests, Father Vincente de Valverde, to meet with Atahualpa. Valverde's plan was to convert the Inca ruler to the Christian faith, and showed Atahualpa the Catholic Bible, telling him it was the word of 'the Lord'. Atahualpa looked at the book, held it to his ear and said to Valverde dismissively that it did not speak to him. He threw the Bible to ground.

This act provided Pizarro with the reason to attack Atahualpa. He gave the order to fire cannon into the Inca people in the city square, and sent in his cavalry and infantry to finish off the dying and wounded. The Inca army tried to retaliate, but they could not combat such weaponry and were in disarray. Atahualpa was captured and imprisoned. Pizarro treated his royal captive well by all accounts, instructing his Spanish guards to provide him with whatever he needed.

The Spanish conqueror had charged Atahualpa with trying to organise a rebellion against the Spanish, with the murder of his half-brother Huascar, and with worshipping idols. At his trial he was found guilty of all charges and was to be executed by burning at the stake. Historians dispute what happened next. Some recount that Atahualpa tried to bribe Pizarro and the Spaniards by offering as much gold and silver as wanted;

RESEARCH 21.1

Select one of the significant individuals below and create a PowerPoint presentation that details their arrival in the Americas and their reasons for coming. Include information on the effects this had on the indigenous peoples of the Americas.

- Christopher Columbus
- Hernán Cortés
- Francisco Pizarro

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some suggest it was Pizarro who demanded the gold and silver as a ransom. It has been estimated that almost 4.6 million ducats of gold and silver was paid. One-fifth of the fabulous treasure was put aside for Charles V in Spain, and the remainder divided up between Pizarro's army. Despite the payment of the ransom, Pizarro had Atahualpa executed in November 1534 because of a rumour of an impending revolt of the Inca people. Between 1536 and 1537 they did rebel. Within the year, resistance was crushed and the dazzling Inca Empire passed into history.

21.4 Longer-term effects of colonisation

By 1537, Spain controlled both Mexico and Peru. Political back-stabbing and intrigue occurred between Cortés in Mexico and Pizarro in Peru and others wanting a bigger share of the spoils for themselves. Cortés left Mexico in 1541 and returned to Spain a bitter man. Supporters of Diego de Almagro murdered Pizarro in Peru in the same year, then Pizarro's brother Hernando captured Diego and had him executed. Once the conquistadors were removed, Spain began to exploit the resources in both Mexico and Peru. Christianity became the established religion, Catholic churches and monasteries replaced temples, and peoples who believed in a diversity of gods were forcibly converted to a religion of a single god. In Peru, however, there were isolated places where tradition continued for a number of years. Source 21.12 depicts the impact of diseases across the Spanish Empire. The impact was largely on the indigenous peoples, and we will never know the real extent of diseases throughout the empire. In Mexico it is estimated that the indigenous population fell by 90% between 1518 and 1568. In Peru, estimates suggest that the population declined by 95% on the coast and about 50% in the Andes.

Indigenous peoples in both areas lost their land, and were forced to work it as servants of the Spanish authorities. One wonders how demoralised they must have felt. For Spain, the conquest proved to be a boon, as they acquired:

- enormous wealth from the gold, silver and precious stones of the 'New World'
- large amounts of territory (which included two-thirds of what would later be the United States)
- new markets for Spanish manufactured goods
- new resources previously unknown in Europe (such as tomatoes, avocadoes, sweet potatoes, potatoes, tobacco and cacao).

Thanks to the wealth forcibly acquired in the 'New World', by the middle of the sixteenth century Spain was the wealthiest and most powerful nation in Europe.



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Reflecting and consolidating

Chapter summary

- Complex civilisations had emerged in the Americas long before Europeans even knew of the continent. These civilisations were already old when Europeans encountered them. Only some of these civilisations had longevity, including the Maya, the Aztec and the Inca. These societies were highly organised but not always well coordinated. They all had hereditary rulers and elite classes.
- The rulers and priests were considered to be intermediaries between the gods and the people. If bad luck befell their culture, it was believed that it was because the gods were angry. The Mesoamerican cultures used human sacrifice to appease the gods.
- These indigenous cultures produced many technological achievements. The Maya, Aztec and Inca all used sophisticated mathematics and calendars that could accurately predict events far into the future.
- The Spanish conquest of their lands came about because of a burning desire to expand the wealth of Spain through trade with Asia. Christopher Columbus believed that he could get to Asia more quickly by sailing west from Spain across the Atlantic Ocean. The Portuguese, Spain's rival, persevered by going down the west coast of Africa.
- The conquest was left in the hands of conquistadors, who were more interested in their own profits than the results for their king or queen. This meant that conquistadors operated independent of government control and they committed great atrocities.
- The cultures of the Americas were crushed by the superior technology of the Europeans, the ruthless application of it in conflict, and the absolute determination of the conquistadors to plunder what they saw and found in the 'New World'. Internal disputes also assisted in undermining these cultures in the face of the European encroachment. Indigenous traditions were smashed and long-standing empires were routed.

Short-answer questions

1 Identify the location of Machu Picchu and its significance in the history of the Inca.

2 Who was Hunab Kú and why would the people of the Maya civilisation have feared him?

3 Explain the origins of the Aztec and how they become the dominant culture in Mesoamerica by 1500.

4 Examine the significance of the role played by Tlacaelel in the Aztec political system.

5 Select one of the Aztec gods. What was his or her importance to the culture?

Source analysis

Study Source 21.18 and answer each of the questions.

1 What evidence in this painting can you find that this event was regarded as worthy of celebration?

2 Look closely on the right-hand side of the painting in the background. Why do you think that some people are touching the ground and others are celebrating further back?

3 Consider what the people in the centre foreground of the painting might be doing.

4 How are the indigenous people (left) responding to this event?

5 Analyse the accuracy of the painting as a representation of what took place in the 'New World' in 1492. Consider the feelings of the people with Columbus and the responses of the indigenous people.

6 Compare the representation of this event in Source 21.18 with Source 21.11 on page 470. What conclusions can you reach about the purpose of each representation?

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Source 21.18 *First Landing of Columbus on the Shores of the New World* (1892)

Extended-response question

Describe the impact of the Spanish conquest of the Americas in terms of its indigenous inhabitants. To what extent do you agree that the conquest cost more than it gained for the world as a whole?



Source 21.19 Maya pyramid in Uxmal, Mexico

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Source 21.20
Pre-Columbian sculpture, Mexico

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Civics and citizenship

Law and citizens

Sources of law

There are two main ways in which laws are created in Australia: either through passing a law through parliament (which is called **statute law**) or through a ruling made by a judge (which is called **common law**). An example of a statutory law is the 2012 Carbon Tax, which was made law as a way to focus on sustainability and energy use.

statute law (statutory law) law passed through parliament

common law law passed through a ruling made by a judge

criminal law law that address crimes relating to the harming, threatening or endangering of a person's health or welfare

civil law law that addresses crimes in which financial compensation is being pursued

Our laws can either be defined as **criminal laws** or **civil laws**. A criminal law address crimes relating to the harming, threatening or endangering of a person's health or welfare. For instances, assault and murder are examples of crimes addressed by criminal law. A civil law refers to crimes in which financial compensation is being pursued; for example, over damages caused to a property or the settlement of a will. It is possible to have some criminal situations in which both laws apply. For example, in 2008 swimmer Nick D'Arcy assaulted fellow swimmer Simon Cowley. Under criminal law, D'Arcy was found guild to 'recklessly causing grievous bodily harm'. Under civil law, Cowley sued D'Arcy for damages caused by the fight. D'Arcy was order to pay Cowley $180 000.

Australia is also subject to **international laws**, particularly around trade issues and relationships with other countries. Over 55% of all Australian trade conduct overseas is with Asia. As such it is important to have a strong legal relationship with the region to ensure that good relations and trade continue. Australia is a member of the Asia-Pacific Economic Cooperation (APEC), which ensures that the trade of goods and services continues in the region so that all countries can benefit and develop their economies.

international law law established and recognised between nations



Source 8.2.1 World leaders at the 2007 APEC meeting in Sydney, including then Prime Minister John Howard.

Customary law

Before the arrival of Europeans to Australia, Aboriginals and Torres Strait Islander peoples had their own sources of law and ways of enforcing them. This legal system is called **customary law**, as it is law that has developed over a long period of time based on social norms or customs of a particular indigenous group. Customary law not only outlines punishment for breaking the rules of the group, but also includes the practices and customs that create a sense of community and encourage a connection to the land. Aboriginals and Torres Strait Islander peoples practise oral history: history, cultural practices and law are passed on through storytelling and oral communication.

customary law law that has developed over a long period of time based on the social norms or customs of a particular Aboriginal or Torres Strait Islander group

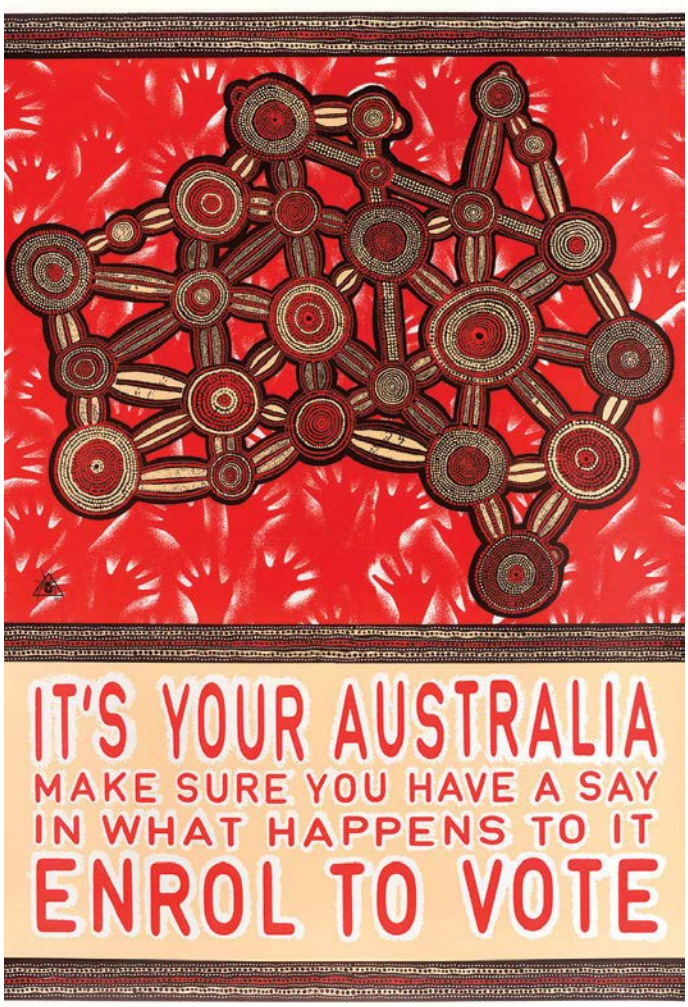
Indigenous customary law is different for the different groups within different locations. Customary law was not recognised as a source of law in Australia until the last decade and is still considered a very controversial topic. For example, the Northern Territory investigated into the inclusion of customary law within the broader

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legal system in 2003 and found that while in some areas of Australian law it would be effective, in others it would not. For example, under customary law in the Northern Territory polygamy (having more than one wife at the same time), arranged marriages and corporal punishment (punishment through the use of violence) are all considered acceptable. These three examples of customary laws contradict the broader Australian legal system. The investigation concluded that where possible customary laws should be taken into consideration in the Northern Territory if the Aboriginal or Torres Strait Islander person wants it to be included, but the customary laws cannot contradict the other sources of law in Australia.

The responsibility of a citizen

Regardless of religious, ethnic or cultural backgrounds, all Australians have to act as responsible citizens. Being a responsible citizen is more than just obeying the law (although that is a key aspect). As Australians, our responsibilities include paying taxes, voting in all elections, respecting the rights of others and being informed on important issues within the country. It is important to always act as a responsible citizen in order to function effectively as a community.



Source 8.2.2 It is important to enrol to vote and be a responsible citizen.

DEVELOPING YOUR UNDERSTANDING 8.2.1

1. Outline the difference between criminal and civil law.
2. Identify which of the following offences would be considered examples of criminal or civil law: stealing a car, injuring another person, lying about medical qualifications and painting graffiti on a wall.
3. Highlight the difference between customary law and other sources of law. Explain the issues around customary law.
4. Choose one of the responsibilities of a citizen and explain why you think the responsibility is important to the Australian community.

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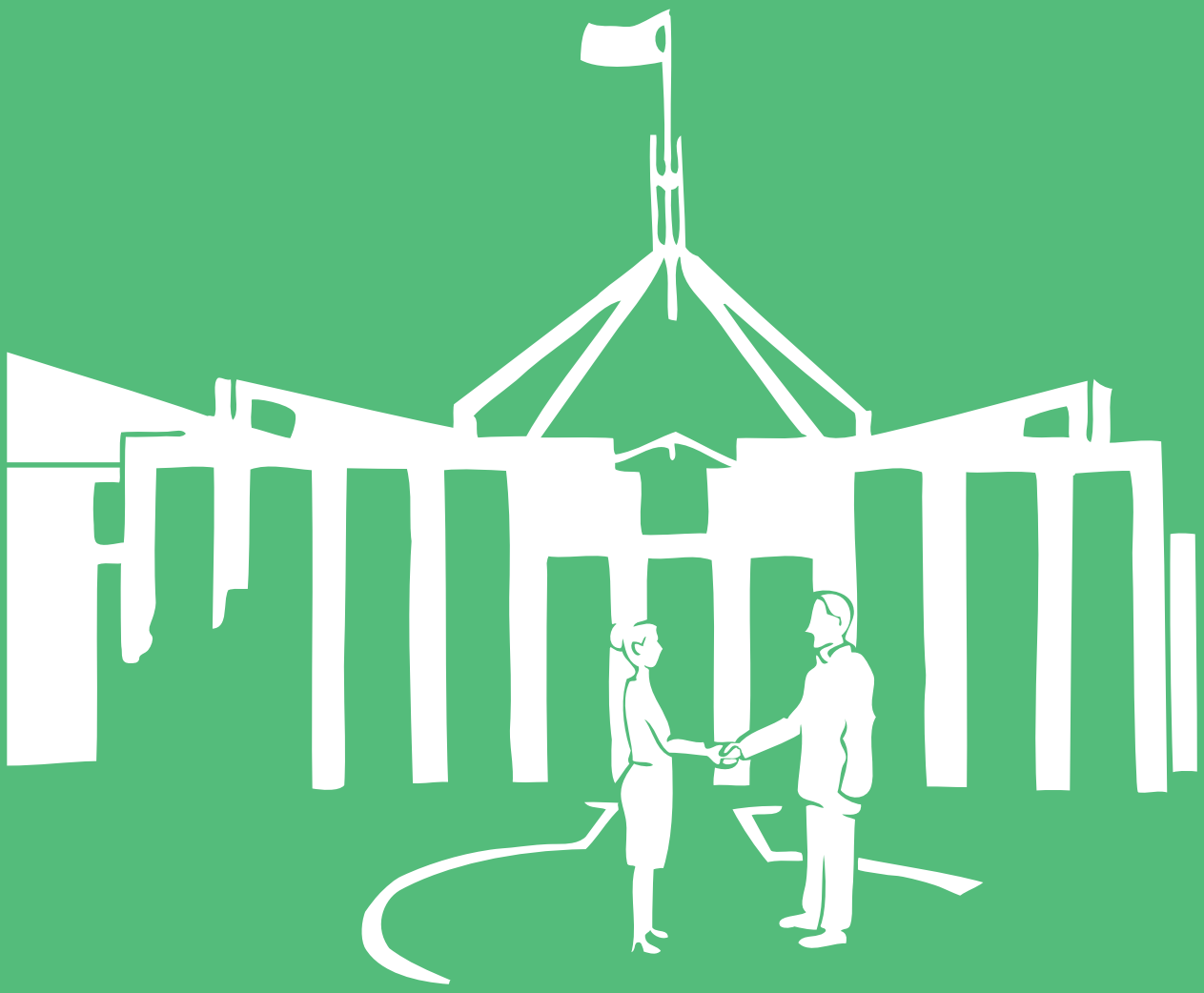


Source 8.2.3 Australian High Court building, Canberra.



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Economics and business



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22 The Australian market system and the role of the government

Before you start

Main focus

It is important to understand the basic economic problems, including the fundamental economic problem of scarcity, and why we all must make economic decisions. An understanding of the role of the government in the Australian economy, and how it intervenes in order to improve equality and wellbeing, is also important. This chapter explains what economics is, the difference between micro- and macroeconomics, and the different ways the government addresses key economic questions. This leads to exploring economic management as a key role of government by looking at the role of the Australian government in the economy, including how and why the government intervenes in the market.

Why it's relevant to us

Australia is a mixed market economy. This means the government and the market make economic decisions that affect the economy. As a member of society it is useful for you to understand how and why governments make the decisions they do and how any changes affect the wellbeing and equity of Australia. These decisions affect everyone living in Australia, as well as overseas markets.

Inquiry questions

- Who is involved in the market system, and what role do they play?
- What are scarce economic resources?
- What is economic decision making?
- Why does the government intervene in the economy?
- How does the Australian government intervene in the Australian economy?

Key terms

- Barter
- Economics
- Exporting
- Factors of production
- Fiscal policy
- Importing
- Inflation
- Macroeconomics
- Market economy
- Microeconomics
- Mixed market economy
- Planned economy
- Production
- Progressive taxation system
- Public goods
- Scarcity
- Subsidy
- Subsistence economy
- Tax

Let's begin

We are all consumers of goods and services because we consume (use) products. As consumers in a market economy we have influence in determining both the types of products produced and how these are produced. The Australian economy is a mixed economy, with government intervening in the operations of the price mechanism. The Australian government intervenes in the economy for several reasons and in many ways.

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22.1 What is the market system?



Source 22.1 Australia imports a variety of things into the country, including cars, computers and petrol.

Economics and business fact

Australian consumer spending increased to $199 728 million in the first 3 months of 2013.

Many countries decided to put controls in place to stop gold and silver from leaving their country. This meant **taxes** and **subsidies** were given to those who sent goods to other countries (exporters). This resulted in restricted trade between countries and cities.

tax a cost or charge placed on goods or services

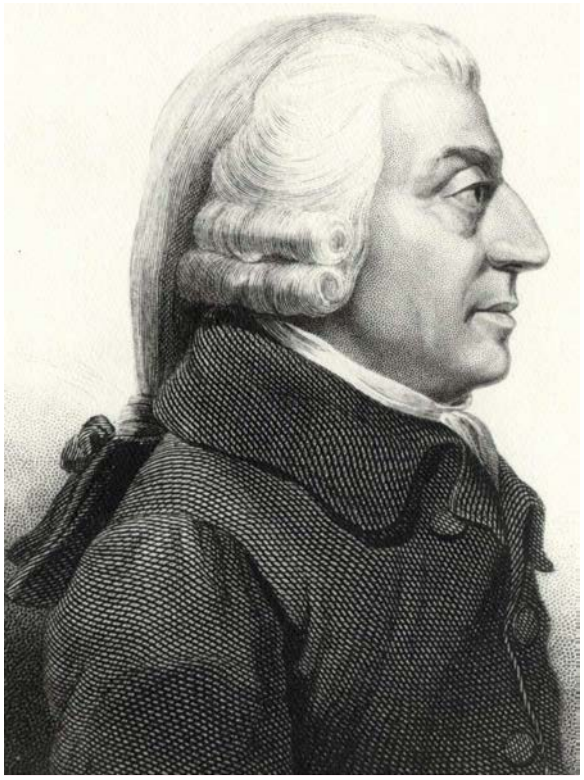
subsidy money given by a government to support a business

An economy based solely on producers and consumers with no government involvement is known as a **market economy**. This concept and idea has developed over time. In 1776, one famous philosopher and economist, Adam Smith (1723–90), wrote an important book in the development of economics called *An inquiry into the Nature and Causes of Wealth of Nations*. In Smith's day people saw national wealth as measured by how much gold and silver a country had. All trade involved buying and selling goods with other countries. **Importing** (bringing goods into a country) was seen as a bad thing as wealth had to be given to the other country in exchange for goods. **Exporting** (sending goods to another country) was seen as good because it allowed the country to earn more gold and silver.

market economy an economy where the decisions made about what to produce and buy are influenced by consumers and producers with no government involvement

importing buying goods and services from other countries (part of trade)

exporting selling goods and services to other countries (part of trade)



Source 22.2 Adam Smith

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Smith argued that this was not in the best interests of society or the economy. He argued that there should be no restrictions and taxes, and by allowing free trade everyone would be better off. In other words, Adam Smith argued that the economy should be able to operate without any restrictions. This idea forms the basis of the 'market economy' and was taken up by many politicians at the time. Even today this forms the basis of free trade and market economies.

At the same time, many other changes were occurring in Great Britain. Until the Industrial Revolution, most people lived and worked on farms and life was based on a rural (country) lifestyle. Many farmers were self-sufficient (able to feed themselves by what they grew and the animals they raised).

In the eighteenth century there were many discoveries, such as Thomas Savery's steam engine and the modern steam engine developed by James Watt. These discoveries allowed many industries and factories to be established. This included machinery in cotton mills, breweries, locomotives, and the coal and textiles industries. This, combined with ideas about free trade and market forces, allowed a market economy to develop.

