Critical Thinking

A Concise Guide

Tracy Bowell

and

Gary Kemp

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Chapter 1

Why should we become critical thinkers?

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The focus of this book is written and spoken ways of persuading us to do things and to believe things. Every day we are bombarded with messages apparently telling us what to do or not to do, what to believe or not to believe: buy this soft drink; eat that breakfast cereal; vote for Mrs Bloggs; practise safe sex; don't drink and drive; don't use drugs; boycott goods from a particular country; abortion is murder; meat is murder; aliens have visited the earth; the economy is sound; capitalism is just; genetically modified crops are safe; etc. Some messages we just ignore, some we unreflectively obey, and some we unreflectively reject. Others we might think about and question, asking 'why should I do, or refrain from doing that?', or 'why should I believe that, or not believe it?'.

When we ask the question 'why?' we're asking for a **reason** for doing what we are being enjoined to do, or believe what we are being enjoined to believe: Why should I vote for Mrs Bloggs, or eat this particular breakfast cereal? Why should I believe that meat is murder, or that the economy is sound? When we ask for a reason in this way we are asking for a **justification** for taking the action recommended or accepting the belief – not just a reason, but a good reason that ought to motivate us to act or believe as we are recommended to do. We might be told, for example, that Wheetybites are a nutritious, sugar-free, low-fat breakfast cereal; if so, then if we want to eat a healthy breakfast, we've been given a good reason to eat Wheetybites. If, on the other hand, we are given only state-of-the-art marketing techniques – for example, images of good-looking people happily eating Wheetybites with bright red strawberries out of fashionable crockery – then, although an attempt has been made

to persuade us to buy Wheetybites, it would not appear that any attempt has been made to provide good reasons for doing so.

To attempt to persuade by giving good reasons is to give an **argument**. We encounter many different types of attempts to persuade. Not all of these are arguments, and one of the things we will concentrate on early in this book is how to distinguish attempts to persuade in which the speaker or writer intends to put forward an argument from those in which their intention is to persuade us by some means other than argument. Critical thinkers should primarily be interested in arguments and whether they succeed in providing us with good reasons for acting or believing. But we also need to consider non-argumentative attempts to persuade, as we must be able to distinguish these from arguments. This is not always straightforward, particularly as many attempts to persuade involve a mixture of various argumentative and non-argumentative techniques to get readers and listeners to accept a point of view or take a certain course of action.

You may find it surprising to think of an 'argument' as a term for giving someone a reason to do or believe something – telling them why they should boycott certain products or disapprove of fox-hunting for instance. Perhaps in your experience the word 'argument' means a disagreement – shouting the odds, slamming doors, insults, sulking. In fact in some of those situations the participants might actually be advancing what we mean by an argument, putting forward a well argued case for washing up one's dishes for example, but in many cases, they will not be arguing in the sense we have in mind here.

The sort of argument we have in mind does occur frequently in ordinary, everyday situations. It is by no means restricted to the works of Plato, Descartes and other scholars famous for the arguments they put forward. You and your acquaintances give each other reasons for believing something or doing something all the time – why we should expect our friend to be late for dinner, why we should walk rather than wait for the bus, and so on. Open a newspaper, and you'll find arguments in the letters section, editorials and various other discussion pieces. On television and radio broadcasts (especially current affairs shows) and in internet discussions you'll find people arguing their case (though they may well also resort to other persuasive techniques as well). The same thing occurs in a more elevated form at university and college. Throughout your time as a student you will hear lecturers and other students arguing for a point of view, and in set readings you will encounter attempts to persuade you of various claims about all manner of issues.

