

Chapter 3

What's their point?

Identifying arguments

Learning outcomes

This chapter offers you opportunities to:

- identify the key components of an argument
- develop strategies for identifying reasons, conclusions and arguments within a message
- practise identifying simple arguments

Introduction

Critical thinking focuses on 'argument'. This chapter looks at what is meant by 'argument' within the context of critical thinking, and how to recognise its key features. If you are able to detect the main argument, you are better able to direct your attention to the salient, or most appropriate, material. This, in turn, enables you to direct your reading to the most relevant material, and to save time by reading more efficiently.

There are many short passages used in this chapter to help you practise critical thinking skills. It is worth noting that the activities may ask you to make judgements about the arguments, but none ask whether you agree with them. You may not agree with the reasons or conclusions given. However, critical thinking requires an evaluation of

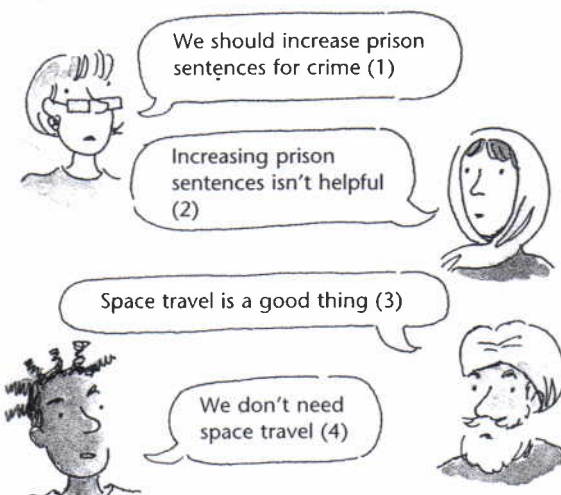
arguments in terms of the merit of their formal features, such as the quality of the reasoning, and not whether these support our own opinions. Good critical thinking includes recognising good arguments even when we disagree with them, and poor arguments even when these support our own point of view.



Doug never recognised a good argument.

The author's position

When we read, watch television or listen to people talking, we are presented with other people's arguments. Underlying those arguments are points of view or 'positions' that they aim to convey to us, their audience.



Note how the positions of the authors above relate to the overall argument opposite.

Key terms: Argument

The word 'argument' is used in two ways in critical thinking:

- **Contributing arguments** Individual reasons are referred to as 'arguments' or 'contributing arguments'.
- **The overall argument** This is composed of contributing arguments, or reasons. The overall argument presents the author's position. The term 'line of reasoning' is used to refer to a set of reasons, or contributing arguments, structured to support the overall argument.

Overall argument	Contributing arguments
(1) Longer prison sentences should be introduced.	Heavy punishments deter criminals. Current penalties for crime are too lenient and don't deter criminals. Since prison sentences were reduced, crime has increased. Victims need to see that perpetrators of crimes are punished.

Overall argument	Contributing arguments
(2) Increasing prison sentences is not the way to stop crime.	Crime was high even when punishments were more weighty. Prison teaches people how to be more skilled as criminals. Criminals who are imprisoned are more likely to take part in increasingly serious crime when released. Most crime is committed by people who are illiterate and lack work-related skills. Education rather than punishment is needed.

Overall argument	Contributing arguments
(3) We should invest more in space travel.	Many discoveries have come about through space travel. It is important for us to learn more about the universe we live in. The fuel needed for space travel may not be around for much longer so we should use it while we have the chance.

Overall argument	Contributing arguments
(4) We should stop investing in space travel.	Space travel is expensive and the costs far outweigh the benefits. There are much more urgent projects that need investment more than space travel. Better alternatives for fuel for space travel may be available in the future.

Activity: Capturing the author's position

Activity

Read through the following passages and identify the author's position:

- Skim quickly over the passage and note your first impressions, aiming to capture the author's position (the main message of the passage).
- Follow up your rapid read by closer reading to check if you were right. This will give you an idea of how accurately you capture a message when reading at speed.
- Check the answers on page 49.