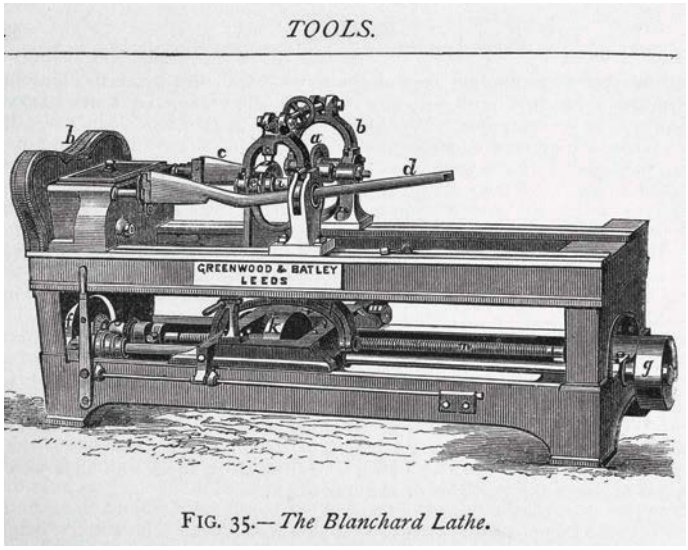
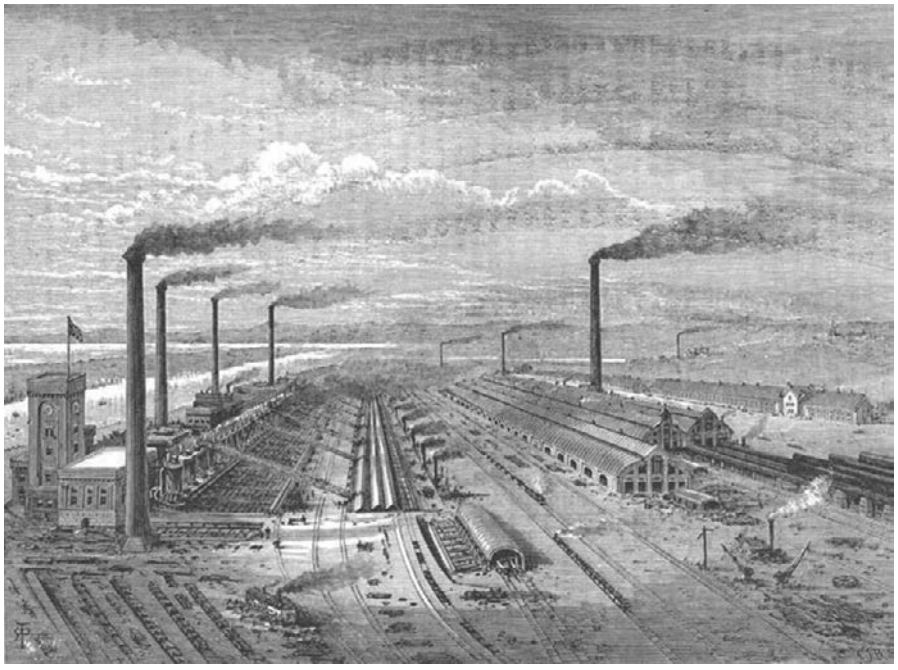


FIG. 35.—*The Blanchard Lathe.*

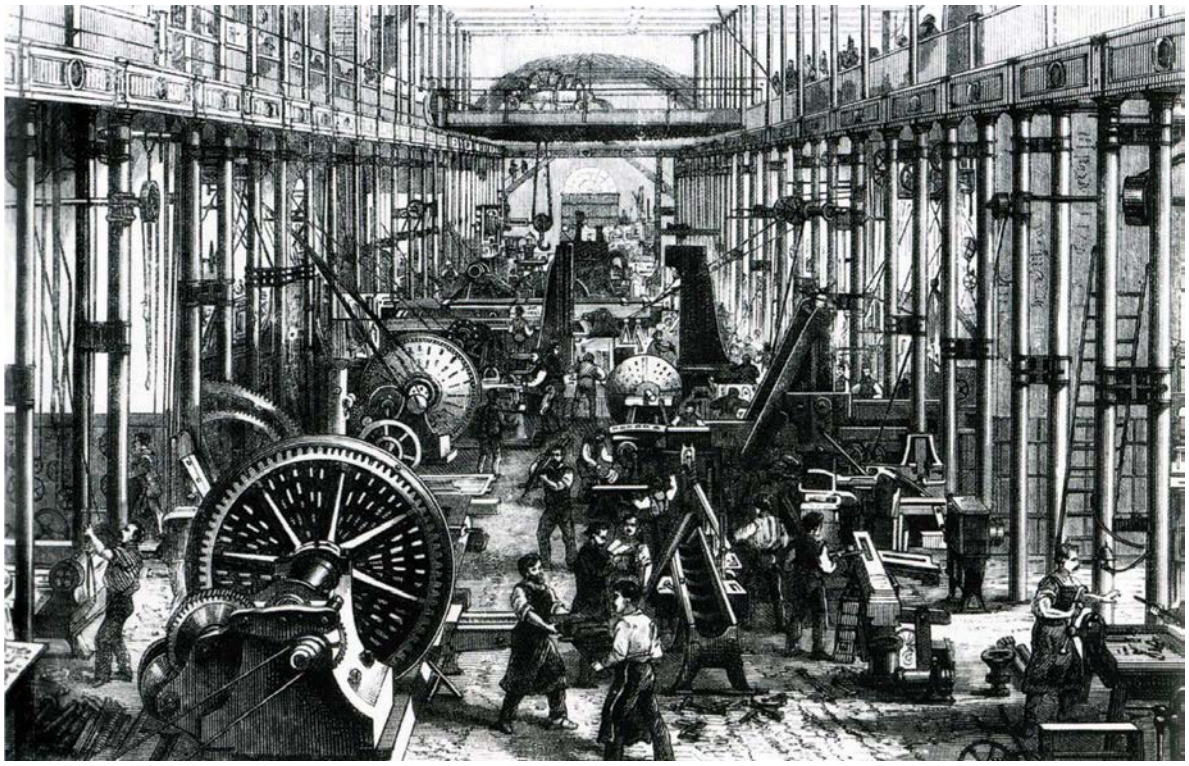
Source 22.3 The development of machine tools such as this lathe sped up the manufacturing process.



Source 22.4 Industrialisation led to the production of factories.



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Source 22.5 Machine works of Britain's Industrial Revolution

Economics and business fact

In-store and online shopping experiences are combining to create a phenomenon known as in-line shopping. In-line shopping will allow shoppers to see, touch and try products as well as compare prices and access product information without having to wait in a long line to make a purchase.

22.2 Why has Australia developed a mixed market system?

mixed market economy an economy where there is both private businesses and government activity

The Australian economy is based on a market (capitalist) system; however, there is also a role for the government in the economy. Therefore Australia, like many other economies around the world, is a **mixed market economy**. This can be defined as an economy based on the market system with government intervention. The governments in Australia, at the federal, state and local levels, interact with the economy through the government placing taxes on individuals and businesses (this allows them to gain revenue); through government expenditure such as health, education, and social welfare payments and benefits; and through the provision of services such as Australia Post.

Society as a whole expects the government to provide services and ensure that the economy is running properly. Therefore Australia has a mixed market economy.

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DEVELOPING YOUR UNDERSTANDING 22.1

Define the following terms and concepts:

- market economy
- mixed market economy
- economic system.

RESEARCH 22.1

Investigate one government service or department, such as the state education department, Department of Employment, state consumer affairs, Department of Foreign Affairs, Department of Defence, VicRoads or Australia Post. You can visit the websites to gather information. Once you have identified a service or department, prepare a report that answers the following questions:

1 Identify the main purpose of the service or department.
2 Describe how it contributes to the economy (for example, monitors what is happening in the economy or overseas).



Source 22.6 You can find information about road conditions and the legal aspects of driving from the VicRoads website.



Source 22.7 Websites may comment on organisations such as Australia Post.

22.3 Different kinds of economies

The economic system of a country looks at the three basic economic questions:

1 What is being produced?
2 How are thing to be produced?
3 Who gets the finished product?

Different types of economies do this in different ways. Two examples are the planned economy and the barter economy.

Planned (command) economy

planned economy an economic system based on government ownership and control

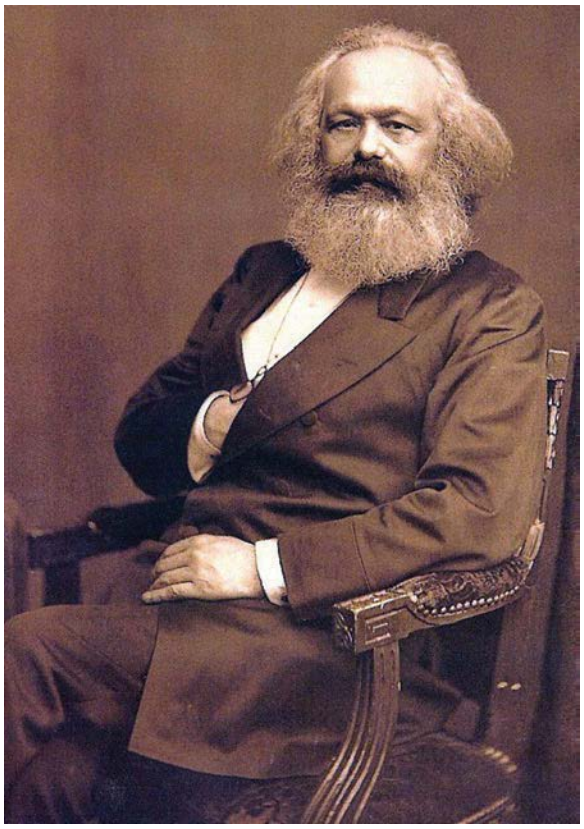
A **planned economy** is one based on a socialist economic system. In this economic system all production and the distribution of goods and services are controlled and owned by the government.

One famous example of a command or planned economy was the Union of Soviet Socialist Republics (USSR). This system was based on the ideas of Karl Marx. Karl Marx and Friedrich Engels wrote a book called *Das Capital*. Though it is a complex book, a couple of its main ideas can be summarised. Marx talked about the value of labour (people's work) and he argued that labour was exploited in a market economy. The difference or surplus between labour and the value of a product or service was profit. Marx's theories came to be known as 'Marxism', and centred on the struggle between the workers (the proletariat) and the employers and business owners (the bourgeoisie). He believed that the workers would be exploited for the benefit of business owners and this would

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eventually lead to the self-destruction of the system. Once this occurred the system would be replaced by a classless society under a communist (planned) economy and political system.

A famous quote from Marx is 'from each according to his ability, to each according to his need'. This means that all people in society would be treated equally, there would be no social classes and no one would be disadvantaged because of their own circumstances. All decisions about what would be produced, how much would be produced, what the price would be and how much workers would be paid would be made by the government. The ideas of Marx and Engels were taken up by many communist and socialist countries. In addition to the USSR, examples include China, North Korea and Cuba.



Source 22.8 Karl Marx

Barter, traditional or subsistence economy

subsistence economy an economic system based on people being self-sufficient and producing enough to meet their own needs

barter trade based on exchanging goods and services with no money used

A traditional or **subsistence economy** is one that is not based on money. Here most of the population is self-sufficient (they are able to produce enough food for themselves) and if there is any buying and selling occurring between people in the community it is usually based on a **barter** system. A barter system is one in which the people involved in the exchange decide what, and how much, goods and services will be swapped or exchanged. This type of economy is generally associated with developing countries, where the standard of living is usually relatively low.



Source 22.9 Subsistence economies are based on agriculture or livestock in farms.

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22.4 Examples of different types of economic systems

Planned economy – People's Republic of China

The People's Republic of China is based on a socialist or planned economy. When it was established in 1949 it was run by the Communist Party. It is now the second largest economy in the world after the United States. While it now contains privately owned businesses, the Chinese economy is still based on the large state (government) owned enterprises (businesses). These businesses produce over 50% of China's goods and services.

Traditional or subsistence economy

In traditional indigenous societies all tribes or clans were able to hunt and gather food to enable them to live a comfortable life and were able to adapt to an often harsh physical environment. These tribes could find food, water and shelter. Food was gathered and eaten as required and agriculture was not usually practised. In addition, indigenous people were usually skilled hunters.

Traditional indigenous society was also based on groups, and the people spent much of their time together. Their life operated under a set of rules that allowed all members of the group to be able to share the food that was hunted or gathered.



Source 22.11 Today, China is an upper-middle-income country.



Source 22.10 Trading and bartering were important parts of traditional indigenous societies.

An important part of traditional indigenous society was trading goods and ideas. Traders would move around the country and trade or barter locally produced goods for those unobtainable in local areas. While goods were traded there was no currency (money). Instead one good was swapped for another. In addition, traders also swapped and bartered ideas, art forms and rituals.

Mixed market economy – Japan

Japan has developed a successful economy since the end of World War II, when it had to rebuild its economy. It focused on developing a range of industries and experienced very high levels of economic growth for many decades. It has a wide range of successful industries, including consumer electronics such as televisions, computers, cameras, car manufacturing, optical fibre and optical media.



Source 22.12 Many of the motor vehicles available in Australia are imported from Japan.

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DEVELOPING YOUR UNDERSTANDING 22.2

1 Define each of the following terms:

- **a** imports
- **b** exports
- **c** taxation
- **d** subsidies
- **e** planned (command) economy
- **f** marxism
- **g** barter
- **h** traditional/subsistence economy

2 Imagine that two Year 7 classes from your school have taken a trip from the capital city to a nearby island. Both of the boats have run into trouble during a storm. The two boats have landed on different sides of an uninhabited island. The boats have been damaged. One life raft is still working and the two teachers have decided to try to get back to the mainland to get help, as none of the mobile phones or emergency beacons is working. The teachers believe it could be many months until help arrives at the island.

You are a member of one of the classes left on the island. One class is on the north side of the island. On this side there is freshwater from a stream and the soil is good. This side of the island also has banana and coconut trees. There are also some native berries that you have discovered are edible.

The other class is on the south side of the island. This side is rocky with a natural spring as the only source of water. There are a few caves that provide shelter and some wild goats and chickens that provide milk and eggs.

Both groups do not want to be together and are happy on their own side of the island.

- **a** Form a group of four; two of you will be representing the class on the northern side of the island, the other two the southern side.
- **b** In your group of two, make the following decisions:
  - Describe the rules and laws your group will put in place.
  - Are you going to trade with the other group on the island? Provide reasons for your answer.
  - What is your class going to trade? How is your group going to distribute the goods?
- **c** Now join as a group of four and respond to the following questions:
  - If you are going to trade with the other group, outline how this will take place. Your response might include what you will trade and the currency or the barter system used.
  - Identify any items or goods that might be scarce at certain times of the year.
  - Determine how your group will manage this possible scarcity.
  - Most societies aim for a sustainable society or economy. How are you going to make the island sustainable if it takes more than 8 months for the classes to be rescued?
- **d** Compare your ideas and rules with another group in the class. Are there any similarities between the groups?

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22.5 Economic resources





Sources 22.13 and 22.14 We consume two types of products: goods and services.

economics the study of how wealth is created and distributed; also of how and why decisions are made regarding the use and distribution of economic resources

factors of production (economic resources) anything used to produce and supply goods and services in the economy

Goods and services are produced by combining **economic** resources required in a production process. These ingredients are known as the **factors of production**. The factors of production include:

- land resources:
  - raw materials: unprocessed resources directly taken from a farm, ocean, a mine and/or the environment; examples of raw materials are a wheat crop or iron ore
  - utilities: basic services such as electricity gas and water required to create goods and services
- labour resources: the work, efforts and skills of people involved in producing a product; for example, a factory worker or an architect who designs a factory
- capital resources: human-made objects that contribute to production of a finished product; that is, machinery, buildings and other equipment used to make, move and store the finished product. Money (finance) is also capital because it can be easily exchanged for capital items.
- entrepreneurial resources: entrepreneurs are people with the skills and resources (such as time and expertise) required to successfully start and manage a business. An entrepreneur is willing to risk personal resources such as money and time in the hope of making a profit later on. They are also often original thinkers who come up with new ideas (innovators).

Economics and business fact

If you divide their net worth by their age, Carlos Slim and Bill Gates have each accumulated more than $100 000 in net worth for every hour they've been alive.

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Source 22.15 The four economic resources needed for production are capital, labour, entrepreneurship and land resources.

DEVELOPING YOUR UNDERSTANDING 22.3

1 List and describe the factors of production that are required to produce the following:
- a birthday cake
- a new car
- a visit to the doctor.

2 Classify each of the following products as goods or services:
- **a** A mechanic fixes a car.
- **b** You purchase a TV set.
- **c** You catch a taxi.



Source 22.16 The mining industry provides an example of how the factors of production are brought together to produce goods.

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Economic decisions

production the process where factors of production (economic resources) are put through a series of steps to be transformed into a finished product

scarcity lack or inadequacy

Factors of **production** are limited (finite), meaning there is only so much of them to go around. There are insufficient quantities of factors of production for everyone's economic needs and wants to be satisfied. Consumer wants are unlimited (infinite), whereas the factors of production (economic resources) available to satisfy consumer wants and needs are limited (scarce). This is what is referred to as the basic economic problem of **scarcity**.

economic decision a decision regarding economic issues

microeconomics the branch of economics concerned with individual businesses (or other organisations) and individuals (people)

We can't all have everything we want because there is simply not enough to go around. Therefore **economic decisions** must be made about how scarce resources will be used.

Microeconomic decisions are made:

- individually, with personal economic decisions such as:
  - What do I spend my pocket money on this week?
  - Do I do my homework tonight or do I leave it until the weekend? (Time is a resource.)
- by businesses and other organisations who make economic decisions about use of economic resources like:
  - Do we purchase an advertisement or a new piece of machinery?
  - What types of products do we produce?

Governments make **macroeconomic** decisions about how to use and distribute the economic resources of an entire country or state, such as:

- how to spend taxation revenue
- whether to build roads, and other public resources.

macroeconomics the branch of economics concerned with the whole economy; includes economy-wide factors such as changes in unemployment, national income, rate of growth, gross domestic product, inflation and price levels

We are all economic decision makers deciding how scarce resources will be used and distributed.

Economics and business fact

Time is an important economic resource limited to 24 hours in a day. People make choices about how they spend their time. If you choose to spend more time on one activity, you will need to spend less on some other activity. Life is full of choices about how we will spend our time.



Source 22.17 Because of the problem of scarcity, economic decisions need to be made on the micro and macro levels.

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DEVELOPING YOUR UNDERSTANDING 22.4

You are going to be left alone on an island for 6 months. The island has a good food supply of fruit and vegetables. It also has plenty of water. Before you leave you are given the option of taking five items from the following list:

- knife
- your pet dog
- a box of matches
- a water bottle
- a radio
- two chickens
- sunscreen
- a hat
- a cooking pot
- a blanket.

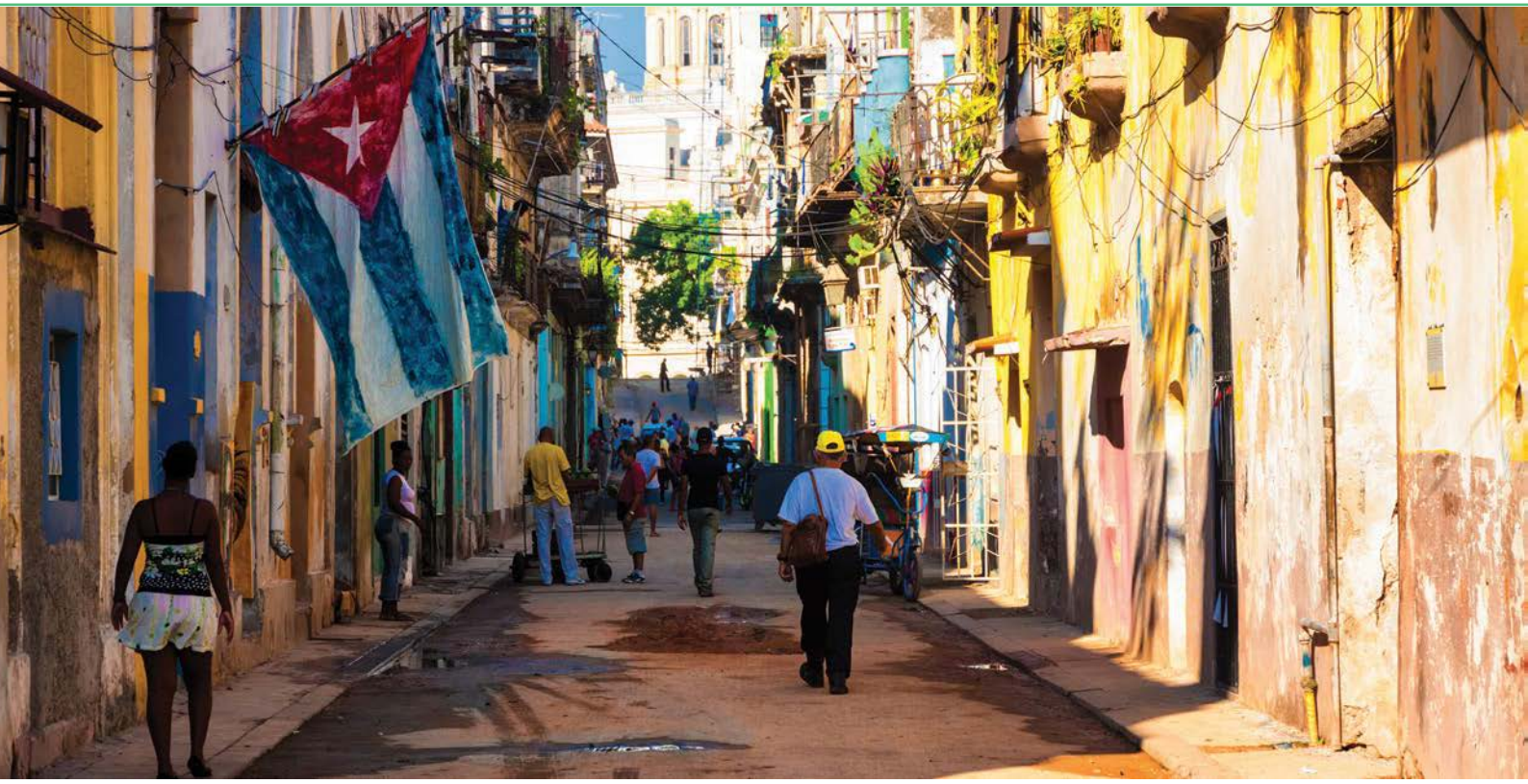
Your task is to:

1. Decide which five items you will take. Justify your choices.
2. Identify whether any items that should be on your list are not.
3. Compare your choices with those of a partner. Discuss what differences you have and why you think these differences occurred.
4. Meet with two other people and come to an agreement regarding what items should be taken.
5. Explain how you have made these economic decisions.



Source 22.18 Even if you are deserted on an island, you will have economic decisions to make.

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Source 22.19 One way of classifying different economic systems is according to the degree of government influence on them. In Cuba, the economy is state controlled and overseen by the Cuban government.

22.6 Why the Australian government intervenes in the economy

The Australian government intervenes to alter how Australian economic resources are allocated. This is done to keep the economy running smoothly with minimal unemployment rates and price rises (inflation). Governments aim to maintain a stable economy. They aim to avoid severe periods of economic downturn (depression) and periods of extreme economic boom, which create high **inflation** rates.

inflation price increases

Government provides **public goods** and other essential products that the private sector would not provide. Some sectors such as health and education have both private and public ownership.

public goods not-for-profit goods or services that are provided to members of society by the government or a private organisation

Governments must allocate resources towards non-profit-making activities. These resources are used to provide structures, institutions and services that are considered essential to a modern society.



Source 22.20 Unemployed men queue for food. The government intervenes in the economy to avoid periods of high unemployment and inflation.

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Sources 22.21 and 22.22 The government allocates resources towards non-profit-making activities to support economic growth and wellbeing.

These services help support our economic growth and stability, and improve our standard of living. Public libraries and sporting facilities are examples of this.

Advantages of living in a mixed economy

- Individuals are free to own property and operate businesses.
- A government-funded social safety net exists. This means that all people are guaranteed a minimum standard of living. Pensions and welfare payments protect us from what is known as absolute poverty.
- Governments provide services like health and education to protect the most disadvantaged Australians from absolute poverty.

Living in a mixed economy means we have:

- access to health care at public hospitals
- an entitlement to minimum wages and conditions (awards) under employee relations laws
- access to unemployment benefits
- access to pensions.

A pure market system would see none of these things available.

During times of economic emergency governments can intervene to minimise severe economic downturn.

RESEARCH 22.2

Use the Centrelink website (via www.cambridge.edu.au/hass8weblinks) to find out who is entitled to each of the following benefits and how much each is entitled to receive:

1. the age pension
2. the disability pension
3. unemployment benefits
4. the single parent payment.

In your opinion, should these payments be increased or decreased? Justify your answer. Present your views to the class in a class discussion.



Source 22.23 Centrelink is a government service that helps those in need with payments and services.

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Reasons for government intervention

Public goods

Some essential products would not be produced if left up to the free market. Essential products such as roads and defence forces are either too expensive for private investors, or it is too difficult to collect payment for them (for example, street lighting). Governments therefore provide essential products and collect taxes to pay for them. The Australian government intervenes to ensure essential services and products are provided.

To achieve a more equal distribution of wealth

A market economy leads to an inequitable distribution of wealth. Some people end up extremely wealthy while others have very little.