If you develop your ability to analyse people's attempts to persuade so that you can accurately interpret what they are saying or writing and

evaluate whether or not they are giving a good argument – whether, for example, they are providing you with a good reason to believe that fox-hunting should be banned – then you can begin to liberate yourself from unquestioningly accepting what others try to persuade you of without knowing whether you have a good reason to be persuaded.[1]

But then, you may ask, why is it liberating to demand reasons before you are persuaded to adopt new beliefs? Isn't it less trouble to go through life unreflectively doing more or less as you please and not worrying too much about whether you have good reason to do or believe something beyond whether or not you want to? Well, it may often be easier in the short run, but it might lead to a life dominated by bad decisions and discontentment. Socrates, the Ancient Athenian philosopher famously argued that 'the unexamined life is not worth living'.[2] While this may or may not be true, the only way to find out is to approach the issue in a critical and rational manner. Paying attention to arguments gets you (eventually) to the truth of a matter, thereby making the world and the people in it easier to comprehend and to deal with.

Even if a desire to discover the truth does not seem a sufficiently strong reason for being concerned about having good reasons to justify your actions and beliefs, there are various life situations in which the ability to interpret and evaluate someone's case properly may be crucial to someone's well-being, or even to their remaining alive. For example in a court trial the jury is instructed to convict an alleged murderer if the prosecution has proved their guilt beyond reasonable doubt. The jury is being asked to consider the prosecution's case (which is ideally an argumentative attempt to persuade them of the guilt of the accused), and the evidence they offer at each step of making that case. It has to consider whether there is good reason to accept the argument or whether some holes in it mean that there must be some doubt about its truth. The skills of evaluation and interpretation involved in argument analysis are what we use (or ought to use) in determining the strength of the prosecution's case in such situations. In fact in any situation in which we have to make decisions, be they about our lives or the lives of others, there is no substitute for the ability to think logically and to detect errors in the thinking of others.

1 Although this book emphasises the value of reason and the benefits of using techniques of persuasion that are rational, we should also bear in mind that what is claimed to be rational is not always rational, and certainly does not always have positive consequences. Historically, for example, those who wield power have often granted themselves authority over what counts as 'rational', condemning as 'irrational' what threatens the status quo. The correct response to that sort of rhetorical manoeuvre, however, is not to say 'so much the worse for rationality, then!'; the correct response is to question whether the charge of irrationality is justified, or whether the term is merely being abused or manipulated. Rationality in itself is a neutral force, independent of anyone's particular interests or beliefs.

2 Plato, *Apology*, 38a, Harmondsworth: Penguin, 1969, p. 72.

Plato, the student of Socrates, provides us with many good examples of the power and value of thinking critically. Plato's dialogues are dramatisations of imaginary philosophical exchanges between the character Socrates and various other men of Athens and other Greek city-states. The character Socrates as he appears in Plato's dialogues was based on the actual man Socrates, who was something of a civic institution in Athens. He was not a professional teacher and wrote very little. Rather he preferred to express his ideas in discussion. He was a familiar figure in the public areas of the city – in the *agora* (the public meeting place), at the *gymnasium*, or simply walking the streets immersed in discussion with friends and followers. These discussions did not typically involve Socrates lecturing others about his own beliefs; rather he challenged the beliefs of others, leading them to re-examine their beliefs, assumptions and prejudices – getting them to consider whether they had good reasons for holding those beliefs. For Socrates, the first step towards developing knowledge and wisdom is coming to see how much less we know than we think we do.

However, the esteem in which Socrates was held by the young Plato was not universally felt. In challenging widely-held beliefs and received opinions, and daring to ask questions like, 'what makes life worth living?', Socrates was considered a threat by the Athenian political establishment. He was seen as undermining the state's authority through his questioning of accepted beliefs about such subjects as courage, justice and the good life. This is why he was eventually tried on trumped-up charges of 'corrupting the young', found guilty, and put to death. Thankfully these days, in the United Kingdom at least, society is sufficiently tolerant that critical thinking will not usually get you into trouble. But it is a good reflection of the importance of the skills you are developing that those who hold power sometimes fear the effects of those who can think critically about moral, social, economic and political issues.