Passage 3.1

Barristers do not have much direct contact with their clients, but it is possible to find a legal job that suits your preferences for court work. However, if an aspiring barrister wants to spend time in court, they need to select their field carefully, to see if the work patterns associated with it match their preferences. Every field is different. Criminal lawyers may spend most of their time in court. Tax lawyers, on the other hand, may spend only a day a month or less in court. Advocacy work requires less time in court than in the office.

Passage 3.2

The nature and origin of disease was unclear until relatively recently. At the end of the nineteenth century, Koch, a Prussian scientist, introduced a set of procedures now known as *Koch's postulates*. He experimented with bacterial colonies cultivated in the laboratory, made from the blood of dying cattle. When these cultures were injected into healthy live cattle, these also caught the same disease. At the time, these findings were astonishing. Koch had been able to provide proof to support the theory that disease was spread by germs. He contributed one of the most important methodological advances in the history of medicine.

Passage 3.3

The Sahara is a region worthy of serious investigation by travellers. Ancient architectures are no doubt hidden beneath the Sahara sands. Somewhere in the eastern Sahara, there may lie the long-lost oasis of Zerzura. In the west, there lies the fabled city of Timbuktu. Many have tried to find traces of the cultures that once straddled the great area covered by the desert.

Passage 3.4

It was initially believed that young children could not understand other people's points of view or undertake tasks such as counting and measuring until they were at least seven years of age. However, it seems the problem does not lie in children's capacity to do these things so much as in their understanding of what is being asked and why. If there is no obvious purpose, or they do not understand the language used, children find tasks difficult. Even young children can perform tasks formerly considered too advanced for them, as long as these are set up in ways that make sense to them. Problems that involve teddies or drinks, for example, may be meaningful to a very young child, whereas tasks with counters and beakers are not.

Answers: see p. 49. ▶

Further activity

Read the introduction and conclusion of three books or articles in your subject.

How well does the introduction present the author's position: is it clear what the author is trying to persuade you to accept?

How well does the conclusion make it clear what the author's position is?

Argument: Persuasion through reasons

Persuasion and reasons

In everyday language, an 'argument' can suggest poor communication, a difficult relationship, hard feelings and, possibly, aggression. This is not the case with argument as part of critical thinking. An 'argument' merely means presenting reasons to support your position or point of view. If other people accept those reasons, they are more likely to be persuaded to your point of view.

An argument includes:

- a position or point of view;
- an attempt to persuade others to accept that point of view;
- reasons given to support the point of view.

To identify an argument, it is useful to keep in mind such questions as:

- 'What was the point of producing this text or programme?'
- 'What is the main message I am supposed to take from this?'
- 'What does the author/producer want me to believe, accept or do?'
- 'What reasons have they offered to support their position?'

In most circumstances, authors aim to persuade us to a particular point of view because they believe in what they are saying. However, in some cases, they may have an obvious or a hidden vested interest. It may be that they have a long-standing rivalry with academics from a different school of thought. It may be that they work for a company that wants their audience to buy its products or to subscribe to a particular view on health or pollution or genetics.

Authors may also intentionally, or unintentionally, interpret information through the filter of their own political, religious or ideological perspectives. That doesn't necessarily make their argument invalid, but it is often important to know their theoretical position in order to identify the influences on their line of reasoning.

Ambiguous arguments

Sometimes, for everyday purposes, a statement may be clear and uncontroversial. For example:

- 'It's raining' – when clearly it is raining.
- 'Everyone who ate the fish is ill' – when this is an observation of fact.
- 'I ran a mile in 4 minutes' – when this has been timed and observed.