Large numbers of extremely poor people create social problems like crime and a strain on the health system. The Australian government uses a **progressive taxation system** where wealthier people, who can afford it, pay a greater percentage of their income in taxes. This money is redistributed to low-income earners in the form of pensions and other social welfare or transfer payments. This is known as wealth redistribution. Government also provides basic services such as health services (Medicare) and public education to ensure that all Australian citizens have access to a reasonable standard of living and enough resources to meet their needs.

progressive taxation system a system where the rate of tax paid increases as income rises





Sources 22.24 and 22.25 A market economy can create wealth inequalities.

DEVELOPING YOUR UNDERSTANDING 22.5

Using the website of the Australian Taxation Office (via www.cambridge.edu.au/hass8weblinks):

1 Identify how much a person on each of the following incomes levels is required to pay in income tax.
   - $55 000
   - $100 000
   - $8000
   - $2 million

2 Calculate the amount each would have left over as net income after income tax has been paid.

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Examples of government intervention

Laws are created to regulate the economy. Businesses in the private sector must abide by these laws and pay tax on income earned.

Laws restrict types of products a business can produce. Businesses in Australia are not totally free to produce whatever they want, in any manner. If a product is dangerous or potentially harmful to society it may be illegal to produce and sell.

Australians believe governments have a responsibility to protect citizens from dangerous products, so laws do the following:

- Laws ensure that quality of products produced and sold are of an acceptable standard (consumer protection laws).
- Laws ensure that products sold meet certain safety standards, such as seatbelts in cars or healthy dietary standards in foods.
- Laws ensure warnings appear on dangerous products.

Legal bodies and institutions (for example, the Australian Securities and Investment Commission and Fair Work Australia) are established by government to oversee and enforce laws.



Source 22.26 Australia requires tobacco products to be sold in plain packaging to discourage people from smoking. The packaging includes only text and health warnings.

Fiscal policy intervention

Every year the Australian government outlines how much it intends to collect in revenue, like taxes, and how it intends to spend this money (the budget). If the government spends more than it collects in revenue, there is a budget deficit. When the government collects more than it spends, there is a budget surplus. A budget deficit has the effect of putting money into people's pockets, so spending increases. This stimulates the economy. Governments do this when unemployment is rising and spending is low. But when the prices are rising (inflation) a government will often choose to have a budget surplus. This takes money out of circulation and slows the economy, reducing demand for goods and services. Governments use their budgets (**fiscal policy**) in order to keep the economy running smoothly.

fiscal policy a policy which deals with the budget

22.7 The role and importance of the private sector

Most of the economic activity that creates profits and provides income within Australia comes from the private sector. We largely depend on privately owned businesses and corporations to maintain high living standards in Australia. Large corporations, in particular, create most production, income and spending in the Australian economy. A healthy Australian economy depends greatly on private sector organisations being profitable.



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The economic contribution of private sector organisations to the Australian economy

Corporation name	Industry sector	Full-time employees
Wesfarmers	Diversified/retail	200000
Woolworths	Retail	190000
BHP Billiton	Mining/resources	100000
Rio Tinto	Mining/resources	67930
ANZ	Banking/financial services	46138
Commonwealth Bank	Banking/financial services	45810
Spotless	Business services	40000
Telstra	Wireless communications	36472
Westpac	Banking/financial services	33756
QANTAS	Major airline	33439

Source 22.27 The 10 largest Australian private sector workforces

DEVELOPING YOUR UNDERSTANDING 22.6

Ford Australia announced on 23 May 2013 that it would close its Australian manufacturing plants in Geelong and Broadmeadows in October 2016. Twelve hundred Ford workers are to lose their jobs. The company had lost $141 million over the 2011–12 financial year, taking losses over the past 5 years to more than $600 million.

Ford claimed that the costs of producing a car in Australia were double that of Europe and nearly four times the costs in Asia.

Ford says it will continue to employ more than 1500 people in Australia in research and development and dealerships after 2016.

The Australian Manufacturers Workers Union (AMWU) said it feared more jobs would be lost as the knock-on effect from the plant closures flowed on into the wider auto parts industry. Workers were devastated by the news. Union officials are concerned that the closure of the Ford plants will result in thousands of workers employed making component parts for Ford losing their jobs.

Last year [2012] the federal government paid Ford a subsidy to ensure that they remained in Australia until 2016. Then Prime Minister Gillard said that the federal and Victorian governments would contribute $39 million to help the Geelong and Broadmeadows communities deal with the job losses.

In April 2013 Ford's chief rival Holden announced it was cutting 500 jobs in South Australia and Victoria because of falling sales and high costs of production in Australia.

Ford is currently the third largest car-maker in Australia, with more than 3000 employees.

Source 22.28 Ford Australia announced it would close the Broadmeadows and Geelong plants, with the loss of 1200 jobs.

(continued)

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1 Explain the announcement made by Ford Australia on 23 May 2013.
2 Identify the reasons given by Ford for taking this action.
3 Recall how many Ford employees stand to lose their jobs.
4 Describe the possible effects the job losses could have on each of the following. (Justify your answer.)
   a a hotel in Geelong
   b a windscreen manufacturer that supplies to Ford located in South Australia
   c Australian unemployment figures
   d sponsorship of sporting clubs in Geelong and Melbourne
   e consumer demand for Ford cars
5 Suggest one business that may benefit from the closure of the Ford in Australia. (Justify your answer.)
6 Discuss the effects this decision is likely to have on:
   a the Geelong and Broadmeadows communities
   b the Australian economy.

22.8 How consumers are affected by the actions of business

Decisions and actions taken by business affect not only our living standards but also consumer choices. Behaving in a socially responsible and ethical manner is important for all modern business organisations. Because of the significant influence private sector organisations have on the community, there is a great deal of pressure for businesses to behave in an ethical and socially responsible ways.

Many businesses measure their performance by looking at three areas:

1 economic performance: how much profit is made
2 social performance: how much they contribute to the wellbeing of the community and act as good corporate citizens
3 environmental performance: how much they contribute to **environmental sustainability** by preserving the natural environment and adopting sustainable behaviours.

environmental sustainability the management of the world's environment to meet the needs of the present population without reducing the capacity of future generations to meet their needs

Economics and business fact

Tourism is a big part of the economy in Asia, but tourism takes its toll on the environment and communities. Ecotourism is a new practice being adopted by many businesses involved in tourism. Some examples include eco-lodges and ethical tour companies.



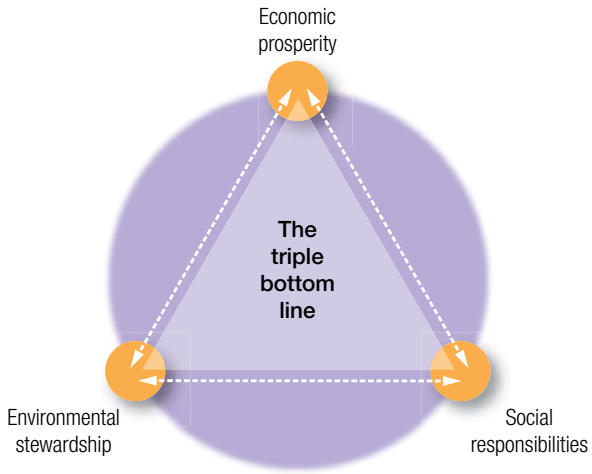
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Source 22.29 Jetwing Vil Uyana, an eco-lodge in Sri Lanka built on human-made wetlands

triple bottom line reporting (TBL) the reporting of business performance in three areas: social, economic and environmental

This is known as **triple bottom line reporting** (TBL). TBL reporting is based on the idea that a business has a responsibility to the whole community for its actions and the effects of their products. No longer is it considered enough to simply look to make a profit for shareholders. Socially responsible and ethical behaviours are also expected.



Source 22.30 Triple bottom line reporting is based on the idea that a business has a responsibility to the whole community for its actions and the effects of its products.

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Modern business organisations are expected to act in an ethical and socially responsibility manner. This is for several reasons:

- Consumers are more educated and aware of social and environmental issues. Businesses who act in socially irresponsible ways often receive negative publicity in the media. This results in a bad reputation, affecting sales and profits.
- Governments pass laws, such as environmental laws. If businesses ignore these, they may be prosecuted.
- People who invest in businesses are increasingly looking to invest in socially responsible and ethical businesses.

Consequently, businesses are often involved in activities that give back to the community. They do this in many ways, including:

- donations to disaster relief and charitable causes
- funding charitable institutions (for example, McDonald's funds Ronald McDonald House, which provides accommodation to families of children undergoing treatment at major hospitals).

These are examples of philanthropic support and how large corporates are trying to be socially responsible. While the costs associated with supporting philanthropic activities and community sponsorships are significant, most business see them as investments. A reputation for social responsibility means a business will gain **goodwill** in the community. This results in increased sales as consumers prefer to buy from businesses with a good reputation.

goodwill reputation within the community



Source 22.31 Dreamworld sponsors a number of not-for-profit organisations, including Camp Quality and Paradise Kids.

RESEARCH 22.3

1 Research one Australian and one overseas company's social responsibility commitments. Describe the programs either funded or run by the company under the following headings:
   - community assistance
   - environment and sustainability
   - business ethics.

   Here are some suggestions. Visit their websites at www.cambridge.edu.au/hass8weblinks.
   - NAB
   - McDonald's
   - Wesfarmers
   - Linfox

2 Why do you think the business you investigated has invested in these programs? Justify your answers in a short essay that summarises your findings.

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Reflecting and consolidating

Chapter summary

- Economics is the study of wealth creation through the use and distribution of scarce economic resources.
- Economic resources are limited or scarce. Economic decisions must be made about how these resources will be used and distributed.
- Economic decisions involve deciding what to produce, how to produce it and who will receive the finished products.
- Australia's is a mixed economy where the government feels the need to intervene and alter how economic resources are used and distributed.
- Government intervene in order to:
  - provide essential public goods
  - create a more equal distribution of wealth
  - avoid severe economic downturn.
- Governments intervene by passing laws, through fiscal policy and through the provision of public goods.
- Private sector organisations make a large contribution to the Australian economy.
- The community demands ethical and socially responsible behaviours from business organisations.

Short-answer questions

1. List all the economic resources required for you to spend a day at school learning.
2. Summarise why Australia is defined as a mixed market economy.
3. Outline the reasons why the Australian government intervenes in the economy.
4. List five products provided by the public sector. Explain why the public sector provides these products.
5. Describe two key features of a planned economy.

Extended-response question

Explain how the economic problem of scarcity affects each of the following:

- you and your family
- an AFL or NFL team
- how you decide to spend your weekend.



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23 Traditional economic systems of Aboriginal and Torres Strait Islander communities

Before you start

Main focus

Prior to 1788 Australian Aboriginal and Torres Strait Islander communities operated within an economic system that was based on sustainable use of the land and its resources. Trade was an important aspect of this. The hunter-gather model enabled these societies to successfully exist for tens of thousands of years without damaging the environment.

Why it's relevant to us

It is important to understand how traditional societies managed their economic resources and made economic decisions while at the same time preserving the environment.

Inquiry questions

- What economic system was used by Aboriginal and Torres Strait Islander peoples prior to European settlement?
- What was the extent of trading patterns?
- What benefits were attached to trade?
- In what ways do modern-day Aboriginal and Torres Strait Islander peoples utilise their cultural knowledge for economic benefit?

Key terms

- Barter
- Capital item
- Environmental sustainability
- Hunter-gatherer
- Subsistence economic system
- Trade
- Trade route

Let's begin

Aboriginal and Torres Strait Islander peoples operated within an economic system that was environmentally sustainable. Consequently, their lifestyle survived unchanged for thousands of years. Upon their arrival in 1788, Europeans did not understand the indigenous economic system. Trade between kinship groups was extensive, and encouraged social contact and sharing of ideas and beliefs.

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23.1 Traditional Aboriginal and Torres Strait Islander economic models

Before 1788, Aboriginal and Torres Strait Islander peoples operated a distinct and successful economic system based on a strong relationship with the land. Economic resources were extracted from the environment in a manner that was both **environmentally sustainable** and enabled Aboriginal and Torres Strait Islander societies to successfully survive for future generations.

environmental sustainability the management of the world's environment to meet the needs of the present population without reducing the capacity of future generations to meet their needs

Australia's economic history pre-1788

Aboriginal and Torres Strait Islander peoples lived within a **traditional**, **subsistence economic system**, or **hunter-gatherer** society. Hunter-gatherer societies obtained almost all of their food from foraging for wild plants and hunting animals. Until 12 000 years ago, before the development of agriculture, all humans operated within a hunter-gatherer economy.

Hunter-gather societies were nomadic. Their movements were based on the local climate and seasonal conditions as a way of satisfying their economic needs and wants. Groups were usually based on kinship. Their possessions were generally limited to what they could carry, and food could not be stored and taken with them as they travelled. Aboriginal and Torres Strait Islander peoples did, however, trade durable items such as weapons, and valuables such as ochre and economic knowledge with one another.

traditional a system or method of doing something established and used by elders in the past and then carried on by successive generations

subsistence economic system an economic system that relies on natural resources to provide for basic needs, through hunting, gathering and subsistence agriculture

hunter-gatherer person subsisting in the wild on food obtained by hunting and foraging



Source 23.1 Traditional Aboriginal and Torres Strait Islander economies were environmentally sustainable.

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Land

While there were differences in culture, customs and language between regions of Australia, generally Aboriginal and Torres Strait Islander peoples lived in small kinship groups. Each group, or band, had a 'range' or area of land within which they used the economic resources. Each group had an intimate knowledge of its own range, its flora and fauna and seasons, and what resources were available and when. The size of a range depended on the type of vegetation and types and amounts of resources within it, plus the availability of water. Groups in desert areas, for example, required a much larger range than those that lived in more arable areas like tropical Queensland.

A range in eastern and coastal areas might have only been 2.5 square kilometres per person, whereas in the more arid and less fertile desert areas of central Australia a range was often up to 250 square kilometres per person. Groups that lived in more fertile areas, such as Victoria, were often able to settle permanently. There is evidence of this in western Victoria, where stone huts were built as permanent shelters.

Each Aboriginal and Torres Strait Islander band would move around within its range on a seasonal basis, accessing plants and animals when they came into season. During most years a band would be able to meet its needs within its own range. During times of drought or flood, however, it would often be required to move into the range of a neighbouring band to survive. Though this often caused conflict between groups, it also created a need to maintain bonds with neighbouring bands through intermarriage, sharing of resources, joint rituals and ceremonies, and trade. A lack of food preservation techniques, and therefore the ability to store food, meant there was only limited trade in foodstuffs.

Labour

Women gathered plants, roots, fruit, nuts, shellfish and small land animals. Adult males had responsibility for hunting large land mammals like kangaroo. The experience and knowledge of older band members in plant recognition and use, and hunting and food preparation techniques was highly valued. All knowledge was transferred by word of mouth and could not be permanently recorded in writing.

Capital

Band members owned few durable **capital items** and were limited to what they could carry. Simple tools such as stone axes, boomerangs,

capital item a useful tool, weapon or other implement that can be kept and reused





Source 23.2 The traditional Aboriginal and Torres Strait Islander economy was a hunter-gatherer model.

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Source 23.3 Capital items were traded between Aboriginal and Torres Strait Islander groups.

hunting tools and fish nets were produced. Some items of religious significance were kept. These were traded between groups.

Distribution and use of economic resources

Resources such as food and capital items were shared among kinship groups. Those responsible for hunting and gathering food and other resources then distributed or shared these with the kinship group.

The nomadic lifestyle meant people did not accumulate personal wealth or property. There was an emphasis on sharing economic resources, with economic decisions being made with the interests of the whole group in mind. Important decisions were made by consensus. There was minimal waste as resources were only used as needed because they could not be stored or transported. Capital items such as spears, stone axes, boomerangs, fishing nets, digging sticks, dilly bags, and mortar and pestles were valued as possessions of the whole group.

The pre-1788 economic system was in harmony with the ecosystem. Aboriginal and Torres Strait Islander peoples did not simply coexist with the environment but worked sustainably with it for many thousands of years. Consequently, they have a strong spiritual connection with the land.



Source 23.4 The Aboriginal and Torres Strait Islander economy was based on sharing economic resources among a kinship group.

Trade

Aboriginal and Torres Strait Islander peoples **traded** durable capital items between kinship groups extensively. A series of overland pathways that intersected and crossed Australia served as **trade routes**. Significant sites such as watering holes and rivers became points where trade regularly occurred. These trade routes extended all over Australia; even people from Indonesia and Papua New Guinea were believed to trade within this system. Trade between neighbouring clans created social interaction.

trade to exchange (something) for something else

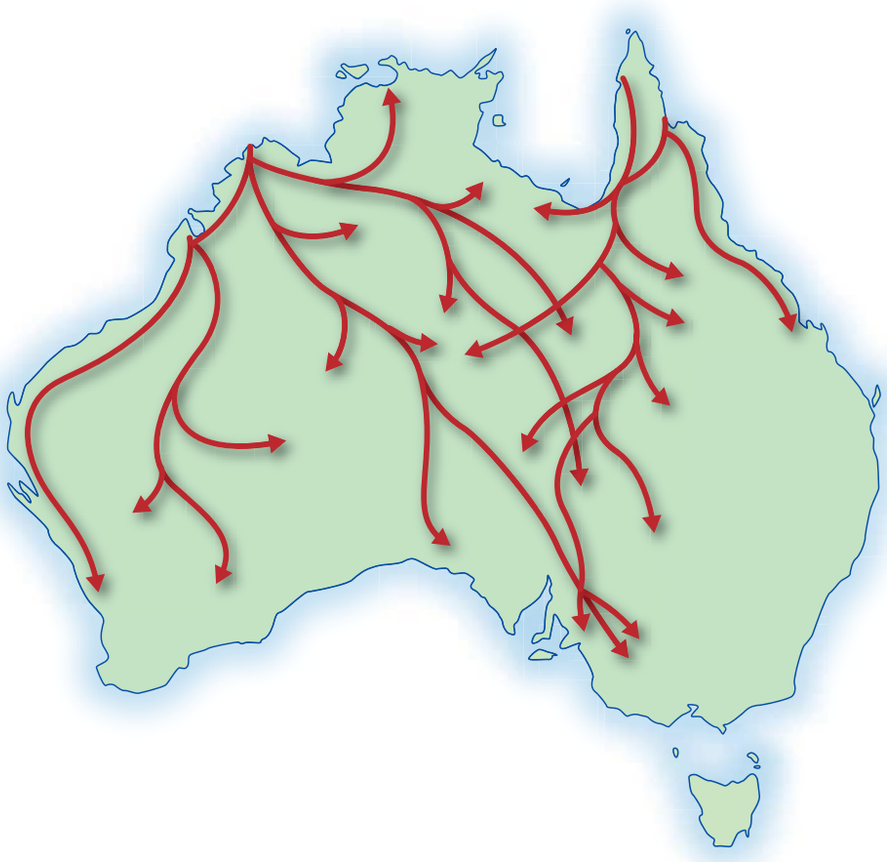
trade route a planned path used for the transport of goods

What was traded?

Valuable and scarce objects and resources were **bartered** between groups. Items that could only be obtained from one geographical area have been shown to have travelled via these trading routes from one end of Australia to the other. The rare melon shell from the east coast of Cape York, for example, is known to have been traded right down into South Australia. Similarly, a valuable type of ochre used for painting and body art, which is known to have been mined in the Flinders Ranges in South Australia, was traded north right into central Queensland. Stone spearheads and baler shells have also been found to have often travelled huge distances through trade.

barter trade based on exchanging goods and services with no money used

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Source 23.5 This map shows the trade routes for pearl and baler shells.

The trade routes across Australia were important to Aboriginal and Torres Strait Islander peoples' social, spiritual and economic life. Each trade route had a series of exchange posts along the way where neighbouring tribes bartered items. But trade was not simply a way of getting something you did not have. It was also a way of meeting with other groups and sharing Dreaming stories, as well as exchanging gifts, knowledge and technologies. Important ideas, stories, news and rituals were also exchanged at these gathering points. Similarly, differences were settled and friendships established, as well as inter-band marriages performed. Combined ceremonies were also held. In this way bonds were established and maintained.

Economics and business fact

Ochre is a natural earth pigment used by Aboriginal and Torres Strait Islander peoples for thousands of years. They believe ochre has spiritual power that is released through ceremonial ritual. Red ochre is considered sacred. Ochre was very valuable and traded extensively.

Mining

There is considerable evidence to show that Aboriginal and Torres Strait Islander peoples were mining for ochre and stone for more than 40 000 years before Europeans arrived. They mined stone to make tools, and ochre was also mined and traded extensively. Areas with high-quality deposits of ochre and/or stone were mined extensively. Archaeologists have found large mining operations were established in areas with high-quality deposits of ochre in South Australia and Western Australia, and stone around Mount Isa. These goods have been found to have been traded far beyond their place of origin.

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There are 416 verified Indigenous mine sites in eastern Australia. In New South Wales alone there are 144 stone and 17 ochre mines. The Wilgie Mai ochre mine near Geraldton in Western Australia had a mining face of 15 to 30 metres and was up to 20 metres deep. Several thousand tonnes of rock were removed. Ochre from this mine has been found as far away as Queensland.

Economics and business fact

In the heart of the Weld Range hills in Western Australia's mid-west lies the Indigenous site of Wilgie Mia, where extraordinarily bright red ochre has been mined from deep below the surface of the ground for thousands of years.

Traditional Australians in a modern economy

Europeans, who settled in Australia after 1788, brought with them a very different set of attitudes and values about how economic decisions should be made from that of Aboriginal and Torres Strait Islander peoples. Europeans failed to under-stand the unique relationship Aboriginal and Torres Strait Islander peoples had with the land. Nor did they appreciate that their economic system had enabled them to coexist with the environment in a sustainable way for tens of thousands of years.

In recent years, with a growing awareness of just how much damage has been done to the Australian environment through European farming, mining and land-clearing practices, there is a growing interest in learning more about the sustainable land use practices used by Aboriginal and Torres Strait Islander peoples. This has meant that Aboriginal and Torres Strait Islander communities in contemporary Australia are often able to utilise their traditional lifestyle practices in order to participate in the market economy. Indigenous art and cultural tourism industries are examples.

Indigenous art



Source 23.6 Helicopter Tjungarrayi, a leading Balgo artist, in his country

Australian Indigenous art is eagerly sought by buyers. The market for Indigenous artists' work has expanded significantly. It is estimated that approximately $200 million worth of Australian Indigenous artwork is sold each year. Several galleries in Europe have permanent exhibitions of Australian Indigenous artworks. The La Grange Museum in Switzerland is totally dedicated to Australian Indigenous art.

DEVELOPING YOUR UNDERSTANDING 23.1

Visit the Aboriginal Art Directory website by following the link at www.cambridge.edu.au/hass8weblinks and use the site to find names of Indigenous artists.

1. Select two and find two examples of their artwork.
2. Discuss the artwork you have selected. Does it represent anything you are familiar with?
3. Explain why you selected these artworks.
4. List five facts about each of the artists.

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Cultural tourism

The extensive cultural and environmental knowledge existing in Aboriginal and Torres Strait Islander communities is important to the growing market for cultural tourism. Many Aboriginal and Torres Strait Islander communities now run successful enterprises based on showing tourists important aspects of their traditional lives. The internationally renowned Uluru-Kata Tjuta National Park is Indigenous land, jointly managed by its traditional owners Anangu and Parks Australia.