Beginning to think critically: recognising arguments

We do many things with language – state a fact, ask a question, tell someone to do something, insult someone, praise someone, promise to do something, swear an oath, make a threat, tell a story, recite a poem, sing a song, say a character's lines in a play, cheer on a football team. Throughout this book we write about 'attempts to persuade' – by argument and by other means. As we've mentioned, not all attempts to persuade using language are attempts to persuade by argument. Others are attempts to persuade by means of rhetorical devices. In Chapter 4 we discuss the most common of these devices in detail. For the time being

we'll just make some remarks about rhetoric in general. For our purposes rhetoric is defined as follows:

> ***Rhetoric*: Any verbal or written attempt to persuade someone to believe, desire or do something that does not attempt to give good reasons for the belief, desire or action, but attempts to motivate that belief, desire or action solely through the power of the words used.**

The crucial thing to understand here is that an attempt to persuade by argument is an attempt to provide you with reasons for believing a claim, desiring something or doing something. Arguments appeal to your critical faculties, your reason. Rhetoric, on the other hand, tends to rely on the persuasive power of certain words and verbal techniques to influence your beliefs, desires and actions by appeal to your desires, fears and other feelings.

Threats and bribes are special cases that may appear to count as rhetoric according to our definition. In fact they are closer to argument; for they work by announcing to the recipient that they have a good reason to act as suggested. For example, if Smith attempts to persuade Jones to lend him her car by threatening to inform the police that she uses a fake driver's licence, then he is implicitly giving her a reason to lend him her car – if she doesn't do so, the police will find out about the driver's licence; since she doesn't want that to happen, she has a reason to lend him the car. Although threats and bribes may be immoral, and may motivate partly by appeal to our fears and greed (among other feelings), they do motivate through force of reason and for that reason do not count as rhetoric.

Rhetorical techniques can be manipulative and coercive and their use should generally be avoided by those who aspire to think critically and persuade by reason. That is not to say that rhetoric is always undesirable. Often it is used to great effect for good causes. Consider this excerpt from Sir Winston Churchill's famous speech to Parliament during the Second World War in which he attempts to rein in a sense of celebration at the success of the evacuations of British troops from Dunkirk, and to remind parliamentarians and the public generally that there was still a long way to go in defeating the Nazis and their allies. Churchill uses some remarkably effective rhetoric in a good cause and might well be admired as a talented rhetorician. But his speech does not amount to an attempt to persuade by argument.

> The British Empire and the French Republic, linked together in their cause and in their need, will defend to the death their native soil, aiding each other like good comrades to the utmost of their strength. Even though large tracts of Europe and many old and famous States have fallen or may fall into the grip of the Gestapo and all the odious apparatus of Nazi rule, we shall not flag or fail. We shall go on to the end, we shall fight in France, we shall fight on the seas and oceans, we shall fight with growing confidence and growing strength in the air, we shall defend our Island, whatever the cost may be, we shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender, and even if, which I do not for a moment believe, this Island or a large part of it were subjugated and starving, then our Empire beyond the seas, armed and guarded by the British Fleet, would carry on the struggle, until in God's good time, the New World, with all its power and might, steps forth to the rescue and the liberation of the old.

On the other hand, those who try to persuade you of not such good causes might also be effective, persuasive rhetoricians. European fascists of the 1930s – Hitler, Mussolini, Franco – provide good examples of this.

Of attempts to persuade that are arguments, not all are good arguments. So when analysing attempts to persuade we have to perform three tasks:

- The crucial first stage involves distinguishing whether an argument is being presented. We need to **identify** the issue being discussed, and determine whether or not the writer or speaker is attempting to persuade by means of argument.
- Once we have established that the writer/speaker is presenting an argument, we can move to the task of **reconstructing** the argument so as to express it clearly, and so as to demonstrate clearly the steps and form of the argument's reasoning.
- A clear reconstruction makes our third and final stage – **evaluating** the argument, asking what's good about it and what's bad about it – much easier to perform and to justify.