More often, there are complexities in what we hear, see and read. It may not be obvious what point someone is trying to make, or we may suspect that there are half-truths in what they say. We recognise this in speech when we make comments such as 'What's your point?' or 'What are you trying to say? We may wonder how someone has arrived at a particular conclusion: what they say just doesn't seem to 'add up'. When this is obvious, we may be able to point it out and resolve the misunderstanding.

However, when we are reading books or watching television, the author isn't available to answer queries about what is meant. The argument may be very complicated and it can take time to clarify the line of reasoning through careful analysis and close reading or observation. The author may also have presented the information in such a way that the lack of evidence, the illogical arguments or false conclusions are not immediately apparent. Critical thinking skills are then particularly important because we cannot always ask directly for explanations and clarifications.

Identifying the argument (1)

Key terms: Proposition and conclusion

Propositions Statements believed to be true and presented as arguments or reasons for consideration by the audience. A proposition may turn out to be true or false.

Conclusion Reasoning should lead towards an end point, which is the conclusion. The conclusion should normally relate closely to the author's main position.

This section looks at ways of isolating key information in a passage in order to identify the argument. You may find it useful to check the glossary of terms on page xii before proceeding. Before you read on, see if you can identify the main argument in the passage below.

Passage 3.5

This area has become well-known, but for unfortunate reasons. The junction of Green Road and Mill Street has been the site of over a dozen major road traffic accidents in the last five years as drivers take the corner too quickly. A local artist has made a rather grim photographic record of all the main accidents that have taken place. Some tourists have been victims. New speed cameras have now been placed at the corner of the road and this will reduce the number of accidents.

You may have noticed that some statements and pieces of information in Passage 3.5 add to our knowledge of the accident site but do not contribute to the overall argument. This general background and detail is highlighted in italics below.

This area has become well-known, but for unfortunate reasons. The junction of Green Road and Mill Street has been the site of over a dozen major road traffic accidents in the last five years as drivers take the corner too quickly. A local artist has made a rather grim photographic record of all the main accidents that have taken place. Some tourists have been victims. New speed cameras have now been placed at the corner of the road and this will reduce the number of accidents.

If we remove these, the propositions, or main statements of the argument, become clearer:

The junction of Green Road and Mill Street has been the site of over a dozen major road traffic accidents in the last five years as drivers take the corner too quickly. New speed cameras have now been placed at the corner of the road and this will reduce the number of accidents.

We can then isolate the main points in our own words:

- *Proposition 1:* Many road traffic accidents occur at the junction of Green Road and Mill Street.
- *Proposition 2:* Drivers take the corner too quickly.
- *Proposition 3:* New speed cameras are in place at the junction.
- *Conclusion:* There should now be fewer accidents.
- *Overall argument:* Speed cameras will reduce the number of accidents at the junction.

The overall argument becomes more obvious when the propositions and the conclusion are identified.

Identifying the argument (2)

Key terms: Premises; predicate

Premises Propositions believed to be true and used as the bases for the argument; the basic building blocks for the argument.

False premise A proposition that later turns out not to be true or correct.

Predicate The foundation of the argument; the aims of the argument; an underlying point of view; the assumption that underlies the argument. For example: *the argument was predicated on a Marxist interpretation of wealth; the programme was predicated on the assumption that the prisoner was innocent.*

For Passage 3.5, we can say further that:

- this is an argument because reasons are given to support a conclusion. The reasons supporting the conclusion are:
 - that drivers drive too quickly around the corner;
 - and that accidents happen as a consequence.
- The argument is based, or 'predicated', on the assumption that drivers will take notice of the speed cameras and reduce their speed on that corner. If you disagree with this, you might consider that the conclusion is predicated on a 'false premise'.

Before you read on, see if you can identify the main argument in Passage 3.6a.

As before, general background and detail is highlighted in italics in Passage 3.6b, so that the key points in the argument stand out more clearly. As you read Passage 3.6b, consider whether the conclusion comes at the beginning, the end or elsewhere within the text.