Source 23.7 Uluru is jointly managed.

DEVELOPING YOUR UNDERSTANDING 23.2

When I was young, my family lived in the bush on cattle stations where there were no vehicles or shops. We moved about from place to place following our cultural seasonal patterns.

Whilst visiting family in Darwin I attended school, on and off, until 1972. I then took up a carpentry trade and was employed building houses in an Aboriginal community known as Bagot Reserve until the cyclone hit in 1974. Cyclone Tracy had a huge impact on my family and meant I had to move on to doing something else.

I left Darwin and worked on various cattle stations in the Northern Territory. I then moved to Croker Island, where my father's family lived, and gained work as a butcher.

When Kakadu National Park was declared in 1979 I was recruited along with four other Aboriginals as a trainee ranger. I worked all over Kakadu before settling down to

(continued)

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work on the country of my mother's father and uncles in the South Alligator district. I was awarded an APS Medallion for outstanding service before I left the government in 2007.

In 2008 I established Ayal Aboriginal Tours Kakadu and commenced interpreting our culture to visitors from all over the world.

My other roles in the community, past and present, include Chair of the Aboriginal Kakadu Region Impact Study Committee, Chair of Housing Infrastructure groups, Public Officer of Minitja Aboriginal Corporation and member of the Kakadu Board of Management representing the Minitja clan group.

Source 23.8 The biography of Victor Cooper

1. Identify the experiences and skills Victor Cooper might use as the operator of Ayal Aboriginal tours.
2. Construct a timeline depicting important stages in Cooper's working life.
3. Explain how Cooper is able to utilise his understanding of traditional Aboriginal life in order to successfully participate in contemporary Australia's economy.

RESEARCH 23.1

1. Follow the links at www.cambridge.edu.au/hass8weblinks to research two examples of Australian Aboriginal ecotourism and then prepare the following:
   - **a** a map showing the location of the ecotourism venture
   - **b** a brief description of the services and experiences offered
   - **c** what a tourist might gain from a visit
   - **d** costs
   - **e** facts about the people who operate the ecotourism venture.
2. Present your findings to the class



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Reflecting and consolidating

Chapter summary

- Environmental sustainability and a spiritual link to the land were intrinsic to the hunter-gatherer economic system of Aboriginal and Torres Strait Islander peoples.
- Trade in valuable objects and cultural knowledge was a significant aspect of the Aboriginal economy and cultural life.
- There is evidence that Aboriginal and Torres Strait Islander peoples were involved in extensive mining of ochre and stone.
- Some modern-day Indigenous Australians are able to utilise their unique skills and knowledge for economic reward.

Short-answer questions

1. Explain what trade is. What benefits did trade provide to traditional Aboriginal and Torres Strait Islander peoples?
2. List and describe three things traded by Aboriginal and Torres Strait Islander peoples.
3. What evidence exists to indicate that the trade routes of Aboriginal and Torres Strait Islander peoples were large enough to extend across the entire continent?
4. List and describe five aspects of the hunter-gatherer economic model that differ from a modern market economy.
5. Give two examples of cultural tourism operating in Australia. Explain why a tourist might wish to visit each.

Extended-response question

Discuss the following statement in approximately 500 words:

> In the twenty-first century we still have much to learn from the economic system of Aboriginal and Torres Strait Islander peoples.



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24

Rights and responsibilities in the Australian economy

Before you start

Main focus

There are many elements to goods and services. One important element is the terms and conditions that affect both the producer and consumer, and therefore influence how consumers and businesses behave. These terms and conditions include fees, penalties, warranties, returns and legal protection. This chapter examines the rights and responsibilities of producers and consumers in Australia and how these influence the behaviour of businesses and consumers.

Why it's relevant to us

It is important to be aware of consumer and business rights and responsibilities in order to participate effectively in the economy. Knowledge encourages ethical business practices and smart consumer decisions.

Inquiry questions

- What laws exist to protect consumers?
- What laws exist to regulate consumer behaviour?
- What rights do we have as consumers?
- How can we act to protect those rights?

Key terms

- 10-day cooling off period
- Australian Consumer law
- Coercion
- Consumer guarantee
- Contract
- Durable
- False and misleading representation
- Harassment
- Product recall
- Scam
- Unethical behaviour
- Warranty

Let's begin

As citizens in a democracy Australian consumers and producers have rights and responsibilities. Self-interest and greed motivate many people. Sometimes producers and consumers act in ways that are not in the best interests of society. Groups of people may be exploited and taken advantage of by other less-scrupulous people who act unethically or in a socially irresponsible manner. Laws are required to ensure that the self-interest of some is not given priority over the best interests of society.

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24.1 Government regulation

In a market economy, producers focus on making profit. Sometimes, in the pursuit of profit, people resort to heavy-handed or **unethical behaviour**. Examples of unethical behaviour include:

unethical behaviour not doing what is considered morally right

- misleading or deceiving consumers by promising a product of higher quality than it actually is
- using false or misleading advertising, causing consumers to believe something untrue or exaggerated
- unfairly eliminating competitors from the market (for example, large firms selling products below cost price so smaller competitors cannot compete)
- selling a product at a higher price to some consumers than others
- scamming consumers to pay for products that do not exist or are different from those advertised
- producing products in a manner that may inconvenience or offend the public (for example, damaging the environment or not acting in an ethical way).

DEVELOPING YOUR UNDERSTANDING 24.1

1 Explain why each of the following examples could be considered unethical behaviour:

- **a** A building site commences work at 5 a.m. Nearby residents are woken.
- **b** A used-car salesperson fails to tell a customer that a vehicle for sale has been in a major accident.
- **c** A customer who purchases an item online receives a product that is different from the description originally given.

2 For each of the above examples discuss whether you believe the law should intervene and how it should do this.



Source 24.1 Sometimes businesses resort to heavy-handed or unethical behaviour (e.g. illegal logging) in the pursuit of profit. Governments pass laws to limit or restrict unethical and socially irresponsible behaviours.

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Government legislates (passes laws) to limit or restrict unethical and socially irresponsible behaviours such as:

- misleading or deceiving consumers (consumer protection laws)
- behaving in ways considered to be 'uncompetitive' (competition laws)
- polluting the environment (environmental laws)
- overusing natural resources (environmental laws)
- exploiting workers (employee relations laws)
- producing products in an unsafe or unhealthy manner (occupational health and safety laws)
- copying or imitating the products or image of another business or person (intellectual property laws).

24.2 Consumer behaviour requiring government regulation

Consumers aim for maximum personal satisfaction. As a result, some individuals will buy products without regard to their negative effects on others. Examples are:

- the purchase of harmful products like illicit drugs and alcohol – these have a negative effect on general health and wellbeing, as well as other costs such as causing people to die in road accidents
- products that damage the environment
- being unprepared to spend enough on public products such as education and public parks – these services provide benefits to the individual consumers as well as society and some consumers are only willing to pay for an individual benefit (a 'user pays' mentality)
- being unprepared to pay for public products in the best interests of the nation, such as social security, a national defence force and prisons.

Governments legislate to compel citizens to not participate in such behaviours; for example:

- laws restricting access to or banning certain products deemed to be socially undesirable (such as anti-drug laws)
- compulsory taxation designed to ensure that all citizens contribute to public goods such as education, a police force and national parks.

Economics and business fact

Some auction sites give you an option to buy immediately without having to bid. If you choose to buy immediately you will retain all your usual shopping rights, unless the seller is a private individual and it is a one-off sale.



Source 24.2 Consumers aim for maximum personal satisfaction. As a result, some individuals will buy products without regard to their negative effects on others. Governments legislate to compel citizens to not participate in such behaviours.

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24.3 Consumer protection laws

Consumer laws are designed to protect consumers from exploitation by unscrupulous suppliers and producers. When purchasing goods or services it is important to be aware of your rights as an Australian consumer.

Protecting the Australian consumer

Australian Consumer Law

Australian Consumer Law a national law designed to protect Australian consumers

contract a legally enforceable agreement

On 1 January 2011 a national law was introduced to protect Australian consumers. The **Australian Consumer Law** (ACL) replaced more than 20 state laws and established:

- national standards for consumer **contracts** so all Australian consumers have the same level of protection from exploitation
- national law guaranteeing Australian consumer rights when shopping
- a national product safety law and an enforcement system
- national law to control unsolicited agreements, such as door-to-door sales and telephone sales
- simple rules covering lay-by agreements
- new penalty and enforcement powers.

The ACL has made it much simpler to resolve issues when purchasing goods and services. All Australian consumers now have the same rights no matter where they live, where they purchase goods and services, or where a supplier is located.

It is administered by the Australian Competition and Consumer Commission (ACCC), and state and territory consumer protection agencies.

24.4 Rights of the Australian consumer

Consumer guarantees

consumer guarantee a guarantee for rights to repair, replacements or refunds under the ACL if the goods or services bought are found to not do certain specified things

The Australian Consumer Law covers goods and services purchased up to the value of $40 000 for domestic, household or personal use. Consumers are guaranteed rights to repair, replacements or refunds under the ACL if the goods or services bought are found to not:

- be of acceptable quality; this means the product must be able to:
  - be used for the purpose that it was intended (for its disclosed purpose)
  - match the description given before sale
  - have an acceptable finish and appearance
  - be free from defects (except where the supplier has informed the purchaser about defects before purchase)
  - be safe to use
  - match sample or demonstration models
  - have available repairs and spare parts
  - be **durable**.

durable able to be used more than once

Services must be:

- performed with due care and skill
- fit for the purpose intended: the service must do what it was supposed to do and achieve promised results
- completed in reasonable time.

When a product fails to meet its guarantee, a consumer has the right to a remedy. This means that things need to be put right. A remedy could be one of the following:

- repair: the product might be fixed or service redone
- replacement: a new product is provided
- a cash refund.

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Source 24.3 Goods must be of acceptable quality and be safe to use.

DEVELOPING YOUR UNDERSTANDING 24.2

Discuss why each of the following customers would be entitled a remedy under ACL.

1. A customer purchases a drink that claims to be 100% orange juice. The product is 50% apple juice.
2. A plumber repairs a toilet that starts leaking again after three days.
3. A builder takes three years to complete a job.
4. Bob purchases a car the salesperson claims has done 10 000 km. He later finds evidence that the car has in fact done 45 000 km.

RESEARCH 24.1

Use the Australian Competition and Consumer Commission website (see www.cambridge.edu.au/hass8weblinks) to prepare a presentation entitled 'Guarantees, warranties and the Australian consumer'. In your presentation you should include:

- when you can claim a remedy as a consumer
- how to claim a refund, replacement or repair
- how to go about claiming a remedy.

warranty an agreement that outlines the conditions under which a consumer is entitled to have a purchase repaired or replaced

Types of warranties

A **warranty** is an agreement that outlines the conditions under which a consumer is entitled to have a purchase repaired or replaced.

Warranty against defects (manufacturer's warranty)

This type of warranty aims to ensure that goods and services are free from defects (breaking down) for a certain period of time. If the product breaks

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during the period of the warranty the purchaser is entitled to repair, replacement or a refund. For example, if purchasing an electrical item you usually receive a warranty of between six and 12 months. If the product breaks during that period you are entitled to a replacement, repair or refund.

Express warranties

Express warranties are extra promises made by a manufacturer and supplier on top of what is guaranteed under ACL.

Extended warranties

An extended warranty offers an extension of the time over which the product is to be covered by the warranty in return for a fee. It is usually offered when you purchase an item. The seller must not pressure a consumer into purchasing an extended warranty. It is optional.



Source 24.4 There are different types of warranties: warranties against defects, express warranties and extended warranties.

Returning products

A consumer is entitled to ask for a refund or exchange when the product:

- does not work in the way it was supposed to
- does not look the way it is supposed to
- is broken or faulty
- is unsafe.

A consumer is not entitled to a refund or exchange simply because they changed their mind. (Some individual stores do, however, have a policy of exchanging or refunding, but this is not obligatory.) The same applies when making a purchase online.

In general you will not be entitled to a refund or exchange if you:

- have simply changed your mind about the purchase
- ordered the wrong item
- found the item cheaper elsewhere
- were aware of the fault in an item beforehand
- caused the fault in or damage to the item due to misuse.



Source 24.5 A consumer is entitled to ask for a refund or exchange if the newly purchased product is broken or faulty.

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Source 24.6 A consumer is not entitled to a refund or exchange simply because they changed their mind.

The purchaser is responsible for paying costs associated with the return of the goods.

Product recalls

The ACL states that if a product might reasonably lead to injury to the public through its use, or even misuse, it must be withdrawn from sale. A compulsory recall notice will be issued and consumers who have bought the products contacted. The faulty product may be replaced or repaired, or its cost may be refunded. The reasons for the **product recall** must be publicly disclosed.

product recall when a batch of faulty products is compulsorily returned

DEVELOPING YOUR UNDERSTANDING 24.3

Visit the Product Safety Recalls Australia website (via www.cambridge.edu.au/hass8weblinks). Locate and name three products that have been recalled during the past three months. For each product, complete the following tasks.

1. Name and describe the product.
2. Describe why the products have been recalled.
3. List the potential dangers each product poses to a consumer.
4. Identify what instructions are given to consumers in the recall notice.



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Harassment and coercion

The ACL protects consumers against unethical and high-pressure sales practices, such as **harassment** and **coercion**.

harassment the act of annoying repeatedly

coercion the act of forcibly persuading

A salesperson must not act unconscionably when supplying or selling products to a consumer. Door-to-door and telemarketing sales (direct sales and unsolicited sales) are restricted in the hours they are legally allowed to operate. A consumer may be contacted only between 9 a.m. and 6 p.m. Monday to Friday and 9 a.m. and 5 p.m. on Saturdays.



Source 24.7 Telemarketing sales are restricted in the hours they are legally allowed to operate.

10-day cooling off period a 10-day time period in which consumers are entitled to change their mind about the purchase

Consumers are also entitled to a **10-day cooling off period** after making a purchase from a direct sale. During this period they are entitled to change their mind about the purchase. Consumers are entitled to a copy of any agreement made.

Misleading and deceptive conduct

A seller may not make false and misleading representations to a consumer, meaning they must not lie or exaggerate the quality, benefits, warranty, possible uses or prices of the products they are selling.

For example, a consumer goes to a hair loss clinic where a salesperson assures him they will restore his hair with real natural hair, not a wig. The consumer asks questions about the treatment and expected results, and pays $4000 deposit. When later the 'restored' head of hair proves to be a wig stuck to his head, the consumer is entitled to a refund, because the supplier made a **false and misleading representation**. The service offered was not what he received.

false and misleading representation to lie or exaggerate about the features or benefits offered by a product being sold

Sometimes advertising and promotions fall into the category of misleading or deceptive conduct. For example, a tactic known as 'bait and switch' advertising is illegal. This occurs when a business advertises products at a certain price, but does not have a reasonable supply for customers to buy. Once customers are in the store and sale stock has run out, pressure is exerted to buy a more expensive item instead. During a sale, a seller has a responsibility to make sure that they stock a reasonable amount of the advertised products for the period advertised. Customers must be informed if the offer is limited or only running for a short period.



Source 24.8 During a sale a seller has a responsibility to make sure that they stock a reasonable amount of the advertised products for the period advertised.

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Source 24.9 Bait advertising is a form of deceptive and misleading conduct.

Bait advertising is misleading tactic used to draw customers into the store or to use the business. It involves promoting a certain product or service that is not available to gain the attention of the customer. For example, a department store advertises a TV set at $500 (down from $2000) in a sale lasting a week. The retailer usually sells about 30 televisions of this type weekly. The retailer only stocks two televisions at the advertised price and refuses to take customer orders. When customers attempt to buy the television at the advertised price, they are told it is out of stock and offered a more expensive unit for $999. This is bait advertising because the retailer did not have a reasonable stock of the advertised product.

DEVELOPING YOUR UNDERSTANDING 24.4

A former licensed motor car trader has been convicted and fined $13 500 for breaching the Australian Consumer Law (Victoria) (ACL) and the *Motor Car Traders Act 1986*.

Mr Cowan's conduct included:

- Accepting payment and failing to supply (ACL). A consumer paid $3000 deposit on a Honda Prelude. He was advised that if he was unhappy with the car after a test drive and mechanic's inspection, he would get a full refund. The customer did not receive the vehicle, as agreed, for more than two weeks after he paid the deposit and when he sought a refund, only received $1400.
- Making a false or misleading representation (ACL). A customer paid Victory Auto Brokers $3900 to buy a Hyundai Excel GX Sedan after Mr Cowan told her that he would pay for 12 months' registration. He attached a registration sticker to the windscreen with an expiry date of 22 August 2012. In February 2012, the customer was stopped by police and told that she was driving an unregistered car. She made repeated unsuccessful attempts to resolve the issue with Mr Cowan, including visiting a Vic Roads office with him.
- Motorcar trading breaches. Mr Cowan sold a 2007 Honda Accord Sedan for $18 000 on behalf of someone who was not a licensed motor car trader and received $1000 commission for the sale. Mr Cowan gradually repaid $16 000 before the seller made a claim on Motor Car Traders Guarantee Fund in November 2011 to recover the outstanding money. Mr Cowan also failed to complete dealings book entries for 23 vehicles and provide documents required by a Consumer Affairs Victoria inspector, despite repeated requests and being served with an appropriate notice.

Source 24.10 Nigel Vivian Cowan was fined $10 000 for two breaches of the Australian Consumer Law (Victoria) and $3500 for three motor car trading offences.

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1 Identify the person who has been found guilty of breaching the ACL.
2 List the sections of the ACL that have been breached
3 Describe how each section has been breached. (What exactly did the trader do?)
4 What do you believe would be an appropriate punishment in this case? Justify your answer.

'Fake' price reductions

When an item is advertised as reduced, the consumer is entitled to know the original price and by how much it has been reduced. A seller cannot 'invent' a higher price to make a discount appear larger than it really is.

When an item contains two price tickets the seller must, by law, charge the consumer the lower price.



Source 24.11 When an item is advertised as reduced, the consumer is entitled to know the original price and by how much it has been reduced.

Contracts

Any agreement to buy or sell goods or services, whether it is written or spoken, is a contract. Both a purchaser and a seller have rights and responsibilities under contract law. Each needs to be sure that the other individual or business involved in the contract will perform their side of the bargain. For example, a contract ensures that the products sold will be of reasonable quality and fit for the purpose intended. The consumer is legally bound to pay the agreed price set out in the contract.

A sales contract must be set out in writing. A legal contract must have the features or elements described in the table over the page.



Source 24.12 A contract is an agreement to buy or sell goods or services.

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A legal object	Intention	Consideration
The purpose of the contract must be legal. For example, a contract to purchase stolen goods is not legally valid. Nor is an agreement to hire a hit man to kill someone, as murder is against the law.	Both parties who sign a contract must have intended or planned to enter into a legally binding contract with the other. Usually a business transaction is considered as an intention.	Both parties who sign a contract must in some way benefit from the contract. The benefit can be unequal, with one benefiting more than the other. Usually something is done, given or suffered in return for a promise. The exchange of money or work is called 'consideration'.
Capacity to contract	**Certainty of terms**	**Offer and acceptance**
Most people who are 18 years or older and of sound mind have a legal right to enter into a contract. A contract with a minor aged under 18 years, a person of unsound mind or a person who is legally bankrupt is generally not enforceable. Minors can enforce a contract against an adult.	Both parties to a contract must be able to carry out the terms of the contract and be clear about the terms of the contract.	One of the parties to a contract must offer something of value to the other, which is accepted by the other. For example, you may offer to sell another person your bicycle for $200. Then the other person agrees to pay $200 in exchange for the bicycle.



Source 24.13 Both the purchaser and the seller have rights and responsibilities under contract law.

Consumers are protected under the ACL from unfair contract terms.

Labelling of products

ACL ensures that products are labelled accurately. A label on a product must accurately reflect its content. It must state information so that the consumer knows exactly what they are buying

Economics and business fact

It is estimated that one in five people over the age of 65 years will be scammed online.

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and can make an informed decision. Labels must not be deceptive or misleading. For example, to be entitled to label a product as 'Made in Australia' the products must be 'substantially transformed in Australia' and 50% or more of the production be completed in Australia. A producer may be taken to court if they claim their product is 'Made in Australia', but the product is shown not to meet these two criteria.



Source 24.14 To be entitled to label a product as 'Made in Australia', the products must be 'substantially transformed in Australia' and 50% or more of the production be completed in Australia.

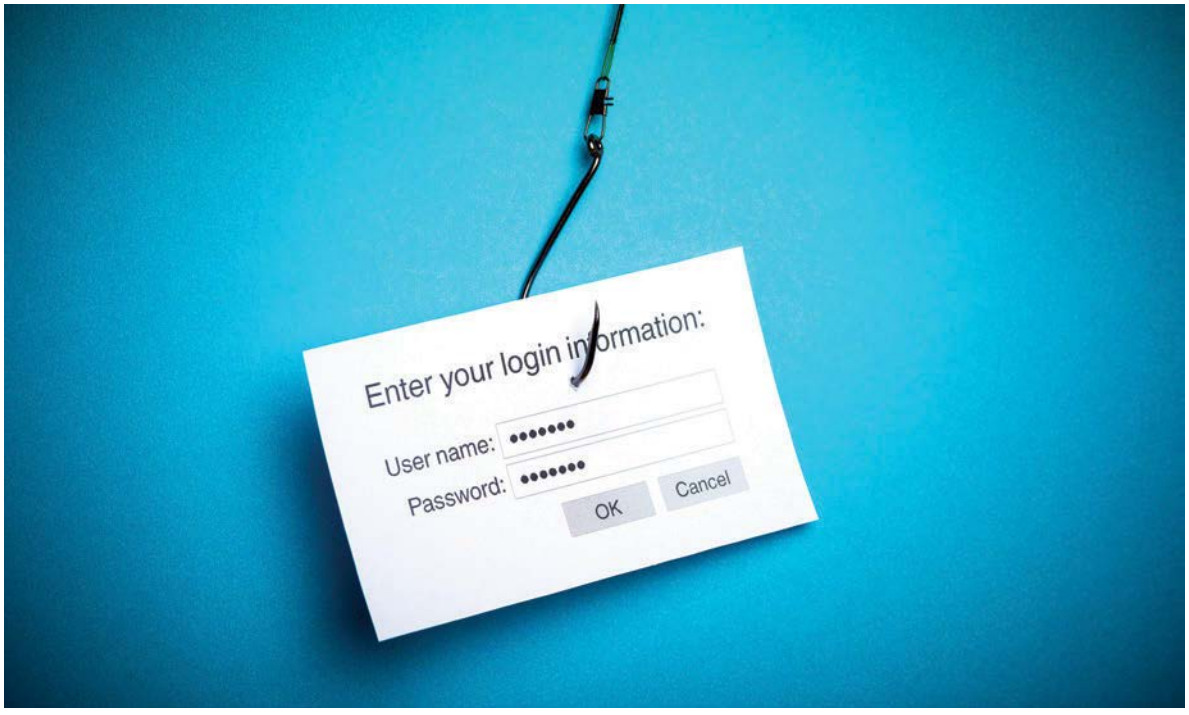
Scams

Consumers need to be wary about dishonest or fraudulent schemes known as scams. These schemes are illegal in Australia, but it is often difficult to prosecute scammers as many of the scams are done online from overseas locations. For this reason the ACCC has a website called SCAMwatch (see www.cambridge.edu.au/hass8weblinks), which informs consumers about potential scams.