In subsequent chapters we explain in detail what we mean by reconstruction, and explain what makes an argument a good one. Our aim is not to help you acquire the basic comprehension skills that you need to work out what a passage or speech is about. We assume that you already have that skill, though working through this book might help you to hone it more finely. So we will begin with the first step, by considering how to distinguish arguments from other ways of putting forward opinions and persuading people to act.

When we put forward an argument we are either advancing an opinion (a claim which we think is true) or recommending an action. In either case we give a number of claims intended to support the claim or the recommendation. However, these two types of arguments can be collapsed into one. For we can think of an argument that recommends an action as advancing a claim to the effect that the hearer or reader should, or ought to, do such and such. For example an argument whose aim is to get you to buy Wheetybites can be understood as advancing the claim: You ought to buy Wheetybites.

Thus all arguments can be understood as attempting to provide reasons for thinking that some claim is **true**. The nature of truth is a deep and controversial philosophical issue that we do not need to contemplate here. We are working with an ordinary, non-theoretical concept of truth such that to say that someone's claim is true is to say that what it says is how things really are. For example, if someone makes the true claim 'Moscow is larger than Paris', then according to our intuitive conception of truth, it is true just because Moscow *is* larger than Paris. Our working definition of truth then, is as follows:

To say that a claim is *true* is to say that what is claimed is how things actually are.

A claim, however, does not constitute an argument. An argument needs more than one claim: it needs the claim of which the arguer hopes to convince his or her audience, plus at least one claim offered in support of that claim. To illustrate the difference between arguments and claims, consider these **unsupported claims**:

- It's going to rain later.
- The Labour Party is making a better job of running the country than the Conservative Party did.
- Philosophers are odd, unworldly people.
- The world is facing environmental catastrophe.

The following examples, by contrast, attempt to give some **support** for these claims. Whether they provide adequate support is something we will look at later. The important point is to see the difference between this set and the first set:

- It's going to rain later, I know because I heard the weather forecast on the radio and it's usually reliable.
- The Labour Party is making a better job of running the country than the Conservatives did. Unemployment is down, prosperity is up and the pound remains strong. These are the crucial signs that the country is doing well.
- I've met a few philosophers in my time and they've always been strange people, heads in the clouds, not really in touch with the real world. Philosophers are odd, unworldly people.
- Climate scientists predict that the world is facing environmental catastrophe, and they are the experts on these issues.

There are special terms for the two parts of arguments: the primary claim, the one we are trying to get others to accept, is the **conclusion**. The supporting claims, the ones that are intended to give us reasons for accepting the conclusion are the **premises**. As with the word 'argument', we are using the word 'premise' here in a restricted way that does not correspond to all the ways the word is ordinarily used. People sometimes respond to someone's expression of opinion by saying, 'that's just your premise, but no one knows that for *sure*'; they do so to cast doubt on the truth of the claim being made. That is not the sense of the word 'premise' used in the discussion and analysis of arguments: for this purpose, a premise is simply any claim put forward as support for the conclusion of an argument, however certain or uncertain that claim may be.

We can now give a working definition of **argument**:

An *argument*: A set of propositions of which one is a conclusion and the remainder are premises, intended as support for the conclusion.

And what's a proposition?

A *proposition*: the factual content expressed by a declarative sentence on a particular occasion. The same proposition may be expressed by different sentences. For example, on a given occasion, 'The Government has

decided to hold a public enquiry into the affair' would express the same proposition as 'It was decided that the Government would hold a public enquiry into the affair.'

One upshot of this is that different sets of sentences could express the same argument. Another is that when a sentence is used rhetorically, its rhetorical aspect, which we will call its **rhetorical force**, is not part of the propositional content that it expresses; rather, it is the emotive or otherwise suggestive window-dressing which surrounds the proposition and is used to persuade us to believe or do something. The point is best grasped when we consider sentences that express the same proposition but have different rhetorical force. The sentence 'She is bringing up her children on her own' expresses the same proposition as the rhetorically charged 'She's a single mum'. But while the former merely expresses a fact about someone's family arrangements, the second, by its use of the emotive and politically significant term 'single mum' might function not only to inform us of a fact, but also to manipulate our sympathies concerning the person in question (depending upon our beliefs and feelings about parenthood).