Passage 3.6a

Pit's End should become a site of major archaeological importance. Formerly, it was believed that the three large granite stones found near the village were deposited after the melting of glaciers at the end of the last ice age. Eleven new stones were unearthed during recent excavations. The area had been covered in farmland. Aerial photography suggested that the area was worthy of excavation. The layout of the fourteen stones suggests they were originally part of an unusual oval formation. They are spaced evenly at approximately two metres, which suggests they were laid out by a former settlement, possibly for religious purposes. Geologists confirm they are unlikely to have been laid down by glacial or other natural causes. Tools unearthed there recently are amongst the oldest ever discovered in this country, making them of significant interest. The dig has been funded by the national lottery.

Passage 3.6b

Background information

Pit's End should become a site of major archaeological importance. *Formerly, it was believed that the three large granite stones found near the village were deposited after the melting of glaciers at the end of the last ice age. Eleven new stones were unearthed during recent excavations. The area had been covered in farmland. Aerial photography suggested that the area was worthy of excavation.* The layout of the fourteen stones suggests they were originally part of an unusual oval formation. They are spaced evenly at approximately two metres, which suggests they were laid out by a former settlement, possibly for religious purposes. Geologists confirm they are unlikely to have been laid down by glacial or other natural causes. Tools unearthed there recently are amongst the oldest ever discovered in this country, making them of significant interest. *The dig has been funded by the national lottery.*

Identifying the argument (3)

If we remove the general background material from Passage 3.6, the premises and the conclusion become clearer:

Passage 3.6c

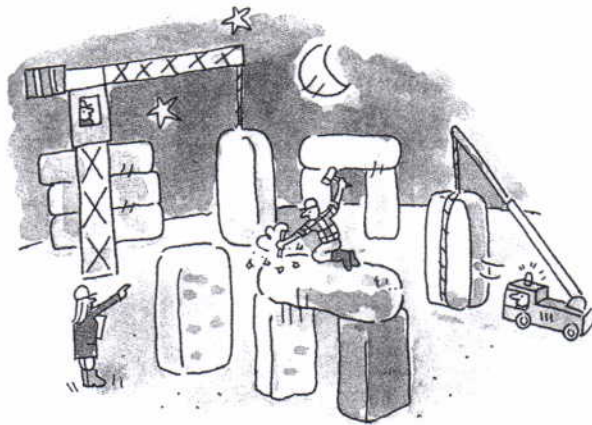
Pit's End should become a site of major archaeological importance. Eleven new stones were unearthed. The layout of the fourteen stones suggests they were originally part of an unusual oval formation. They are spaced evenly at approximately two metres, which suggests they were laid out by a former settlement, possibly for religious purposes. Geologists confirm they are unlikely to have been laid down by glacial or other natural causes. Tools unearthed there recently are amongst the oldest ever discovered in this country, making them of significant interest.

We can then isolate the main points, and give them in our own words. Note that the conclusion comes at the beginning of the argument in this instance and the reasons to support the point of view then follow:

- **Conclusion:** Pit's End should become a site of major archaeological importance.
- **Proposition 1:** Eleven new stones have been unearthed that change what was previously known about the area.
- **Proposition 2:** The oval layout of the fourteen stones is unusual
- **Proposition 3:** The even spacing of the stones suggests they were laid down as part of a human settlement.
- **Proposition 4:** The stones are unlikely to have been laid down by natural causes.
- **Proposition 5:** Tools unearthed there recently are amongst the oldest ever discovered in this country.
- **Argument:** The unusual oval stone formation and the very ancient tools found at Pit's End should make it into a site of great archaeological importance.

While we are looking at this passage we can say further that:

- This is an argument because reasons are given to support a conclusion. The reasons given are that the stones form part of an unusual human formation, and that the tools are amongst the oldest in the country. These are likely to create interest.
- The argument is predicated on the assumption that the stone formation dates back to the time of the tools or pre-dates them. However, this may be a false premise as the stones could have been laid down later. That may influence whether the site is interesting archaeologically.