Generally most **scams** need you to do something before they can work. You may send money to someone based on a promise that turns out to be false. You may give your personal details to people who turn out to be scammers. Some scams rely on you agreeing to deals without getting advice first or buying a product without checking it out properly. Examples of common scams include the following:

scam a dishonest or fraudulent scheme

- *Ringtone scams.* A consumer is offered a 'free' or low cost ring tone for their mobile phone. By accepting the offer, the consumer is actually subscribing to a service that will keep sending ring tones – and charging a premium rate for them. Scammers don't inform you that your request for the first ringtone is actually a



Source 24.15 Phishing scams trick consumers into handing over their personal and banking details to scammers.

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subscription to an expensive service. They also make it difficult for you to stop the service.

- *Phishing scams*. Consumers receive an email that appears to come from their bank. This is in reality all about tricking consumers into handing over their personal and banking details to the scammers. Special links are put into the email leading to a combination of genuine and spoofed websites.

Economics and business fact

Online dating websites are a popular tool for Australians and New Zealanders looking to find love. Sadly, cybercriminals are actively using dating sites as an opportunity to exploit the trust of would-be companions. As a result, people are having their bank accounts emptied and their hearts broken.

RESEARCH 24.2

Visit the SCAMwatch website (via www.cambridge.edu.au/hass8weblinks) and complete the following.

1 Locate and write a brief description of two different scams that consumers should be aware of.
2 Construct a list of 10 ways to avoid being a victim of a scam.

24.5 Accessing information and advice on consumer rights

Australian consumers are able to obtain advice and assistance about their rights from several different sources, including the following.

The Australian Competition and Consumer Commission (ACCC)

The ACCC was established by the federal government. The main responsibility of the ACCC (see www.cambridge.edu.au/hass8weblinks) is to make sure that individuals and businesses comply with competition, fair trading and consumer protection laws.

MoneySmart website

MoneySmart (see www.cambridge.edu.au/hass8weblinks) is a website run by the Australian Securities and Investments Commission and offers free advice on how to get the best use out of your money. The website covers topics like superannuation, banking, investing, borrowing and credit, insurance, budgeting, scams, retirement planning and how to access unclaimed money.

Personal Properties Securities Register

At this website (see www.cambridge.edu.au/hass8weblinks) a consumer can check that used goods they have purchased, such as a car or motorbike, have not been used as security for a loan by previous owners. If an item has been used as security for a loan it may be repossessed if the loan is not repaid.

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Product Safety Australia

This is a website (see www.cambridge.edu.au/hass8weblinks) consumers can go to find out information about unsafe products and product recalls.

SCAMwatch

This website (see www.cambridge.edu.au/hass8weblinks) is run by the Australian Securities and Investments Commission. It provides consumers with information about how to recognise, avoid and report scams.

State government authorities

Each state and territory government has a consumer protection agency responsible for dealing with consumer issues in that state or territory (refer to www.cambridge.edu.au/hass8weblinks for links to the website for each state and territory agency).

Australian Capital Territory	New South Wales	Northern Territory	Queensland
Office of Regulatory Services	NSW Fair Trading	Northern Territory Consumer Affairs	Office of Fair Trading
South Australia	**Tasmania**	**Victoria**	**Western Australia**
Consumer and Business Services	Consumer Affairs and Fair Trading	Consumer Affairs Victoria	Department of Commerce



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Reflecting and consolidating

Chapter summary

- Australian consumers and producers have both rights and responsibilities.
- In a market economy, producers focus on making profit. Sometimes, in the pursuit of profit, people resort to unethical behaviour, such as misleading or deceiving consumers, using false or misleading advertising, unfairly eliminating competitors from the market, selling a product at a higher price to some consumers than others, and scamming consumers to pay for products that do not exist or are different from those advertised.
- The government has passed laws to ensure that we live up to the rights and responsibilities of consumers and businesses.
- Consumer protection laws regulate the behaviours of consumers and producers in order to ensure that people are not exploited by others and rights are protected.
- A warranty is an agreement that outlines the conditions under which a consumer is entitled to have a purchase repaired or replaced.
- A consumer is not entitled to a refund or exchange simply because they changed their mind.
- Australian consumers are able to obtain advice and assistance about their rights from several different sources including the Australian Competition and Consumer Commission (ACCC).

Short-answer questions

1. Recall the different producer behaviours that require government regulation.
2. List all the features a legal contract must contain.
3. Explain the purpose of Australian Consumer Law.
4. Describe how a scam operates and provide an example.
5. Discuss the benefits of warranties.

Extended-response question

Design and construct a poster or pamphlet about your rights as a consumer. Your poster should explain:

- consumer guarantees
- warranties
- returns.



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25 Businesses and opportunities in Australia

Before you start

Main focus

There is more than one way to run a business. The way a business is run and the role of the owner vary depending on how they wish to be involved and what is most suitable for the business. Varying business ownerships allow for different opportunities in the market. This chapter identifies the different types of businesses and forms of business ownership, as well as the reasons for different business types and how these are influenced by opportunities and the market.

Why it's relevant to us

Small business is vital to the Australian economy. It is important to understand why businesses operate the way they do and what this does for Australia. Perhaps one day you would like to contribute to the Australian economy by owning your own business.

Inquiry questions

- Why are small businesses so important to the Australian economy?
- How can ownership of a business differ?
- What influences the way businesses respond to opportunities in the market?

Key terms

- Entrepreneur
- Franchise
- Incorporation
- Innovation
- Limited liability
- Partnership
- Privatisation
- Sole trader

Let's begin

Many Australians choose to work for themselves and become small business operators rather than employees. Consequently, small businesses are a vital component of the Australian economy. Establishing a business can be a hard task; however, if the owner understands the business opportunities and the market, their small business may turn to into a medium- or even large-sized business!

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25.1 The importance of small business to the Australian economy

small business a non-manufacturing business with fewer than 20 employees or a manufacturing small business that employs fewer than 200 employees

balance of payments total value of exports minus total value of imports

Small businesses are important job creators. Almost half of Australians employed by the non-government sector are small business employees. This helps employees generate an income and maintain wellbeing. One third of Australia's value of production (gross domestic product, or GDP) comes from small business. Taxes paid by small business and their employees allow government to provide Australians with things like roads, welfare payments and our defence force. Many small businesses also earn export income. This helps Australia's **balance of payments**.

Classifying businesses

There are several different ways a business can be classified or sorted into categories.

Micro business
- Fewer than five employees

Small business
- Fewer than 20 employees (non-manufacturing business)
- Fewer than 200 employees (manufacturing business)

Medium-size business
- Between 20 and 199 employees

Large-size business
- More than 200 employees

Number of employees

The Australian Bureau of Statistics (ABS) classifies business organisations according to employee numbers.



Legal structure

incorporated registered as a company

Privately owned businesses are either **incorporated** or unincorporated. Incorporated businesses are officially registered as a company. A company is recognised as legally separate from its owners and must abide by the *Corporations Act 2001* (Cth).

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Business activity

Businesses are also classified according to the type of products produced.



Primary industry business

Extract or grow raw materials from the environment

Examples: fishing, agriculture, mining



Secondary industry business

Construct goods using a production process

Example: factories



Tertiary/service sector business

Produce services (perform tasks) for payment

Example: retail, lawyer

Source 25.1 Businesses can be classified according to the activity sector they fall into.

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Public or private sector ownership

The Australian economy is divided into two main categories: the public and the private sector. All government-owned enterprises fall into the public sector; all privately owned organisations are classified as part of the private sector. Sometimes a public sector organisation is sold to private owners and becomes a private sector organisation. This is known as **privatisation**.

privatisation when a government-owned business is sold to private owners



Source 25.2 Examples of Australian privatised businesses

RESEARCH 25.1

Select one of the businesses displayed in Source 25.2 and use the internet to research it. Prepare a report outlining the stages of privatisation and developments from these stages.

DEVELOPING YOUR UNDERSTANDING 25.1

Yummies Pty Ltd, a restaurant with 45 employees

Surfzup Ltd, a surfwear manufacturer with 85 employees

Eva Handbags, a retail operation with five part-time employees

Emeral Secondary College, a government secondary school with 150 employees

Neal and Sons Accountants, an accounting firm with 10 employees

Tripoli's Family farm Pty Ltd, a farm with no employees

Classify each of the organisations listed above according to the following:

a public/private sector, then incorporated/unincorporated if private sector

b micro/small/medium/large

c primary/secondary/tertiary industry.

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25.2 Establishing a small business

Every year in Australia approximately 300 000 new small businesses start trading. A similar number also cease to exist during the same period. Therefore a large percentage of small businesses do not successfully establish themselves. A major reason for small business failure is a lack of effective planning and thought going into a business idea (concept) and how the business will be established (strategy).



Source 25.3 In order to maximise the chances of success, a small business operator must plan carefully.

Step 1. Am I suited to run a small business?

The first step in planning is to self-assess as a potential small business owner. This involves asking 'Why am I going into small business? Will running a small business help me achieve my personal goals?' People have different life goals. A small business owner must ensure their goals will be achievable through running a small business. For instance, a person who wants to spend more time with their family and work fewer hours is unlikely to achieve this as most successful business operators tend to work longer hours than paid employees. A potential small business operator needs to evaluate:

- their personal objectives
- what things are important to them, such as time with family, lifestyle, interests, wealth and status
- if the business will realistically enable them to satisfy these needs
- if the business will offer the lifestyle they want.

Personal skills and qualities required for small business success

A small business owner requires certain skills and qualities. Some skills are specific to the type of business, while others are useful for all types. Handy skills to have include:

- communication skills
- technical skills
- planning and organisational skills
- financial skills
- administrative skills
- IT skills
- negotiation skills
- leadership skills.

Step 2. What type of business?

entrepreneur a person who risks their own assets and uses initiative, skill and knowledge in pursuit of profit

It is important to select a business type that suits personal needs, skills, abilities and interests. A successful business **entrepreneur** is able to see a business opportunity that others cannot. Ideas for a new small business may arise from different sources, including:

- Family and friends often say things like 'We need a … around here' or 'I wish we could get … '. Statements like these often lead to successful business ideas and successful businesses.
- **Personal inspiration** is often a starting point for a successful business. Sometimes good ideas come to you that are so simple you wonder why no one had thought of it before.
- Research on the internet and print media often leads to a business idea.
- New ideas often come from overseas. For example, Janine Ellis founded Boost Juice in Australia after seeing similar juice bars overseas.

personal inspiration an idea that you have that helps create or do something

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innovation introduction of new products, technology and/or ways of doing things

- Inventions and **innovations** are often a good starting point for a new business idea. An innovation can be a whole new product, a variation on an existing product such as a new colour or design, or a new feature such as home delivery. Innovation offers a chance to 'get ahead' in the market before competitors arrive.

Economics and business fact

Girl Surf Network, a sports agency dedicated to managing female surfers, began as a simple Facebook page. Founder Kim Eulenstein now runs the network full time and represents many famous female surfers, runs surf trips and sells swimwear.

Step 3. Establishing a business

A person can enter into small business in three ways.

Starting from scratch

Starting fresh is the best option if the owner has a completely new idea or product not offered elsewhere. A new business offers the owner advantages such as:

- complete control of the business and the ability to put a personal stamp on the business
- avoiding buying the mistakes and failures of others.

However, there are disadvantages such as:

- greater risk involved in launching an untested idea
- more work required to establish the business; for example, suppliers need to be established and premises set up
- a longer period of time needed to establish a client base and become profitable.



Source 25.4 An original or innovative idea is a good start for a new business.

Buying an existing business

Another option is to purchase a business established by somebody else. This involves paying for the assets of the business such as stock, machinery and equipment, plus for the good name or reputation of the business (**goodwill**). Buying an existing business offers advantages such as:

goodwill reputation within the community

- a simpler and easier process – the business does not need to be physically established
- an agreed upon and therefore known purchase price
- an established customer base, potentially making it profitable more quickly.

However, there are disadvantages such as:

- the risk of buying 'someone else's failure'
- overvalued goodwill.

Franchises



Source 25.5 Some well-known brands are franchise operations

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The third option is to purchase a **franchise** operation. This involves a franchisee paying a franchisor for the right to copy their business and its systems, including the replication of the business name, logo, products and business systems. The franchisor exercises control over how the business is run but will, in return, offer advice and assistance. In exchange for monthly fees, the franchisee is given an exclusive right to operate the franchise in a given area.

franchise a business that is based on the purchase of a franchise licence

A franchisee signs a contract with the franchisor known as a **franchise agreement,** outlining the rights and responsibilities of each. Purchase of a franchise offers advantages such as less risk of the business failing due to:

franchise agreement a legal agreement outlining the rights and responsibilities of the franchisee and franchisor

- the use of a proven business model
- expert advice from the franchisor
- fewer decisions needing to be made, thereby reducing the risk of making an error
- an already recognisable brand attracting clients sooner.

Franchises, however, do have disadvantages:

- The owner has less independence and control over how the business is run as they act as more of a manager than an owner.
- There are extra monthly (franchise) fees.

FACTS UPON WHICH THIS AGREEMENT IS BASED

A. The Franchisor carries on business as a Franchisor in relation to the operation and licensing of [insert name of business].

B. The Franchisor has developed an expertise and established a reputation in [insert nature of business] in accordance with its expertise in the industry and its Standard Operating Procedures.

C. The Franchisor makes the Standard Operating Procedures and expertise available to its Franchisee.

D. The Franchisee wishes to become a Franchisee of the [insert name of business] Franchise and an operator of an [insert name of business] outlet.

E. The Franchisee acknowledges that it is essential for the success of the Franchise that it adheres to the standards and conditions specified in the Standard Operating Procedures and as required from time to time by the Franchisor and also to the terms and conditions of this Franchise Agreement.

Source 25.6 A franchise agreement sets out the relationship between a franchisee and franchisor.

Step 4. Choosing an ownership structure

Unincorporated

A **sole trader** is the simplest form of ownership, involving a single owner operating a business either under their own name or a registered business name. The owner makes all business decisions and owns all profits and assets. It is risky to become a sole trader due to **unlimited liability**. Because a sole trader is not legally separate from the business they are personally and wholly responsible for the business debts. They can be forced to sell personal assets, like their house, to pay for these.

sole trader a business that is owned and managed by one person

unlimited liability where business owners are personally liable for the debt of the business

A **partnership** combines the expertise and resources of between two and 20 people. Each partner is jointly liable for all debts incurred by the business (unlimited liability). All partners are equally liable for debts regardless of their role in the business. A legal agreement is signed by all partners (**partnership agreement**), which sets out the responsibilities and role of each partner, as well as how profits will be divided. A business partnership does not have an ongoing life. If one partner leaves, the partnership is dissolved and a new one must be formed.

partnership business owned by two or more (up to 20) people, sharing the profits and responsibility

partnership agreement a business legal agreement which sets out the role and responsibilities of each partner



Source 25.7 Members of a partnership share the workload.

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Incorporated

Companies have their own separate, independent legal existence. They are formed under law and registered with the Australian Security and Investments Commission (ASIC). Company owners are known as **shareholders**. Establishing a company is both more complex and expensive than an unincorporated business. Companies:

shareholder part owner of a company

- pay tax on earnings separate to shareholders
- appoint company directors, via a shareholder vote at an annual general meeting (AGM), to manage and control the company
- offer shareholders **limited liability**, where they are not held personally financially responsible for the debts of the company. They can only lose what they have directly invested in the business.

limited liability where shareholders in a company are not personally liable for the debts of the business

DEVELOPING YOUR UNDERSTANDING 25.2

1. Discuss how you would prefer to start a business. Justify your choice.
2. List the franchises you have available in your area and compare your list with a classmate.
3. Explain the differences between unincorporated and incorporated ownership structures.

There are two types of company: private and public.

Private companies:

- are usually smaller
- are often family run
- have up to 50 shareholders
- have shares that can only be traded with the permission of other shareholders
- have the letters **Pty Ltd** after their name.

Pty Ltd a business that has at least one and no more than 50 non-employee shareholders

Publicly listed companies:

- are larger companies
- have an unlimited number of shareholders
- have shares that are freely traded on the stock exchange
- have **Ltd** after their name.

Ltd a company whose members are liable up to what they have invested or guaranteed

Cooperatives are organisations formed by people with common interests. Profits are distributed equally to all members, who have equal ownership.

cooperative an integrated business structure sharing decisions, liability and profit

Other factors to consider when establishing a business

Business viability

A viable business idea stands a reasonable chance of succeeding. A **feasibility study** can be carried out to determine viability by examining:

feasibility study assessment of a project including costs, risks etc to determine its chances of success

- whether there are sufficient potential customers willing to pay for the good or service the new business is to provide
- who the potential competition is and how the new business might compete.

A successful startup business is often able to identify a **gap in the market**, such as a new product or an area lacking a type of business.

gap in the market an area in the market currently not being catered for

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Target market

market research the process of gathering and analysing data on customers and competitors etc

A business should identify the type of customers they are aiming to attract. This involves using **market research** to pinpoint the age, location, income level, tastes, interests and stage of life of potential customers. This process of identifying a target market makes it easier to direct advertising and marketing to potential customers.



Source 25.8 A good location will provide exposure and accessibility for a business.

Location

For a bricks and mortar business, the right location is crucial. A good location will provide easy access for customers and suppliers and provide maximum exposure at minimum cost. Factors to consider are:

complementary business businesses that combine in a way that emphasises or enhances each other

- the level of competition in the area
- potential **complementary business** in the area – complementary businesses assist each other; for example, a pharmacist and a medical centre
- proximity to other large businesses that attract customers; for example, bakeries and butchers are often placed near large supermarkets
- reputation of the area
- suitability of the buildings
- demographics: does the target market live in the area?

Economics and business fact

Melbourne is the perfect location for businesses and events related to sport. In 2009 Melbourne was recognised as the best sporting city in the world at the SportBusiness Sports Event Management Awards.

Business success

A successful business operator must be prepared to:

- change products and other aspects of the business in order to keep up with changes in customer tastes and expectations – successfully doing this involves being alert to changes in the market, which typically requires undertaking market research
- be innovative and stay ahead of the competition.

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Reflecting and consolidating

Chapter summary

- Small businesses are categorised according to the number of employees, whether they are publicly or privately owned, the industry sector, and whether they are registered as a company (incorporated).
- The Australian economy is divided into two main categories: the public sector and the private sector.
- When establishing a business the owner needs to understand the target market and the competition, choose an appropriate location for the business (if required) and provide a good or service that fills a gap in the market.
- Sole trading is the simplest form of ownership, involving a single owner operating a business either under their own name or a registered business name. The owner makes all business decisions and owns all profits and assets.
- A partnership combines the expertise and resources of between two and 20 people. Each partner is jointly liable for all debts incurred by the business (unlimited liability).
- Private companies have their own separate, independent legal existence. They are formed under law and registered with the Australian Security and Investments Commission (ASIC).

Short-answer questions

1 Outline why small business is important to the Australian economy.

2 Explain the different ways Australian small businesses can be classified.

3 List the location requirements each of the following businesses would have:

- **a** a newsagency
- **b** a hairdresser
- **c** a medical centre
- **d** a courier.

4 Summarise the role of a franchise owner. Explain why their role is different from other business owners.

5 Identify the other name company owners are known by.

Extended-response question

Imagine you are thinking of starting your own business. It can be anything you like. Follow the steps listed in this chapter and prepare a business report explaining each step. In your business report explain the following points.

- Suggest whether you are suited to run a small business.
- Outline your chosen type of business.
- Explain how you will establish this business.
- Justify your chosen ownership structure.

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26 Changes in the workplace and their effects on individuals and the community

Before you start

Main focus

In order to make a living and generate income, people living in Australia will need to gain employment. Where a person chooses to work and how they choose to work are often influenced by work ethic and the work environment. A supportive, fair workplace is likely to have happier employees than a workplace that isn't. This chapter focuses on work and how it has changed over time. The role and impact of important participants in employee relations is reviewed and the impact of generations within the current and future workplace examined.

Why it's relevant to us

It is important to understand your right as an employee and your duties as an employee to work to your full potential. Having knowledge of employee entitlements will prevent exploitation and encourage safe practices in the workplace. In recent years, the nature of work and the workplace has changed and will continue to change over time.

Inquiry questions

- How do special interest groups affect our conditions of employment?
- How has the nature of work changed over the years?
- What effect do the government, trade unions and employer groups have on the work environment in Australia?
- What strategies should be adopted to effectively manage the current workplace, which comprises four generations of workers?
- In what ways does the ageing population impact on the work environment, and what is the government doing to respond to this?

Key terms

- Casualisation
- Employer association
- Exploitation
- Fair Work Commission
- Trade union

Let's begin

It is important that we are all aware of our rights and responsibilities in the workplace. Most of us work to earn income so we can participate as consumers. For many this involves being an employee and working for an employer in return for a wage or salary. More than 80% of Australian workers are employees. Employers are people or organisations that pay others to perform labour for them. Seventeen per cent of the Australian workforce is self-employed, meaning that they work for themselves. Many of these are also employers.

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26.1 Groups influencing employment

AUSTRALIAN INDUSTRY GROUP

Source 26.1 The Australian Industry Group (Ai Group) is an industry association in Australia representing the interests of more than 60 000 businesses in an expanding range of sectors.

trade union an association of workers organised to protect and further their working rights and interests

In Australia the following have a significant influence on the conditions and way people work.

A **trade union** is a group of workers who usually work in the same industry and who unite to protect and promote their wages and working conditions. The members of a trade union agree to act together and use actions like striking (refusing to work) to gain more power. The goal of a trade union is to protect rights and working conditions of employees. In 2013 only about 18% of Australian employees were union members. However, unions still have significant power in some key industries such as the construction industry. The Australian Education Union and the Australian Workers' Union are examples.

ACTU australian council of trade unions

Source 26.2 The Australian Council of Trade Unions is the national peak body for 46 trade unions in Australia.

RESEARCH 26.1

Research the working conditions in one of the countries listed below:

- India
- China
- Vietnam
- Indonesia.

Create a table that compares the working conditions in your chosen country with the working conditions in Australia. Include the following in your comparison: average salary/wage, average hours worked per week, rate of workplace accidents, ethical or unethical working conditions, and whether working conditions are improving or worsening wellbeing.

Trade unions are an important influence on both our society and how we work. They act to protect employees from being exploited by employers. They also ensure that employees have a voice in matters that concern them and their working conditions. At times, however, trade unions, by intervening in a workplace, can increase costs for employers and act as a deterrent to employing others.

Employer associations and business groups represent and support employers to prevent **exploitation**. They also provide support and advice to employer members. The National Farmers' Federation, Master Builders Australia and the Australian Chamber of Commerce and Industry are all examples of employer associations.

employer association an organisation of employers that provides support for its members and negotiates in industrial disputes

exploitation treating someone unfairly in order to benefit from their work

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Government has a significant influence on Australian working conditions by creating and enforcing laws that set out to do things like:

- establishing wages and conditions and resolving disputes about these (employee relations laws)
- ensuring that employees are not discriminated against on the basis of race, gender, sexual orientation, religion, disability or political beliefs (equal opportunity laws)
- ensuring that workplaces are safe (occupational health and safety laws).

Fair Work Commission the organisation established by the Australian government to oversee the Australian system of employee relations

Fair Work Australia is the organisation established by the Australian government to oversee the Australian system of employee relations. It also has a court that sets and enforces worker conditions.



Source 26.3 The Fair Work Commission is the organisation established by the Australian government to oversee the Australian system of employee relations.

26.2 The changing nature of work

Casualisation of the workforce

Casual jobs are part of the employment landscape, providing people with income-earning and work-experience opportunities often during their student years or perhaps when starting out in an occupation with a view to later permanency. For some people, a casual job may be the only job they can find, whereas for others it may be a lifestyle preference, allowing work to fit in with family and other committments.

The Australian Bureau of Statistics (ABS) defines a casual job as a job without paid leave entitlements, but the essence of a casual job is that the worker has no tenure and can be terminated on very short notice. Casual employees don't get paid holiday leave or sick leave, but they are entitled to a higher rate of pay (casual loading) than a permanent worker doing the same work as them. If the casual worker earns more than $450 per month before tax and is aged 18 years or over, their employer is required to make superannuation contributions on their behalf. Under new Fair Work laws, they are also protected from being sacked unfairly provided they have worked 6 months in the same job, or 12 months if it is a small business. Access to long service leave is also available. The length of service that can be taken is set out in relevant state or territory legislation.

It has been common practice for businesses to employ casual staff over their busy periods. For instance, in the weeks leading up to Christmas and over the summer holiday period casual staff generally hired in the retail, hospitality and tourism sectors. Once these busy periods are over, the employees either return to their studies or become unemployed. More recently, however, it is being observed that some businesses are now relying on using fixed-term contractors and casuals as part of their ongoing workforce. This is leading to the increased **casualisation** of the workplace, which can have negative effects for those seeking full-time or part-time work as it decreases their chances of finding employment.

casualisation the process of employing staff on a casual rather than a permanent basis

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The Australian Bureau of Statistics reported in May 2012 that casual employees accounted for 20.8% of employees and had average weekly total cash earnings of $528.20. A greater proportion of female employees (24.2%) were casual than were male employees (17.3%). The average weekly total cash earnings were $432.20 for casual females and $687.20 for casual males.

Source 26.4 Casual employees numbers and pay in Australia



Source 26.5 Many young people are casual employees in retail industries

DEVELOPING YOUR UNDERSTANDING 26.1

Collins Street cafes fined for underpaying

In September, 2013 inspectors from the Fair Work Ombudsman raided the food court at the Australia on Collins shopping centre in the Melbourne CBD, after it was revealed that widespread underpayment in the hospitality industry may be occurring. The inspectors issued fines or warnings to nine of the 13 cafes visited in the food court at the shopping centre. Three restaurants were fined up to $850 for not providing payslips, while four more were handed demands to produce within 24 hours evidence they were paying their staff properly. Two other cafes in the centre were given 2 weeks to produce proof of wages.

The raids followed an allegation made early that year over underpayment at an Asian cafe in the Australia on Collins food court. When a Fair Work Inspector visited the cafe, he is understood to have been told all the cafes in the food court paid about $10 per hour. Adult full-time staff should get $18 per hour and casuals $22.50 per hour.

Source 26.6 Extract adapted from the article 'Collins Street cafes fined for underpaying', *The Age*, 5 September 2013

1. Explain the role of the Fair Work Ombudsman and how this role differs from the Fair Work Commission.
2. Discuss whether or not you think there are any other industry areas where underpayment could occur. If so, which ones are they and why do you think employers could be underpaying their workers?

Adoption of new technologies – the digital workplace

Thanks to advances in technology, the idea of the office as the primary work location is being challenged as we evolve the idea of being able to work at any time, in any place and anywhere. We are increasingly working on the move – from airports, other offices and during the trip to or from work – meaning that we have become more

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fluid in terms of our physical work environment. Modern society's mental approach to technology is shifting as new digital tools become commonplace, enabling us to work, collaborate, connect and communicate in different ways.

Information has become of high importance in the world of business and has forced businesses to make adjustments that allow for its free flow in terms of both access and spread. Mobile devices such as laptop computers, tablets and smartphones enable a person to work just about anywhere, giving them ready access to email, internet and other network services when in transit or working offsite.

Businesses gain long-term benefits related to faster communication, improvement in efficiencies and providing employees with the ability to explore non-conventional work arrangements. This has resulted in productivity increases, lower rates of work absenteeism, low staff turnover costs and reduced real estate costs. Greater flexibility for employees results in higher satisfaction and quality of life and, for the environment, less unnecessary traffic and thus reduced CO_2 emissions.

Businesses now refer to having a digital workplace toolbox, which acts to support the ways in which they communicate, collaborate, connect and deliver day-to-day services. The following are examples of focus areas:

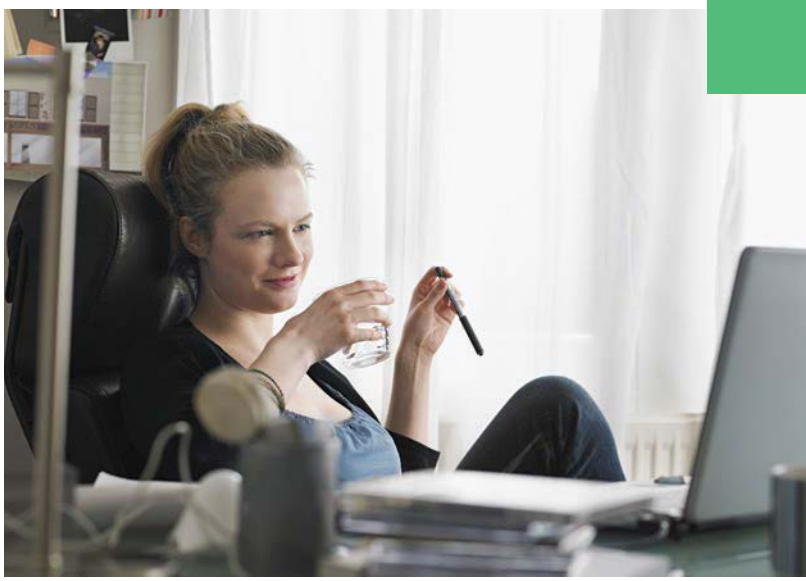
- Messaging – using email, instant messaging, microblogging and mobile messaging provides a faster way to communicate with colleagues.
- Software packages (such as word processing, spreadsheet, database and presentation software) enable workers to get their job done more efficiently.
- Wikis, web conferences and online communities enables employees to work with each other and with partners.
- Portals/intranets, blogs, Facebook, Twitter and personalised home pages support information sharing and internal business publishing.
- PC/laptop, mobile/smartphone, video conferencing, telecasting, home office and remote scanners enable access to tools away from the physical office or workplace.

The adoption of new technologies comes at a cost. There is the initial purchase of the technology, which then needs to be maintained and updated. For some businesses, these costs can threaten the sustainability of the technology. It is important that businesses also develop a governance model that maximises connectivity and collaboration while mitigating risks. For instance, news travels very fast thanks to the digital workplace's social networking capacity. If a crisis occurs, the business must be able to react quickly and be open and transparent in its handling of the crisis. Employees also need to be trained in appropriate use and sharing of information, both personal and business-related, and how to avoid damaging the business's brand.

Workplace changes

Working from home

One structural change that is occurring in our workplace is the increasing number of people working from home. It is estimated that millions of Australians do some amount work from their home, often referred to as 'teleworking'.



Source 26.7 Working from home can be lonely.

In 2011 the ABS estimated that one in every 12 workers (764 700) did more work hours at home than any other single location in their main or second job. In 2012 the Gillard Labor Federal Government was keen to promote the concept of working from home, setting a target for at least 12% of employees to telework 1 day a week by 2020. One of the positive outcomes of working from home is that it gives employees a greater

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opportunity for work–life balance, but for some it has led to a feeling of isolation.

Cisco Australia is one organisation that keenly promotes the concept of teleworking, with around 90% of its global workforce of 75 000 teleworking at least 1 day a week, and 40% classified as 'mobile workers'. 'Our workers who work outside the office are consistently more engaged, more productive, happier [and] have a higher sense of well-being than traditional bricks and mortar workers,' says Tim Fawcett, general manager of government affairs and policy at Cisco Australia.

Hubs

A new concept in the workplace is the 'hub', a work environment facility that is not a formal permanent work address (location) for a particular business. It provides a space for people to work in a diverse community of like-minded people. The hub is designed to facilitate discussions and meetings between workers from different backgrounds and disciplines, while the co-working space gives them a place to work if they need it. The number of co-working facilities is growing rapidly in Australia.

In 2011 the Hub Melbourne was created and now has about 800 members. Since then its founder, Brad Krauskopf, chief executive officer of Hub Australia, has expanded operations into centres in Sydney and Adelaide. Approximately 20% of members come to the hub about 1 day per week, with a small number working from the premises 5 days per week. A large proportion of members use the centre as a way to network and attend training sessions. The workspace has no hierarchy, and this arrangement is sometimes challenging for senior employees. This concept of working remotely by providing a smartwork or telework hub in regional areas is also being considered by state governments and Regional Development Australia as a way of offering residents an alternative work location close to their home.



Source 26.8 Hub Adelaide

Fly-in fly-out (FIFO)

Australia is a vast continent with many remote areas. It has become common practice for businesses located in remote areas to employ workers on a fly-in fly-out (FIFO) basis. An employee, rather than relocating themselves and their family to a town near their current work site, flies to the work site where they work for a number of days and are then flown back to their home town (base) for a number of days of rest.

The mining industry commonly uses this form of employment, as mines are often located in remote areas far from towns. The mining companies prefer this arrangement as the cost of establishing permanent townships and communities far exceeds the cost of airfares and temporary housing provided at the work site. Portable buildings are generally constructed at the locations and are then dismantled when the mine closes. Workers holding a FIFO job work long shifts (for example, 12 hours each day) for a number of continuous days, returning home for their days off. The employee's work day is almost entirely taken up by working, eating and sleeping. Companies often provide some recreation facilities at the work site, such as a gym, sporting facilities (tennis courts or soccer field) and a pool, as a way of attracting and retaining skilled staff. While FIFO workers are well paid, the arrangement can put stress on family relationships.

One large employer of FIFO workers is the Fortescue Metals Group, one of the world's largest iron ore producers. Fortescue workers in the Pilbara region in Westeran Australia are on an 8 days on, 6 days off roster. It is estimated that it would cost Fortescue an additional $100 000 per person per year to employ them in residential positions rather than as FIFO workers. In addition

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to using FIFO workers, Fortescue Metals Group is committed to providing vocational opportunities for Indigenous people. To facilitate training and employment opportunities, in 2006 Fortescue commenced its Vocational Training Employment Centre (VTEC) in South Hedland, where training linked to a guaranteed job placement was established. This initiative proved to be very successful, resulting in a VTEC being established at Roebourne in 2010. In June 2012, the company reached its Summit 300 target of employing 300 Indigenous people in its operations. Summit 300 was Fortescue's commitment to the Australian Employment Covenant, the nationwide initiative to secure commitments for 50 000 jobs for Indigenous people.

Another large employer of FIFO workers is Rio Tinto Iron Ore. Employees at the company's five iron ore sites in the Pilbara work to a FIFO roster. Employees are paid a commute allowance as well as their base salary and are granted 6 weeks' annual leave. Workers complete 12 hour shifts, and while onsite they are provided with transport, meals and accommodation. A typical roster is two weeks at work and one week off.

RESEARCH 26.2

Follow the links at www.cambridge.edu.au/hass8weblinks to view the websites of Fortescue Metals Group and Rio Tinto Iron Ore then complete the tasks below.

1. Fortescue Metals Group has mining operations referred to as the 'Chichester Hub'. List the mines that form part of this hub and identify the accommodation village capacity for this hub.
2. Fortescue Metals Group identifies six areas from which programs relating to their community are organised: people, human rights, natural environment, social, economic and built infrastructure. Choose two of these areas (apart from people) and explain what programs they offer.
3. Do you believe that Fortescue Metals Group would be judged as being an ethical and socially responsible organisation? Justify your opinion.
4. Describe the facilities that are provided by Rio Tinto at their villages in the Pilbara region.
5. Rio Tinto supports five key priority areas in their connection with their community: education, health, culture, environment and regional sustainability. Choose two of these areas and explain what programs they offer.
6. Do you believe that Rio Tinto would be judged as being an ethical and socially responsible organisation? Justify your opinion.

Source 26.9 Fortescue's Karntama Village camp at the Christmas Creek mine



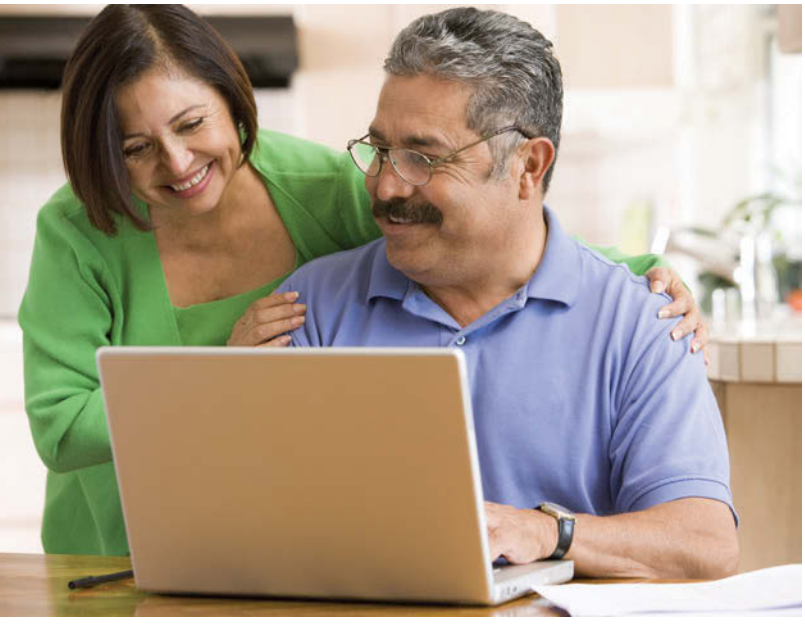
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Generational expectations

Currently, Australian workplaces are made up of employees from four generational classifications. This provides a challenge to employers, as the expectations of each of these groups are diverse. To be effective a business needs to be able to meet the different expectations of each group, while also using the strengths of each of these employee generations to advance their business operations.

Baby Boomers

Baby Boomers are those born between 1946 and 1964. The workers in this generation are now starting to plan and think about their retirement years. Baby Boomers do, however, represent a large component of the working population (35%) and are recognised for their ability to foster and transfer cross-generational knowledge. Their work ethic is characterised by dedication, loyalty and a willingness to stay in the same job for a long time. As they are approaching the end of their working life, however, they are less driven by financial rewards and more by the stimulation they gain from their jobs. While some older workers may find it difficult to acquire new skills, particularly related to technology, they are still regarded as being vital to the workforce of today.



Source 26.10 Baby boomers make up 35% of the Australian working population.

Generation X

Born between 1965 and 1979, this generation of workers makes up the largest component of the working population (approximately 60%) and are receptive to the fast pace of change occurring in the modern workplace. As these workers are in their mid 30s and 40s, they place great importance in flexible workplace arrangements, such as flexible working hours or the ability to telecommute. Such arrangements help them juggle career progression and family responsibilities, as this is the first generation in which both parties in a relationship are keen to remain part of the workforce.



Source 26.11 Generation X need flexibility in their work arrangements.

Generation Y

Born between 1980 and 1994, this group seeks career advancement, better pay, office amenities and time off for study, training and mentoring. Along with these desires, they have a huge amount of drive and enthusiasm and are tech savvy. To them using the internet, their smartphone, Facebook, Twitter, text messaging and all other forms of social media are commonplace. They live in the 'now' and would prefer their needs to be instantly met. Generation Y employees may not be long term in their tenure at workplaces due to their desire for quick advancement.

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Source 26.12 Generation Y are up to date with new technologies.



Source 26.13 Generation Z are now just entering the workforce.

Generation Z

Born between 1995 and 2007, this group is now just entering the workplace and is often referred to as 'digital natives'. They are a highly connected generation who have not known life without technologies such as PCs, smartphones, gaming devices, MP3 players and high-speed internet. They have an understanding of and can master advancements in technology. Their communication is highly dependent on social media platforms such as Facebook and Twitter, rather than the face-to-face form of communication important to previous generations. This lack of face-to-face communication skills may cause some difficulty if they are required to manage teams. Managers of these Generation Z workers will need to ensure they gain these social, or soft, people skills if they are to be effective team leaders. As workers it is anticipated they will have a desire for change, be stimulated through exposure to new projects or roles, want to increase their learning and gain quick promotion. These desires could in fact conflict with the more traditional career progression model and organisational hierarchy.

According to the 2010 Intergenerational Report, by 2050 the proportion of the population over 65 is set to more than double, with an increasing number remaining within the workforce. Employers need to develop strategies for Baby Boomer staff so that they can effectively harness their considerable skills within the organisation, while also recognising these employees no longer wish to hold top managerial positions and want to work part-time.



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DEVELOPING YOUR UNDERSTANDING 26.2

1 Copy the graphic organiser below and use it to summarise the strengths each age generation brings to the workplace.

Baby boomers	Generation X	Generation Y	Generation Z

2 Identify which generation you belong to and list the strengths you believe you can bring to a work environment.

3 Consider your responses to the tasks above. Suggest how Generation Z may change work environments in the future.

26.3 Impact of an ageing population on the work environment and government initiatives or responses

Australia has an ageing population, which will lead to an increased need for government spending and a slowing economic growth rate over the next 40 years, according to the *2010 Intergenerational Report, Australia 2050, Future Challenges*. In a speech at a Press Club luncheon, former federal government treasurer Wayne Swan said that:

> the report demonstrated just how critical it will be for governments to plan for the future and invest in productivity.

He also went on to explain that by 2050 one-quarter of Australia's population will be aged 65 and over, compared with 13% in 2010. This equates to 2.7 people of working age for every person aged 65 and over, compared with five people today. It is also predicted that our living standards and gross domestic product will probably grow at a slower rate.

In response to these pressures, in 2010 the then federal Labor government launched a $43.4 million Productive Ageing Package, providing training support to older Australians planning to remain in the workforce. The package included:

- $18.8 million directed towards strategies to help mature-age workers stay in employment, including 2000 training packages for employers to allow eligible mature-age workers to retrain as supervisors, trainers or workplace assessors
- a $500 000 funding boost for Golden Gurus organisations aimed at connecting mature-aged volunteers with mentoring opportunities
- face-to-face job support and training for 2000 eligible mature-age workers with a health condition or injury that affects their ability to do their job



Source 26.14 An ageing population has various impacts on the workforce and economy.

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- $23.5 million to assist mature-age workers' transition to new employment through Job Services Australia, including assistance through the Employment Pathway Fund for training.

In May 2013, Global Access Partners (GAP) and the Australian Centre for Health Research (ACHR) held a conference on productive ageing. The aim of the conference was to discuss the social implications and economic opportunities created by Australia's ageing population. One of the speakers at the conference was Kathryn Greiner AO, Chair of the NSW Ministerial Advisory Committee on Ageing who made the following insightful comment:

> Australia is a nation of 23 million in a land mass the size of the USA and cannot afford to let one willing worker languish in unemployment if it is to compete.

The general feeling in the community is that governments at all levels (federal, state and local) now need to undertake proactive and innovative approaches and to provide effective leadership to manage the change in the demographics of Australia, in terms of age, standard of living and our multicultural society.



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Reflecting and consolidating

Chapter summary

- Our work environment in Australia is affected by many factors including our type and conditions of employment.
- Unions members agree to act together and use actions like striking to gain more power with the goal of protecting rights and working conditions of employees.
- The nature of work is changing in the following ways: increasing casualisation of the workforce, adoption of new technologies creating a digital workplace, and a shift from the traditional workplace arrangement to new models such as telecommuting, hubs and fly-in fly-out (FIFO).
- Four generations are now participating in the Australian workplace: Baby Boomers, Generation X, Generation Y and Generation Z, all with their different expectations and characteristics.
- The main participants in our work environment are the government, trade unions, employer associations and workers.
- Australia has an ageing population, which is influencing our work environment. The government needs to respond to this social change with initiatives and long-term planning.

Short-answer questions

1 Explain what a trade union is and who trade unions represent.

2 Define the following terms. Demonstrate your understanding by incorporating each term in a sentence.

- **a** award
- **b** National Employment Standards
- **c** fly-in fly-out
- **d** hub
- **e** trade union

3 Outline the disadvantages of an increasing casualisation of the workplace.

4 Suggest why hubs are becoming a popular work environment.

5 Summarise the fly-in fly-out process.

Extended-response questions

Class research activity: Survey on generational workplace expectations

Conduct a survey of between 30 and 40 people (drawn evenly from the three workplace generations – Baby Boomers, Generation X and Generation Y) who are currently in the workforce to determine the importance of the following expectations. They are to rate their answers based on a scale of 1 (not important) to 5 (very important).

- remuneration (pay) – fair and equitable
- flexible working conditions
- career advancement opportunities and promotion
- social interaction at the workplace
- training and development
- safe workplace
- interesting and challenging work
- good work conditions
- loyalty to workplace

1 Create a spreadsheet to record the findings of the above surveys.

2 Conduct a survey of your class as Generation Z based on the above listed expectations.

3 Enter the data into a spreadsheet to record your findings.

4 Analyse the findings relating to the initial survey of the three generations and summarise your conclusions.

5 Compare the findings of the survey of Generation Z participants with those of point 4 above.

6 Analyse whether there are any similar expectations and why. Also, are there any major differences in expectations? Why?

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Civics and citizenship

Citizenship, diversity and identity

Belonging to a community

Australians can belong to many different communities. Think about your own life – you might belong to a sporting club or a social group. You will also belong to broader communities such as your class, your school, your extended family and your town or suburb. It is important to belong to a community because it informs our values and our morals. On a bigger scale, we all belong to the Australian community. The laws and customs of Australia help inform the things that people in our community value, such as equality and respect.



Source 8.3.1 Equality and respect are important to Australian communities.

Contemporary Australia's background

Contemporary Australia has a strong connection to the Judeo-Christian traditions of early British immigrants and settlers. British culture and law is heavily influenced by the religious tradition of Christianity (and, historically, Judeo-Christianity). The values of the Christian religion are the foundation for the British law and court system, and hence the origins of Australia's justice system as well. Morals and values, such as punishing violent behaviour and encouraging respect and tolerance, have strong links to religious teachings. Many religions encourage these values, including Christianity, Judaism, Islam and Buddhism.

While contemporary Australia has links to the Judeo-Christian traditions, Australian society is a secular society. That means we encourage and support diversity of faiths and keep legal and governmental business separate from any and all religious practices.

What does it mean to be an Australian?

It is difficult to accurately and clearly represent a set national identity. Often, a commonly referred to national identity is a stereotype with little resemblance to the actual people living in that particular country.

When a person is becoming an Australian, they are asked to sign a *Statement on Australian Values*. These values include respect, equality, dignity for all and 'fair play'. While these values tell us how an Australian should act, they do not indicate what an Australian should look like or sound like. That is because Australia is a **pluralist** society, which values all people regardless of race, gender, religion or sexuality.

pluralist valuing diversity as opposed to accepting only one point of view

When migrating to Australia, some people choose to become an Australian citizen while also keeping the citizenship of their original country. This is called **dual citizenship**. Some countries (such as Malaysia or China) do not allow dual citizenship. As of 2004, Australians are allowed to hold dual citizenship with any other country, without any restrictions.

dual citizenship citizenship of two of more nations

What constitutes an 'Australian identity' is a matter of opinion; there is no single agreed upon national identity.