You can see that when presented with a string of information such as in each of the passages above, it isn't always immediately obvious what are propositions, what is the conclusion, and what is simply additional or irrelevant information. If you search out the conclusion first, it is easier to identify the relevant supporting information.

TIP

Search for the conclusions first, and the key messages may become clear quickly.

Activity: Identifying simple arguments

Activity

Read through the passages below. Identify which are arguments, and which are not. If you are unsure, re-order the sentences to see if that helps you identify a conclusion and supporting reasons. Then check the answers on page 49.

Passage 3.7

I like that picture. The colours create the powerful effect of a sunset, which is pleasant to look at. The figures are interesting and very well drawn. It is a good picture.

Passage 3.8

Biscuits can be bad for your teeth. We often eat mid-morning when the effects of breakfast have worn off. Biscuit companies, like other food manufacturers, require their employees to wear hats to hold back their hair for health and safety reasons.

Passage 3.9

Quantum physics has identified many more dimensions than height, width, depth and time, which most people are familiar with. Such research can take a long time. Discoveries have also been made on other aspects of the time-space continuum.

Passage 3.10

The Pied Piper played a magical pipe and the side of the mountain opened. He encouraged the children from the town to enter into the mountain, which closed behind them so they were lost forever. Their parents never saw them again and he intended this to be the case. The Pied Piper was angry at the townspeople because they refused to pay him for removing rats from the town. His action wasn't accidental; it was one of revenge.

Passage 3.11

The train is late. There must have been a signal failure.

Passage 3.12

The eclipse was expected over Scotland at 9 am yesterday. Lots of people turned up. The sky was still visible when they arrived but it became cloudy. When you watch an eclipse, you have to protect your eyes and you mustn't look directly at the sun.

Passage 3.13

The windows rattled and the doors banged. The air felt charged. We were all frightened. A strange sound filled the air. It must have been a ghost.



Passage 3.14

Many adults learn to read later in life. Although John and Miranda found it difficult to read as children, as adults they caught up with their peers. They enjoyed attending local literacy classes. Almost a million people have improved their literacy skills through adult classes in recent years.

Passage 3.15

Plants need nitrogen in order to grow. Although there is nitrogen in the air, plants cannot absorb it by taking it in from the air. Instead, they are reliant on bacteria in the soil to absorb nitrogen in a process known as 'nitrogen fixation'. The bacteria turn the nitrogen into nitrates which are easier for plants to absorb through their roots.

Activity: Reasons and conclusions

Activity

Identify the main argument, reasons and conclusions for the following passages. It may help to highlight the reasons and conclusions with a marker pen.

Passage 3.16

A human skeleton was found near the river late last month by a senior couple walking their dog. They believed it was a murder caused by a troublesome local family. The police interviewed the family but ruled out their involvement. The bones are believed to be several hundred years old. Historians confirm that the river Marle passes close to ancient burial grounds and that there are records of other bodies being carried away by the river in the distant past. This was the first for over 150 years. Recent storms have caused the river to rise by half a metre. It is probable that the skeleton was dislodged from its resting place by the river rather than by the local family.

Passage 3.17

There are only 60 species of monocotyledons, more usually known as sea grasses. Nonetheless, sea grasses make important contributions to the coastal ecosystems of every continent except Antarctica. This wasn't discovered until the end of the twentieth century. In shallow waters such as estuaries and bays, sea grasses are indeed the most dominant form of vegetation, supporting a host of marine life. They act as nurseries for fish, including commercial varieties. Moreover, without sea grasses, the bio-diversity of coastal regions would be severely impoverished. The United Nations has sponsored the *World Atlas of Sea Grasses* (Green and Short, 2004) to raise awareness of their importance.