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> At first it was very lonely in Australia, particularly adapting to a different culture … so I lived with students from Africa, Asia and Europe. I encountered diversity as I never had before, and learned about cultural harmony.

Source 8.3.2 A quote from a former Lord Mayor of Melbourne, John So

An extract from Indigenous singer-songwriter Archie Roach's song 'Native Home' can be found by following the link at www.cambridge.edu.au/hass8weblinks.

Immigration to Australia

immigration the act of entering and often settling in a country that you are not native to

From the arrival of Europeans to Australia in 1788, the Australian identity has been affected by **immigration** from other countries. Early European contact greatly influenced the contemporary Australian political and legal systems. Over the last 100 years, patterns of immigration have influenced the food, culture and social activities of Australia.

After World War II, most immigration to Australia came from Europe. Until the late 1970s, the Australian government had the White Australia Policy, which prevented immigration from Asia. After the policy was removed, Asian immigration to Australia steadily increased. The influence of immigration can be seen all across Australia, particularly in cuisine and cultural practices.



Source 8.3.3 Melbourne's Chinatown is a celebration of the food of Melbourne's Asian communities.

Ethnic identity	1787	1846	1891	1947	1988
Aboriginal	100	41.5	3.4	0.8	1.0
Anglo-Celt	0	57.2	86.8	89.7	74.6
Other European	0	1.1	7.2	8.6	19.3
Asian	0	0.2	3.1	0.8	4.5

Source 8.3.4 Ethnic composition of the Australian population (by percentage)

DEVELOPING YOUR UNDERSTANDING 8.3.1

1. Identify three different communities you belong to and the values that the community has given you.
2. Outline one benefit of having dual citizenship.
3. Choose one quote from a well-known Australian. Describe what this quote identifies as important to the Australian identity.
4. **a** Create a graph of the changes in Aboriginal, European and Asian ethnic groups in Australia from 1787 to 1988.
   b Identify which ethnic groups have increased or decreased. Suggest the reasons for the changes of ethnic composition in Australia.

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Glossary

GEOGRAPHY

abattoir place where animals are killed for human consumption

abrade to wear down by rubbing against something

abrasion rocks or sediment moving against each other, usually when being transported by water, wind, ice or ocean waves

accordant being in agreement or harmony (e.g. the same height)

aesthetic value value placed on something due to its beauty

agriculture the use of the land to raise crops or livestock

air pollution substances in the air that affect the health of humans and the environment

alluvial deposit sediment deposited by rivers

alluvial fan water-deposited sediment that spreads out into a fan shape when viewed from above

anthropogenic human-made

anticline the upward bulging of rocks caused by compression

aquifer a layer of soil or rock that contains groundwater

archipelago a group of islands

arid dry or parched; refers to regions such as deserts

arroyo dry creek or stream bed; gully

artesian water underground water that flows freely when bores intersect the sediments in which it is found

assimilation absorbing and making alike; the process of cultural absorption

asthenosphere the plastic mantle layer below the Earth's crust, composed mainly of sima

asylum seeker a person whose claim for refugee status has not yet been approved

avalanche the failure or collapse of a snow-covered slope, resulting in the movement of snow and debris downslope

ballast water water held in tanks and cargo holds of ships to increase stability and manoeuvrability while under way

base flow the low flow period in streams when water is not derived from run-off but from groundwater and slow lateral sub-surface movement

bedding plane the surface between layers of deposited material that make up sedimentary rocks

bilateral between two nations

billabong see **ox-bow lake**

biodiversity the variety of life forms and the interaction between them in a given area

block fault a large area of land upthrust by earthquake activity

blowhole a gap or hole in rock through which seawater is intermittently ejected

boat person an asylum seeker arriving by boat

bushfire an uncontrolled fire that destroys the environment and property but can be necessary for the regeneration of plant species

calcite the main mineral in limestone and marble, composed of calcium carbonate

capillary movement water movement, mainly upward and horizontal, in permeable materials (soil, sediment, rock, cement or bricks)

cartographer a person who constructs and draws maps

cay a small, low island on a coral reef formed of sand and/or coral pieces

chain migration a series of migrations within a family or distinct group of people; often begins with one family member, who sends money to bring other family members to the new location

channel the hollowed-out path formed by a river or stream

chelation a chemical weathering process involving removal of ions from minerals by organic compounds

chemical weathering changes to the composition of the rock as a result of interaction between elements in the air or water

chiton a type of hard-shelled mollusc, which moves slowly by strongly clinging to intertidal rock surfaces

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cirque an armchair-shaped semicircular hollow with a steep back wall and downslope lip found in glaciated areas

clay small mineral particles with a diameter of less than about 0.005 millimetres

climate change a long-term trend in the Earth's weather patterns, including a change in average weather conditions (such as increased atmospheric temperature) and/or in the distribution of weather around the average conditions (for example, more extreme weather events)

climatologist a person who studies the climate of an area (long-term changes in weather)

coastal zone the zone where the sea and the land meet

cohesive holding together strongly with few fractures or weak spots

collision plate boundary the point where two tectonic plates of similar strength or speed collide

commodity a product that can be bought and sold

comparative advantage in economic terms, the ability of one country over another to provide goods at a cheaper price

compressional caused by squeezing from the side

conduction the molecule-by-molecule transfer of energy through a substance

conservationists people who work to protect the natural environment

constructive force a force that builds new landforms or adds to those already there

continental drift theory the idea that major continents may have split from a common original landmass

continental shelf gentle slope offshore from most continents to about 180 metres, where there is a sharp drop to the floor of the ocean

convection the current-like motion of fluids in response to an uneven distribution of heat

convection plume an accumulation of hot molten rock at the boundary between the Earth's core and mantle; the molten rock then rises in a plume through a thin or fractured zone of the mantle

convergent (subduction) plate boundary the point where two plates are moving towards each other and collide, with one plate being pushed beneath the other; the lower plate is the 'subducted' plate

convict a person found guilty of a criminal offence and serving a sentence of imprisonment

country the Aborginal concept of place, which takes in all aspects of the environment, including life

cultural integration the process of drawing together various elements of a cultural system, such as ethnic groups, into a wider community

cultural value the emphasis placed on something for its importance and place in society, such as the inclusion of water in rituals, heritage and the Dreaming

curvilinear in a curved line when viewed from above

cyclone an atmospheric system characterised by the rapid inward circulation of air masses about a low-pressure centre, usually accompanied by stormy, often destructive weather

decentralisation the spread of power away from the centre to local branches or governments

degradation a loss of quality

delta a fan-shaped deposit of river sediments found at the mouth of a river

demographer a person who works with statistics to examine populations

demographic factor a factor of a population expressed statistically, such as age, sex, education level, income level, marital status, occupation, religion, birth rate, death rate, average size of a family and average age at marriage

deposition the last stage of the erosion process, when the material being moved settles on a surface

depression a sunken place or hollow surface

destructive force a force that wears down and degrades landforms, infrastructure and property

developing country a country with a low standard of living and a developing industry base and/or economy

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dhari a type of headdress

die-back a condition in a plant where the shoots or branches die from the tip

discharge release

discordant lacking agreement or harmony (e.g. at different heights, as occurs with hanging valleys)

displaced person someone forced to leave their home country because of war, persecution or a natural disaster

displacement the situation of people forced to leave their home and community, either because others have made them leave, or because life in the community has become intolerable or unliveable

divergent plate boundary the point where plates are pulled apart, allowing molten rock to emerge at the Earth's surface

downcutting downward erosion by a river through its bed

drainage network pattern of gullies, streams, rivers and lakes in a drainage basin that allows water to flow to the lowest point

Dreaming a central concept in Aboriginal culture that explains how the world works through creation stories

drought an extended period of time when there is an absence of sufficient amounts of water

dyke a thin vertical intrusion into other rock types

earthquake a result of the Earth's tectonic plates moving against each other

earthquake focus the depth where rupture from an earthquake occurs

economic value a dollar amount placed on an asset to show how much it is worth

eddy water running contrary to the main current

elastic able to expand without breaking

emigrant a person who leaves their country to permanently live in another

empowerment the ability to make decisions, access resources and create change

entrenched meanders those meanders eroded deeply into bedrock and thus unlikely to change their pattern over time

environmental sustainability the management of the world's environment to meet the needs of the present population without reducing the capacity of future generations to meet their needs

environmentalist a person who acts to preserve the quality of the natural environment

erosion the process of transferring rocks, sediment or solutions (transportation) from one place to another (deposition)

erratic boulder carried in glaciers and then left behind when ice melts

escarpment a sharp and continuous break in slope that may extend for hundreds of kilometres

estuary a body of water formed where freshwater from rivers and streams flows into the ocean, mixing with the seawater

eutrophication a process whereby excess nutrients run off the land into lakes and rivers, causing unhealthy levels of plant growth

evaporation the part of the water cycle where water changes from liquid into a gas and escapes into the atmosphere

exotic not native to an area, usually introduced from another ecosystem or country

extinction disappearance of a species

fault a fracture in rocks or sediments where movement has occurred as a result of compression or shear stress

feldspar a widespread group of minerals in igneous rocks, possibly making up nearly half of the Earth's crust

flood the flow of water through an area that normally is dry, such as when a river breaks its banks

flood plain low-lying ground that is subject to flooding from a nearby river

flow-on effect another change that will follow if a change is made

fluvial process a process associated with rivers and streams

forced migration movement of people somewhere else because of unfavourable conditions

freehold a form of land ownership where land is inherited or held for life

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frost shattering a process that occurs when water in cracks and crevices in rocks freezes and expands, causing the rock to shatter

gentrification the renovation and growth in social and economic status of previously run-down areas

geomorphology the study of landscapes and landforms, and the processes that have made them the way they are

glacial polish smooth and sometimes shiny rock surfaces created by debris transported under moving glaciers

glacier a huge mass of ice slowly flowing over a landmass

global scale a view that includes the entire Earth or a large part of it

gneiss originally a granite-type or a sedimentary rock that has been subjected to strong pressure, which also involves high temperatures, resulting in light- and dark-coloured minerals forming bands

Gondwanaland one of two super-continents believed to have existed 510 to 180 million years ago

government service a fundamental service provided by the government, such as law enforcement, education and health care, considered to be necessary for the functioning of society

graben a chunk of fault-bounded land that is lower than the land on either side

groyne a low barrier built from the beach into the sea, intended to reduce beach erosion

gully a deep channel, usually with very steep sides, carved into sediments on sloping ground

hanging valley a tributary valley whose floor lies at a height well above that of the main valley; the junction may be marked by a waterfall

hazard a known feature of an area that may cause loss of life, injury and/or property damage

heavy-textured subsoils a clayey B horizon

heritage monuments, physical objects or customs and traditions inherited from previous generations

holism a belief that complex environmental processes need to be understood as a whole, rather than seen simply as a collection of individual parts

honeycombing a network of pits several centimetres deep that looks as if bees have made a honeycomb in rock

horst a chunk of fault-bounded land that is higher than the land on either side

humpy a temporary shelter made from bark and tree branches

hydration a reversible process of water combining with a mineral

hydraulic action the process of waves compressing air within gaps in the rock, and this air being explosively released when the waves retreat

hydrological hazard a natural hazard, such as a flood, whereby water may cause loss of life, injuries and/or property damage

hydrolysis an irreversible process of water combining with a mineral to form a new mineral

identity the way you see yourself and the way others perceive you

immigration moving into a new country

indentured labourer a worker, typically a labourer or tradesperson, under contract for a fixed period of time in return for payment of travel expenses and accommodation

industrialisation the modernisation of a country, involving large-scale infrastructure development, economic growth and a movement towards more efficient, mechanised methods of production

infrastructure structures and services needed for society to operate properly, such as transport, water supply, health services, education systems, waste disposal systems and telecommunications

inselberg an isolated steep-sided hill, often made of bare rock

insolation weathering heating of rocks by the sun, causing thermal expansion and fracturing with heating and cooling cycles

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integration a situation in which a people is able to maintain its own basic culture and have it respected, while living within and respecting another culture

international migration the movement of people from one country to another

internment camp a dentention centre, usually during a time of war, for people considered to be political enemies

interstate migration movement of a person to another state

intertidal zone the area at the edge of a body of water (such as the ocean) that is exposed at low tide and is under water at high tide

intrastate migration movement of a person within their own state

ion an atom formed by the loss or gain of one or more electrons

irrigation watering of crops

joint plane a vertical, horizontal or angled pattern of cracks in rocks

karren small grooves or furrows in rock (usually limestone) formed by running water

karst a limestone region where underground water is the main cause of distinctive landforms

land degradation destruction of vegetation, soil, landforms and landscapes by human activity

landform a naturally formed feature on the Earth's surface, having a characteristic shape or form

landscape the visible features of an area including both the natural (mountains, forests, rivers, etc) and human elements (roads, houses, bridges, etc)

landscape quality the human value placed on the condition and aesthetic appeal of a landscape

landslide the failure or collapse of a slope, resulting in the movement of debris downslope under the influence of gravity

landsliding downslope movement of saturated soil and sediment by gravity

latitude imaginary line measured in degrees north and south of the Equator

lease a contract allowing temporary management or use

levee a sediment embankment bordering a channel

lichen a flat-lying symbiotic association of algae and fungi that adheres firmly to rocks and plants

limestone a rock made up of calcium carbonate ('lime'), originally deposited under the ocean and formed from broken-up shells, corals, animal skeletons and other carbonate materials

lithology the general physical characteristics of rocks

lithosphere the solid upper zone of the Earth, including soil and underlying rocks to a depth varying between about 7 and 200 kilometres

livestock farm animals

local scale the point of view that focuses on the local area

lock barrier in the form of large steel gates constructed to control the flow of water and allow boats to travel both upstream and downstream

loess extensive deposits of silty sediments, probably windblown, which develop almost vertical slopes when eroded by water

longshore drift the movement of sediment, usually sand, shingle or mud, along a coastline driven by the direction of the prevailing wind

Mallee the agricultural district where mallee vegetation was cleared for cropping

manufacturer a maker of goods

manufacturing the production of goods, often on a large scale and for sale to others

marble limestone that has been subjected to high pressure and temperature, resulting in recrystallisation of the original calcite crystals into a dense non-banded rock

marooned abandoned in an isolated place, often an island, with little hope of rescue or escape

mass migration large numbers of people moving somewhere else for similar reasons

meandering forming a series of wide curves and loops

metamorphic rock igneous or sedimentary rock that has been subjected to extreme pressures or temperatures that have changed its original characteristics

metropolitan relating to a very large city, often the capital of a country or region

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migrant an individual who has moved from one country to another

millennia thousands of years

Miocene a geological epoch characterised by the development of grasslands and grazing mammals

mollusc one of a diverse group of invertebrate organisms

monocline a simple fold that occurs singly rather than as part of a series of anticlines and synclines

morphology form and structure of shape of landforms

multiculturalism an ideology that different cultures can coexist successfully within a country (rather than conform to one national culture)

national scale the point of view that focuses on an area the size of a nation

natural disaster the occurrence of a natural event that adversely affects the environment and people in the area

naturalised Australian an individual born outside Australia who has become an Australian citizen

negative internal migration a situation in which more people leave a place than arrive as newcomers

notch an indent at the base of a cliff caused by wave erosion

ocean–ocean convergence boundary the point where two oceanic plates move towards each other and one is pushed beneath the other

offset horizontal displacement

open-cut mining (also known as open-pit or open-cast mining) extracting rocks from the earth from an open pit

outcrop surface exposed rock surface

overburden material (usually rock) overlying a resource found close to the surface (often coal) which can be removed to access the resource

overland flow unchannelled run-off flowing over land

ox-bow lake (billabong) an old looped river meander that has been cut off from the present channel

parent material original material

pastoral zone inland areas of Australia where the climate is too dry to sow pasture or crops but livestock can be grazed on native vegetation

pedogenic processes soil-forming processes

pedologist a scientist who studies soils

periglacial referring to an area, often near glaciers, where water freezes and melts each year

permafrost permanently frozen ground

permeable having interconnected pore spaces into which water can move

persecution unfair or cruel treatment over a long period of time because of race, religion or political beliefs

physical (or mechanical) weathering processes that break up rocks into smaller pieces without chemical change

physico-chemical weathering a combination of physical (mechanical) and chemical weathering

physiographic or geomorphic region an area of the Earth's surface with similar landforms and topography

place an area that has a specific meaning or purpose

playa a low-lying area that is often dry for long periods

Pleistocene a geological epoch characterised by the formation of widespread glaciers between 10 000 and 2 million years ago

population distribution the way a population is spread in a given area

pore space tiny air space in weathered rock or sediment

precipitation water that falls from clouds and may be in the form of rain, hail, snow or sleet

primary resource (also known as natural resource) a product from the Earth that can be used to produce or run human-made inventions

productivity the total economic output compared with the input of resources

province an area within a country or state

pull factor a reason why a person would want to move to a particular area

push factor a reason that forces a person to leave their place of residence

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pyroclastic describes a superheated mixture of rock, ash, gases and water that moves rapidly downslope as a result of a volcanic eruption

quartz rock composed of silicon dioxide; a hard mineral that resists weathering

quota a specific number that either must be achieved or not exceeded

recession a period when the economy shrinks

recreation activities for the purpose of relaxation during leisure time

recreational facility a program or structure, such as a library or park, that provides enjoyment for communities

recumbent fold a layer of rock that has folded or appears to have flopped over

refugee a person who has left their home country because of persecution or the fear of persecution

rehabilitate to restore an ecosystem to health through, for example, tree planting

renewable resource a resource that can be replenished in a relatively short amount of time through reproduction or other biophysical processes

ribbon development the spread of urban areas along transport routes, such as main roads, bus routes and railway lines

rill a very small and shallow channel formed by running water, initially measuring less than a few centimetres long and less than 1 centimetre deep, but developing into channels up to 30 centimetres deep

river basin the area of land drained by a river and its tributaries

riverine associated with rivers

run-off water (from precipitation, glacier or snow melt, or groundwater seepage) that flows over the land and collects in rivers, lakes, seas and oceans

saline containing high in levels of salt

salinisation the build-up of salts at or near the soil surface, either by natural processes such as evaporation or by land clearing

salinity the salt content of water

salt weathering physical weathering of rock by the growth of salt crystals

sandstone a rock composed mainly of sand-sized grains (diameter of 0.2–2 millimetres), most often quartz grains, with the matrix between these grains being made up of clay-sized particles (under 0.05 millimetres in diameter); the rock is welded together by a cement or binder, generally siliceous (silica) or sometimes calcareous (calcite)

satellite city a smaller metropolitan area that is located near a large city; it may be economically and politically independent

scientific consensus the agreed view of scientists about a particular topic, such as climate change

sea stack a pillar-shaped remnant of land that has been eroded by the sea

sea wall a rock or concrete wall erected to stop the sea from eroding a land area

seafloor spreading the separation of tectonic plates on the floor of the ocean, allowing molten rock to emerge and form new ocean floors and mountains, such as the Mid-Atlantic Ridge

seasonal migration moving for a period of time in response to labour needs or climate conditions

sediment fine particles of rock, including mud, sand or silt, and gravel

sedimentary rock rock formed from sediments that have later been welded or pressed together

seismic wave a shock or energy wave caused by earth movements

self-determination freedom to live as one chooses

shale a rock composed of mostly clay-sized particles that have been compressed

shear stress stress caused by two objects moving at an angle to each other

sheeting fracture a large-, medium- or small-scale crack that develops in rocks that have been subject to pressure and that do not have other existing fractures to allow for the release of pressure

shore platform a fairly smooth, gently sloping rock surface lying between high and low tides

sial crust or outer part of the Earth, forming the continents, which are mainly made up of rocks containing **si**lica and **al**uminium

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siltation the process of sand or earth being carried by running water and forming sediments in marine areas or water reservoirs

sima the lower part of the Earth's crust on which the continental plates float, made up of rocks which contain large amounts of **si**lica and **ma**gnesium

slate shale changed into a stronger rock by heat and pressure within the Earth's surface

soil horizon a soil layer with different physical and chemical properties from other layers

solifluction slow soil flow caused by freeze–thaw activity in saturated surface sediments in periglacial areas

soluble able to be dissolved

solution a reversible process of ions dissolving in water

Southern Oscillation Index (SOI) a figure calculated on the air pressure differences between Tahiti and Darwin

special economic zone a region that has conditions designed to ensure competitive trade between countries

spit a narrow, low-lying line of sand developed naturally by longshore drift and extending from the land into the sea

spray zone the area above the high tide line that is regularly splashed, but not submerged, by ocean water

stewardship the responsible planning and management of resources

storm surge an increase in the height of coastal waters as a result of onshore winds, usually associated with a cyclone

striate gouge

strip mining the removal of resources (usually coal) found close to the Earth's surface by the removal of overburden along a long line and then mining by open-pit operations

strongly folded squeezed into sharp folds as a result of great horizontal pressure

sub-aerial process a process occurring on the Earth's surface

sub-artesian referring to underground water that has to be pumped to the surface

subsistence collection or production of food for oneself and one's family, but not for sale

suburbanisation the movement of people and work to outer urban areas and middle-distance suburbs

suspension being dispersed through water

sustainable healthy and functional in the long term

sustainability wise use of resources so they are available indefinitely into the future; society, environment and economy must all be considered carefully

swale low-lying land between two sand dunes

syncline the downward squeezing of rocks caused by compression

TAFE Technical and Further Education training college

tectonic plate a layer of the Earth's crust that moves and floats

terrace a 'platform' of fairly flat land, often a former flood plain that has become stranded by later downcutting by the river

topography the layout of the land

topsoil surface soil, usually in the A horizon

totem an object representing an animal or plant that is of special significance to a particular group or family

tower karst towers or pinnacles remaining after limestone has been weathered in tropical regions

town planner a person who plans the designs of urban places

trading nation a nation with an economy that greatly benefits from the export of goods to other countries

traditional burning the ritual practice of setting fire to areas of bushland for environmental purposes and to attract wildlife to the new growth

traditional owner an Aboriginal or Torres Strait Islander person recognised as having primary spiritual responsibility for the land

transform plate boundary the point where two plates slide, grate or jerk past one another

transportation the carrying of sediment from one place to another

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tsunami a series of ocean waves with enormous destructive potential, usually created by an undersea earthquake

turbid cloudy or muddy

unsustainable impossible to maintain

urban area an area with a high population density, as well as social and political organisation, that has been transformed from a natural to a built environment

urban consolidation the process whereby medium- and high-density housing is added to existing areas in urban places, using existing roads and amenities, with the purpose of reducing urban sprawl

urban settlement a distinct area where people live and work

urban sprawl the gradual spread of cities into previously rural areas due to population growth

urbanisation the process by which more and more people are coming to live in towns and cities

variability refers to differences – in this case, the different measured amounts of rainfall

vegetation trees, shrubs and other plants

vent opening in a volcano through which molten rock, gas and water can escape

visa a document allowing a person to enter and stay in a particular country for a specified time period

viscous with a thick consistency that allows for flow (neither completely liquid nor solid)

viticulture the practice of growing grapes

volcanic eruption the process of lava (originally magma from the Earth's core) spilling from fissures or vents in the Earth's crust

voluntary migration when people move somewhere else by their own choice

wage payment to employees for work

weathering the breakdown of rocks and sediments into smaller particles or a solution

weathering by fire flaking or slabbing off in fire

wheat-belt zone the agricultural area where wheat is grown

zoning government restrictions about the types of buildings and services allowed in an area

HISTORY

abdicate to give up rule

abolish to formally put an end to something

adze a tool similar to an axe with an arched blade at right angles to the handle, used for cutting or shaping wood

ahu platforms on which the Easter Island *moai* were placed

Ainu the original inhabitants of Japan who now mainly live in Hokkaido

ajaw the modernised term for a Maya ruler, lord, king or political leader

Amaterasu Shinto sun goddess and legendary founder of the Japanese imperial family

Anatolia the area from the Black Sea on the north, Aegean Sea on the west and Mediterranean on the South; sometimes called 'Asia Minor'

Anglo-Saxons Germanic inhabitants of Great Britain (and their descendants) following their arrival in the fifth century CE

animal husbandry the branch of agriculture concerned with breeding and rearing farm animals

anthropologist an expert in the study of human societies, cultures and their development

aqueduct a structure designed to transport fresh water to cities

archipelago a group of islands

aristocrat a member of the nobility

arquebus an early hand-held gun or musket; also known as a matchlock

artisan a skilled tradesperson

ashigaru Japanese foot soldier armed with a handgun

askeri the Ottoman military class, which was exempted from tax

Austronesian a family of languages spoken in Madagascar, the Pacific and south-east Asia

bakufu Japanese military government

Balkans an area in south-eastern Europe, from the Balkan mountains and Danube River to the Aegean, Mediterranean and Adriatic seas

baluster a stone pillar that forms the horizontal bars in Angkorian windows

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baray an enormous reservoir of the Khmer empire that held millions of cubic metres of water

baron a nobleman who had been given his land by the king, often in return for military service

bas-relief a picture carved into stone walls

beguine a member of a special society or Catholic sisterhood devoted to doing holy works, such as the care of the poor

bequeath to leave personal or other property to somebody after death

bill of exchange a document written on paper, promising the owner that they will be given a stated sum of money when they arrive in a foreign place

bishop the senior member of the Catholic Church in a particular diocese

Black Death the great outbreak of bubonic plague in the fourteenth century

Bosphorus a narrow strait that connects the Black Sea to the Sea of Marmara

boss a large metal circle in the middle of a shield

Brahmin highest order within the Aryan social system; they were the priests and teachers

bubo a painful pus-filled swelling of the lymph nodes, characteristic of the bubonic plague

Buddhism a religion that has a variety of beliefs, practices and traditions based largely on the teachings of Siddhartha Gautama (the historical Buddha)

bund a low-level wall used to create shallow ponds for growing rice

bushi Japanese mounted warriors (later called samurai)

bushido a Japanese warrior code of conduct

Byzantium a Greek city, later called Constantinople; capital of the eastern Roman Empire

caliph a civil and religious leader of the Islamic world

calligraphy the art of formal handwriting

caravanserai an inn or hotel where travellers and traders could rest on their journey

Catholic a Christian who belongs to the original church led by the pope; also Roman Catholic

cavalry soldiers who fight on horseback

chakravartin a title used for the kings of Angkor meaning 'universal monarch' or 'king of kings'

charter a written document delivered by the sovereign or legislature, granting rights or privileges, or creating a corporate entity

chivalry a set of rules or code of conduct for knights, which obliged them to fight bravely and fairly, to act honestly and to defend the rights of others, especially women

Christianity a religion that is based on the life and teachings of Jesus Christ

chronicle a historical account of facts and events ranged in chronological order; from the Greek *chronos* ('time')

city-state a government that rules a small area made up of one city and the towns and countryside around it

civic humanism the belief that a man of learning should hold public office and use his skill in the service of the city

concubine a female slave cohabiting with a man without marriage; in Muslim society often a secondary wife

Columbian exchange the widespread exchange of people, animals, plants, food and diseases between Europe and the Americas

confluence the intersection of two or more rivers

Confucianism a philosophical system of ethics based on the teachings of Confucius (c. 551–479 BCE)

conquistador one of the adventurers, soldiers and settlers who sailed in the service of Spain and Portugal to help establish their country's empire around the globe

conscription compulsory enlistment for military service

consul an official representative of a foreign government

contado the land around an Italian city, which is controlled by that city's government

contiguous connected without a break

coral atoll a ring-shaped reef, island or chain of islands formed by coral

corvée compulsory work by peasants for the Khmer king or local officials

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Crusade a military campaign to restore Christianity in regions controlled by Muslims

daimyo a feudal Japanese lord, roughly equivalent to a medieval European duke or earl

Dai Viet literally meaning 'Great Viet', this is the name given to Vietnamese dynasties between 1054 and 1400

Danelaw the parts of Anglo-Saxon England that came under Danish law and where Danish customs were observed, particularly in the late eighth and early ninth centuries

decree a rule or law issued by a central authority

dervish a member of a Muslim ascetic order, some of which performed whirling dances as acts of ecstatic devotion

devshirme the forced collection of Christian children to train for positions in the Ottoman sultan's palace or army

dharma the Hindu and Buddhist idea of good order and harmony being maintained in the world

diplomacy the practice of negotiating between representatives of different countries

diplomat an official who represents the interests of their government in dealings with foreign governments

divine relating to a god or gods

dowry an amount of money or property given by a bride's family to her bridegroom or his family upon marriage

dynasty a succession of rulers from the same family

eddas collections of poetry and prose containing accounts of Norse myth

empire a group of states with a government that is under a single supreme authority

enlightenment the realisation of how suffering is caused, and how to avoid the process of samsara

epidemic a disease that affects many people at the same time

epistemology the branch of philosophy that studies the nature of human knowledge

era a period of time in history; for example, the Roman era or the medieval era

eta an offensive term used to describe Japanese outcasts who were regarded as below the officially decreed class system

ethnologist an expert in the study of character traits of populations

eunuch a civil servant who has been castrated, often employed in Ottoman harems

expedition a purposive journey undertaken by a group of people

exterminate to bring to an end or finish

feigned withdrawal a faked retreat, designed to draw enemy forces out of formation

feudal relating to a system under which peasants were granted use of farming land and, in return, were obliged to provide services and loyalty to the lord of the manor

feudalism a form of government based on the exchange of land for military service, with a strict hierarchy of status; also a system under which peasants were granted use of farming land and, in return, were obliged to provide services and loyalty to the lord of the manor

flagellant a person who whips themselves to make amends for their sins

flail a weapon made up of a heavy metal ball with sharp spikes hung on the end of a rope; the weapon would be swung in the air and brought down heavily to crush the skull of an enemy

flotsam wreckage or lost cargo from ships found floating at sea or washed up on shore; also pieces of plant life floating at sea

flying buttress a stone arch designed to support the main wall of a large church

folklore the traditional customs, traditions and stories of a population, passed down from one generation to another by word of mouth

fratricide the killing of a brother

freemen individuals who were free to choose whom they worked for, and were not tied to land under medieval serfdom

galley slave a slave, often a prisoner of war, who was forced to row in galley ships, sometimes chained to his oars

gazi a Muslim warrior fighting for Islam

geneticist an expert in the study of inherited characteristics in animals and humans (genetics)

gentian flowers blue flowers usually found in mountainous areas of Japan

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gentry a reasonably wealthy landed class below the nobility

ger the Mongolian word for 'home'; a tent-like structure suited to the nomadic lifestyle

globalisation the increasing interconnection of different parts of the world

grand vizier the sultan's chief advisor or prime minister

guild an association of all the people in a particular trade or business, which sets standards for that particular industry

haiku a distinctive Japanese poem with three unrhymed lines, the first and third lines consisting of five syllables each, and the second of seven syllables

hamam a Turkish public bath house, usually segregated for men and women

harem women's quarters in Muslim dwellings; sometimes used to describe the female occupants

hauberk a shirt of chain mail armour, usually reaching to mid-thigh and including sleeves

hearth tax a tax imposed on each hearth, and therefore on each family unit

heaven the paradise to which the souls of good people go after death

hell the place of punishment and torture to which the souls of evil people go after death

hierarchy a system of organisation in which individuals or groups are ranked one above the other

Hinduism a religious tradition of the Indian subcontinent

holy war a war fought in the name of a god

humanism the study of politics, philosophy and the human experience of life generally, drawing upon classical Greek and Roman texts for ideas

Icelandic sagas histories and narratives of the Viking settlement in Iceland in the tenth and eleventh centuries; these were written in the twelfth and thirteenth centuries

illumination the painting of beautiful scenes on pages, especially in manuscripts

imam an Islamic religious official

imperial related to an empire or emperor

Indianisation the adoption of Indian religious, political and cultural practices in south-east Asia from the first century CE

irrigation a system of bringing a supply of water to a dry area, especially in order to help crops grow

Islam a religion based upon belief in one God of whom Muhammad is the chief and last prophet

island hopping breaking up a long voyage with stops at many islands, gathering crucial supplies at each one

Janissary the Ottoman sultan's permanent military corps of infantrymen, many of which were recruited by the *devshirme*

jarl a wealthy Viking; usually a nobleman or landholder

kabuki a style of Japanese theatre that developed during the Tokugawa period

kadin a most favoured concubine

kami Shinto deities (spirits)

kamikaze 'divine wind', especially relating to the typhoon of 1281

kamon an emblem or crest that identifies a particular Japanese family

Kanto the largest and most prosperous area of flat land in Japan (near present-day Tokyo)

karl a free Viking person who typically worked as a farmer, merchant or artisan

karma the Hindu (and Buddhist) belief that the way a person lives their life has an effect on how happy or successful they will be in their next life

kemari an ancient Japanese game in which a leather ball is kicked by players in a circle who keep it from touching the ground as long as possible

khan an important leader of the Mongols

khanate area or territory under the rule of a *khan*

kinship having a relationship by blood or marriage

knarr a Viking cargo ship capable of open sea travel, with a wider, deeper and shorter hull than a longship, and operated by a smaller crew

knight a military servant of a king or other person of rank

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komuso a wandering priests of a Zen Buddhist sect who played the *shakuhachi*

koto a flat musical instrument from Japan with 13 or more strings that are plucked

kuriltai a gathering of Mongol leaders to make important decisions

laterite a soft, clay-like material that is easy to cut and hardens when exposed to the air

life expectancy the average length of time that a given population is expected to live

linga a representation of the Hindu diety Shiva used for worship in temples

linguist an expert in the study of language and its structure (linguistics)

lintel a stone that spans the top of a doorway

litter a vehicle containing a bed or a seat, enclosed by curtains and carried by men

lute a plucked, guitar-like string instrument with a long neck and pear-shaped body

magnate a member of a noble family, with a special title and coat of arms to show their importance

make merit the Buddhist idea that doing good works will earn enlightenment

mana in Polynesian and Melanesian societies, a supernatural or sacred energy force believed to run through all natural things

manor the great house and lands of a rich nobleman

manuscript a book written by hand

martyr someone who is put to death for their beliefs

matrilineal inheritance in the Khmer Empire, inheritance passed from a man to his sister's son, rather than to his own children

medieval nineteenth-century Latin for 'middle age' (*medium aevum*)

medrese an institute of Muslim education; *madrasah* in Arabic

mehter an Ottoman military band

Meiji a period of reform in Japan after 1868; also the posthumous name of Emperor Mutsuhito

mercantile relating to trade or commerce

merchant a business person who makes money by trading goods, especially with foreign countries

Mesoamerica the area of Central America before the arrival of the Spanish

military intelligence information about the size, location and tactics of enemy forces

millet an Ottoman system of national communities, based on religion

minaret a tall, thin turret connected to a mosque

mint a place where money is manufactured

missionary a person sent to spread a particular religious faith in another country

moai the large stone statues erected by the inhabitants of Rapa Nui (Easter Island)

monarchy a style of government where a king or queen rules a society

monastery a place of residence of a community of monks or nuns living under religious vows

Mongols a powerful tribe from Central Asia who set up a great empire

monsoon strong winds that blow into south-east Asia from the southwest during the wet season, bringing heavy rains, and from the north-east during the dry season

mosque a Muslim place of worship

motte and bailey castle an early and simple form of the castle, made up of a bank of earth with a stone or wood wall on top of it

musketeer a soldier who is equipped with a musket, an early form of rifle

Muslim a follower of Islam

myth a sacred narrative, either a story or poem, explaining how the world and humankind came to be in their present form

mythology a collection of myths that belong to a particular people or culture and tell about their history, ancestors, heroes, gods and other supernatural beings

noh a type of traditional Japanese play

nomads people who move from place to place

Nornir three female beings in Norse mythology who rule the destiny of gods and men; comparable to the Fates in Greek mythology

page a boy who began his training as a knight by serving in the home of a nobleman

pandemic an infectious disease that spreads over a large area of the world

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pantheon all the deities of a religion considered collectively

papacy the pope's system of government and administration of his lands

patron a person who supports an activity, usually by giving money

Pax Mongolica a long period of relative peace and stability across Central Asia

peasant a labourer who relies on subsistence farming or fishing

penance an act of self-punishment to make amends for one's sins

peninsula a long piece of land surrounded almost entirely by sea, but joined to the mainland

picture stone a large slab of stone engraved and decorated with pictures of ships, animals, gods, weapons and armour; often erected as a memorial

pilgrimage a religious journey to a sacred place

pincer movement when two parts of an army close in on the enemy from either side

plague doctor a medical officer employed to treat plague victims; often he had limited medical training

polygamy having more than one wife at one time

Polynesia from the Greek *poly* meaning 'many' and *nesos* meaning 'islands'

polytheist a believer in more than one god

port a harbour that is big enough to take large trading ships, and has the equipment to load and to unload them

precarious dangerously insecure

pre-Columbian a term used by historians, anthropologists and archaeologists to describe the cultures in America before the arrival of Christopher Columbus in 1492 CE

prefecture a subdivision or state within Japan

priest one who conducts church services for the people in each parish

prime prepare a firearm for firing

proletariat ordinary working people with no special skills

prophet a person who claims to be in contact with the supernatural and acts as an intermediary concerning knowledge delivered from the supernatural

Protestant a Christian belonging to one of many sects that split from the Catholic Church as a result of the Reformation

province a region or district within a country

puppet ruler a ruler whose decisions are made or controlled by another person

purgatory the place that spirits of the dead go to be purified and made ready for heaven

Qur'an (Koran) the holy book of Islam

reaya lower-ranking, tax-paying people in the Ottoman empire

Reformation a division within the Catholic Church in the sixteenth century, resulting from Protestant sects leaving the church

reformer a person who works to improve social policy

regent a person appointed to reign on behalf of an under-age ruler until they are old enough to rule in their own right

Renaissance a period of rebirth of interest in the ideas of ancient Greece and Rome, with an emphasis on philosophy, art and architecture

renga a form of collaborative Japanese poetry made up of a chain of verses

ronin a samurai warrior without a master, who therefore received no salary

rule from the cloister rule by a retired emperor

runes letters within a set of related alphabets dating from the second century CE; they were used to write various Germanic languages before the adoption of the Latin alphabet

samsara the Hindu process of reincarnation, which is influenced by karma

samurai the hereditary warrior class of Japan

sanitation the provision of adequate facilities such as toilets, and services such as garbage collection, to promote community health and hygiene

scholar a specialist in a particular branch of study, such as history

scriptoria rooms where monks created or copied illuminated manuscripts

Sea of Marmara the sea in Turkey that divides Asia from Europe

secular non-religious

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sedentary relating to an inactive or settled lifestyle

segregate isolate, divided or separate apart from one another

Seljuk a Turkish–Persian (Iranian) dynasty originating in Central Asia

seppuku a method of ritual suicide considered honourable for samurai

serf a person who is bound to work the land of their master in return for a small amount of land to feed their family

serfdom the system whereby a person is bound to work the land of their master in return for a small amount of land to feed their family

shakuhachi a Japanese bamboo flute

sherd a broken piece of ceramic material found in an archaeological site (abbreviation of potsherd)

Shi'ite (or Shia) a Muslim who regards Ali (Muhammad's cousin and son-in-law) as his first legitimate successor

Shinto an ancient Japanese religion involving worship of ancestors and nature

shoen privately owned landed estates in Japan

Silk Road a network of trade routes that linked Asia with Europe and the Mediterranean world

skirmish an unplanned battle between parts of opposing armies

squire a young man who has become the personal servant of a knight

stanza a section of a poem

stele a free-standing stone, often carved with an inscription

steppe a vast area of grasslands that spans much of Central Asia

stick chart a map used by Polynesian navigators that indicated islands, waves and currents across the ocean

stirrup a metal device that holds the foot of a horse rider steady, allowing the rider to use weapons while riding

subjugate bring under domination or control by conquest

sultan the leader or emperor of the Ottoman Empire

sumptuary law a law that regulated what peasants could wear so that they couldn't begin to dress or act as a member of a higher class

Sunni a Muslim who believes that the leader of the Muslims after Muhammad should be elected from among the people close to him, not necessarily a family member

tanka a Japanese poem of five unrhymed lines

tapa cloth made from the bark of the Polynesian paper-mulberry tree

tapu the behaviours and things that were believed to be prohibited by the gods in Polynesian societies

Tatar khan the leader of the Tatar group in the region of Crimea

tax a compulsory contribution made for the support of the government

tenno emperor of Japan

thing the assembly of freemen that governed a Viking community

thrall a bonded Viking serf or slave

timar an area of land on which taxes were gathered and partly shared by local officials, who in return provided military service to the empire

torii a gate to a sacred place, dividing the natural world from the spirit world

trade caravan a group of merchants travelling together with their goods

treaty an agreement between countries

tribute money paid by one state to another in acknowledgement of military submission

Trimurti the Hindu Trinity, which comprises the three most significant gods: Brahma, Shiva and Vishnu

ukiyo 'the floating world'; a lifestyle emphasising pleasure, centred on the cities

ukiyo-e art that portrayed the Japanese *ukiyo* (pleasure-seeking) lifestyle

usurper one who illegally becomes king

valide sultan the mother of the sultan

Valkyries 'choosers of the slain' – female figures who decided who would die in battle; from the Old Norse *valkyrja*

vassal a slave or servant within the feudal system who received land in return for their service

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vellum sheets of material used for writing, which were made from thinned animal skin; also known as parchment

Vikings explorers, warriors and pirates of Scandinavian descent who raided, traded, explored and settled in wide areas of Europe, Asia and the North Atlantic

yam an efficient mail system using fast horse relay in the Mongol Empire

Yassa a code of laws that helped to govern the Mongol Empire

ECONOMICS AND BUSINESS

10-day cooling off period a 10-day time period in which consumers are entitled to change their mind about the purchase

Australian Consumer Law a national law designed to protect Australian consumers

balance of payments total value of exports minus total value of imports

barter trade based on exchanging goods and services with no money used

capital item a useful tool, weapon or other implement that can be kept and reused

casualisation the process of employing staff on a casual rather than a permanent basis

coercion the act of forcibly persuading

complementary business businesses that combine in a way that emphasises or enhances eath other

consumer guarantee a guarantee for rights to repair, replacements or refunds under the ACL if the goods or services bought are found to not do certain specified things

contract a legally enforceable agreement

cooperative an integrated business structure sharing decisions, liability and profit

durable able to be used more than once

economic decision a decision regarding economic issues

economics the study of how wealth is created and distributed, also of how and why decisions are made regarding the use and distribution of economic resources

employer association an organisation of employers that provides support for its members and negotiates in industrial disputes

entrepreneur a person who risks their own assets and uses initiative, skill and knowledge in pursuit of profit

environmental sustainability the management of the world's environment to meet the needs of the present population without reducing the capacity of future generations to meet their needs

exploitation treating someone unfairly in order to benefit from their work

exporting selling goods and services to other countries (part of trade)

Fair Work Commission the organisation established by the Australian government to oversee the Australian system of employee relations

factors of production (economic resources) anything used to produce and supply goods and services in the economy

false and misleading representation to lie or exaggerate about the features or benefits offered by a product being sold

feasibility study assessment of a project including costs, risks etc to determine its chances of success

fiscal policy a policy which deals with the budget

franchise a business that is based on the purchase of a franchise licence

franchise agreement a legal agreement outlining the rights and responsibilities of the franchisee and franchisor

gap in the market an area in the market currently not being catered for

goodwill reputation within the community

harassment the act of annoying repeatedly

hunter-gatherer person subsisting in the wild on food obtained by hunting and foraging

importing buying goods and services from other countries (part of trade)

incorporated registered as a company

inflation price increases

innovation introduction of new products, technology and/or ways of doing things

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limited liability where shareholders in a company are not personally liable for the debts of the business

Ltd a company whose members are liable up to what they have invested or guaranteed

macroeconomics the branch of economics concerned with the whole economy; includes economy-wide factors such as changes in unemployment, national income, rate of growth, gross domestic product, inflation and price levels

market economy an economy where the decisions made about what to produce and buy are influenced by consumers and producers with no government involvement

market research the process of gathering and analysing data on customers and competitors etc

microeconomics the branch of economics concerned with individual businesses (or other organisations) and individuals (people)

mixed market economy an economy where there is both private businesses and government activity

partnership business owned by two or more (up to 20) people, sharing the profits and responsibility

partnership agreement a business legal agreement which sets out the role and responsibilities of each partner

personal inspiration an idea that you have that helps create or do something

planned economy an economic system based on government ownership and control

privatisation when a government-owned business is sold to private owners

product recall when a batch of faulty products is compulsorily returned

production the process where factors of production (economic resources) are put through a series of steps to be transformed into a finished product.

progressive taxation system a system where the rate of tax paid increases as income rises

Pty Ltd a business that has at least one and no more than 50 non-employee shareholders

public goods not-for-profit goods or services that are provided to members of society by the government or a private organisation

scam a dishonest or fraudulent scheme

scarcity lack or inadequacy

shareholder part owner of a company

small business a non-manufacturing business with fewer than 20 employees or a manufacturing small business that employs fewer than 200 employees

sole trader a business that is owned and managed by one person

subsidy money given by a government to support a business

subsistence economic system an economic system that relies on natural resources to provide for basic needs, through hunting, gathering, and subsistence agriculture

subsistence economy an economic system based on people being self-sufficient and producing enough to meet their own needs

tax a cost or charge placed on goods or services

trade to exchange (something) for something else

trade route a planned path used for the transport of goods

trade union an association of workers organised to protect and further their working rights and interests

traditional a system or method of doing something established and used by elders in the past and then carried on by successive generations

triple bottom line reporting (TBL) the reporting of business performance in three areas: social, economic and environmental

unethical behaviour not doing what is considered morally right

unlimited liability where business owners are personally liable for the debts of the business

warranty an agreement that outlines the conditions under which a consumer is entitled to have a purchase repaired or replaced

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CIVICS AND CITIZENSHIP

civil law law that addresses crimes in which financial compensation is being pursued

common law law passed through a ruling made by a judge

criminal law law that addresses crimes relating to the harming, threatening or endangering of a person's health or welfare

customary law law that has developed over a long period of time based on the social norms or customs of a particular Aboriginal and Torres Strait Islander group

democracy a system of government based upon participation of the people; a form of government in which power lies with the people, such as through voting

dual citizenship citizenship of two of more nations

freedom of association the right to join or leave groups of your own choosing

freedom of movement the right to travel

freedom of religion the right to practise your chosen religion

immigration the act of entering and often settling in a country that you are not native to

international law law established and recognised between nations

law of sedition a law that prevents a person or organisation from encouraging others to overthrow or undermine the government

pluralist valuing diversity as opposed to accepting only one point of view

privilege a legal, social or ethical advantage

right a legal, social or ethical entitlement

statute law (statutory law) law passed through parliament

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