Passage 3.18

According to Csikszentmihalyi, fundamental unhappiness arises in today's world because we are too ruled by the way the world is, rather than the way it ought to be. Although most of us know we gain from being kind, supportive and considerate, we forget this very quickly. We act to satisfy our wants, even though we know there are people who have nothing. We consider them to be far away or less important than ourselves and so we buy another television or CD rather than give money to strangers. We often ignore basic rules which help to keep the environment in balance. For example, we know carbon-based resources are in short supply and yet we use coal, gas and oil as if they were limitless. When we do this, there are consequences which bring unhappiness. In our everyday lives, we often focus on instant rewards and short-term gains, without thinking of the long-term consequences for human happiness. The challenge facing humans is to find a way of acting more co-operatively with each other and more in harmony with our universe.

Passage 3.19

It is important that pregnant women and those with poor immune systems become aware of the potential risks posed by cats. Many of us keep cats as house pets without realising the dangers they may be harbouring. Cats are hosts to infectious *toxoplasma gondii*, a protozoa that causes disease, toxoplasmosis, in mammals such as humans. The protozoa is crescent-shaped and common in nature, but in its infectious stage relies on cats as host bodies. Adult humans rarely show signs of significant disease if they become infected. However, if pregnant women become infected, the foetus can become infected by parasites and suffer serious congenital damage. In the worst cases, infants may lose their eye-sight and acquire motor deficits. In people with poor immune systems or AIDS, toxoplasmosis can cause seizures and death. The symptoms of the disease are not evident in cats so there is no way of knowing if a particular cat is a risk.

Answers: see p. 50. ►

Hunting out the conclusion

Key terms: Conclusions as deductions

In critical thinking, a conclusion is usually a deduction, which draws together the argument, and makes a reasoned assumption about how to interpret the reasons. It may offer an interpretation about what something means, or the best course of action to take.

Activity

Before reading on, check how skilled you are at spotting signals that indicate the conclusion. Look again at Passages 3.5–3.6 and look at Passages 3.16–3.19. For each, identify what signals the conclusion. Then read the commentary below.

Commentary

Location of the conclusion

The end of the passage is a good place to start looking for a conclusion, as in Passages 3.5, 3.16 and 3.18. Some authors prefer to state their reasons first. They then sum these up as part of their conclusion before going on to make a deduction about the significance of the reasoning.

However, it is useful to check opening sentences of a passage too, as in Passages 3.6, 3.17 and 3.19. Some authors choose to state the conclusion near the beginning to establish their position. They then provide the reasons to back it up, showing how they arrived at the deductions they have made.

Conclusions as interpretative summaries

In Passage 3.16, the conclusion is also an interpretative summary. The final sentence pulls together the information from the passage, which has built the case for the logical deduction about what has occurred. A conclusion in critical thinking is more than a mere summary. However, a summary

can form part of a conclusion. In this case, the conclusion is more than a summary as:

- it contains a selection of salient points which provide an interpretation of events;
- it also makes a judgement about the likelihood of this interpretation.

The author uses these devices to persuade the reader to accept the interpretation offered.

Challenges and recommendations

The conclusions in Passages 3.18 and 3.19 make challenges or recommendations. These are deductions about actions that need to be taken to achieve a desired effect. Such deductions often signal the conclusion.

Signal words

Authors can use words to 'signal', or indicate, that a conclusion is about to be made, such as 'nonetheless' in Passage 3.17. Such words are not always followed by a conclusion, but they signal that it is worth checking. Look for words such as 'therefore', 'so', 'as a consequence', 'finally', or other phrases that imply 'therefore'.

Words that indicate deduction

As a conclusion is concerned with making deductions, it is worth looking for other words that indicate that the author is making a deduction. These include phrases such as 'this ought to', 'as a result', 'this will', 'this would have', 'this should', 'this must', 'this means that', 'in effect'. Remember to look for words that express this in the negative too, such as 'this ought never to', 'this should never'.

Examples

Passage 3.5: *this will reduce the number of accidents*

Passage 3.6: *Pit's End should become a site of major archaeological importance.*

Summary of features

Not all messages contain an argument. When we are reading or listening to a message critically, we can save time if we check for key features of an argument. Later in the book, we will be looking at implicit arguments, where the argument may be hidden. Here, we are concerned with explicit arguments, where the argument is expressed in a relatively open way. So far, we have identified six items to look for in identifying an argument. These are summarised in the table below.

Is it an argument?	
1 Position	Authors have a position, or point of view that they attempt to persuade their audience to accept.
2 Reasons/ propositions	Reasons are provided to support the conclusion. Reasons are also referred to as 'contributing arguments' and 'propositions'.
3 A line of reasoning	A line of reasoning is a set of reasons, presented in logical order. It is like a path leading the audience through the reasons, in steps, towards the desired conclusion. It should be ordered so that it leads clearly and logically from one reason to the next. In a poor line of reasoning, it is difficult to see how each reason contributes to the conclusion.
4 Conclusion	Arguments lead towards a conclusion. The conclusion would normally be the position that the author wants you to accept. However, it is possible that the conclusion stated does not support the position that the author is advocating.
5 Persuasion	The purpose of an argument is to persuade the audience to a point of view.
6 Signal words and phrases	These help the audience follow the direction of the argument.

Locating the conclusion

There are short-cuts we can take to help us locate the main conclusion within a passage more quickly. These are only indicators of where to look as the author may not have chosen to use any of these methods to signal the conclusion.

Clues to finding the conclusion	
1 Start of passage	Conclusions are often set out or indicated early in the message, such as in the first or second sentence, or in the initial paragraph.
2 The end of a passage	Conclusions are frequently located towards the end of a message, such as in the final or penultimate sentence or paragraph.
3 Interpretive summary	Look for a summary that interprets the line of reasoning and/or makes deductions, often towards the end of a text where all the evidence is brought together. However, note page 55: summaries are not always conclusions.
4 Signal words	Look for words used to indicate that a conclusion is about to follow. See p. 178.
5 Challenges and recommendations	These often form part of the conclusion. They often contain the author's position or point towards it.
6 Words indicating a deduction	Look for words that express a probable or possible outcome or interpretation.

Summary

This chapter has looked at ways of identifying an argument. We have seen that an argument begins with a point of view or a perspective. In an argument, the author is attempting to convince the audience of that point of view.

Just because the author intends to do this, it does not mean that their position is clear. In this chapter, and in Chapter 5, we look at how authors can obscure their position through presenting it badly. Furthermore, Chapters 6 and 7 examine how authors may conceal their real position in order to persuade the audience to accept their argument.

If we can identify argument, we are in a better position to recognise when somebody is trying to persuade us of their own point of view. This can make us more alert to their line of reasoning and put us in a better position to analyse their argument. Knowing the basic components of an argument can help us to identify an argument. In checking whether material is an argument or not, we need to look for reasons that aim to persuade, and the conclusion that the author wants us to accept.

The key components of an argument are summed up in the table on p. 47. These, and the 'Clues to finding the conclusion', can help to focus our reading on the main messages of a passage. Using these can make reading faster and more efficient.

An argument in critical thinking consists of reasons organised into a 'line of reasoning' or 'overall argument', with the intention of persuading a potential audience. It also consists of a conclusion, which makes a deduction based on the reasons. The line of reasoning that leads to the conclusion may be surrounded by other material that is not directly relevant to the conclusion, and which may distract the reader from the argument. Good critical reading strategies, including skill in identifying the main features of an argument, may be needed to distinguish the argument from other material.

Information about the sources

The work of barristers: Boyle, F. (1997) *The Guardian Careers Guide: Law* (London: Fourth Estate).

Children's cognitive development: Donaldson, M. (1987) *Children's Minds* (London: Fontana).

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Sea grasses: Green, E. P. and Short, F. T. (2004) *World Atlas of Sea Grasses* (Berkeley, CA: University of California Press).