An argument may be about any subject and have any number of premises, but it will always have only one final conclusion. This argument has just one premise:

Bart has two sisters.

Therefore, Bart is not an only child.

This has two:

Helping someone to commit suicide is the same as murder.

Murder is wrong.

Therefore, helping someone to commit suicide is wrong.

And this one three:

Car use is seriously damaging the environment.

Reducing car journeys would reduce damage to the environment.

We should do what we can to protect the environment.

Therefore, we should use cars less.

As you can see, arguments for analysis are set out in a particular style with the premises listed in the order that they occur in the reasoning process and the conclusion appearing at the bottom. We can refine this style and further clarify the argument by numbering the premises P1, P2, and so on, and drawing a line between the last premise and the conclusion, which we mark with a 'C'. The line between premises and conclusion is called an **inference bar**, and its purpose is to distinguish steps in reasoning. The bar should be read as standing for 'therefore'. This style of setting out arguments is called **standard form**. The purpose of setting out arguments in this manner is to maximise clarity. Using this method helps us to see the stages of reasoning clearly and to make comparisons between arguments of similar form. When dealing with arguments as they are ordinarily presented, distinguishing the exact conclusion from the premises, the premises from each other, and the premises and conclusion from other, irrelevant material can be difficult. Writing the argument in standard form provides us with the most comprehensive and clearest possible view of it, ensuring that while discussing the argument and attempting to evaluate it, we do not lose track of exactly what the argument is.

A number of the exercises included in this book require you to set out arguments in standard form. To do this is to **reconstruct** the argument, and the end product – the argument set out in standard form – is called a **reconstruction** of the argument, or an **argument-reconstruction**. In reconstructing arguments you should follow the example below by taking these steps:

- Identify the conclusion.
- Identify the premises.
- Number the premises and write them out in order.
- Draw in the inference bar.
- Write out the conclusion, placing 'C' in front of it.

Thus the previous example looks thus in standard form:

P1) Car use is seriously damaging the environment.
P2) Reducing car journeys would reduce damage to the environment.
P3) We should do what we can to protect the environment.

C) We should use cars less.

Identifying conclusions and premises

The question of whether a passage or speech contains an argument is the question of whether the speaker or writer is attempting, by means of that passage or speech, to persuade his or her audience of some conclusion by offering premises in support of it. This is a question about the intentions of the writer or speaker – 'What does this person intend to do with these words here?' – that cannot always be answered unless we know something of the **context** – the circumstances in which the passage or speech appeared or took place. But even when we've determined that an argument is being advanced, its premises and conclusion are often buried deep amongst the other elements of a speech or text, and there are no hard and fast rules for distinguishing the propositions that form an argument from those that perform some other function in a text or speech. Identifying arguments is largely a matter of determining what the author or speaker intends by interpreting her words (spoken or written), and this comes with practice. Often writers and speakers leave some of their premises unstated because they think that readers or listeners will know what they have in mind. So in interpreting arguments we may have to add premises to make their structure and content complete. Further, people do not always express their arguments in very clear language, so we have to clarify each proposition before we can command a clear view of the argument as a whole (we look at difficulties with linguistic meaning later in this chapter).

Identifying conclusions

Once you have determined that a text or speech contains an attempt to persuade by argument, it is easiest to proceed first by identifying its conclusion. Determining whether a passage contains an attempt to persuade by argument and identifying the conclusion of that argument do not always occur independently however. Sometimes you will identify the conclusion in the process of working out that a passage does indeed contain an argument. On other occasions you may have already worked out that a passage contains an argument by paying careful attention to the writing style and the context without yet having identified the conclusion. We will, in any case, treat these processes as independent steps in argument analysis.

The conclusions of the following examples are probably clear from the first reading:

> Since Jo Bloggs is a politician and politicians are always corrupt, I guess Jo Bloggs is corrupt.

> I'm anti-hunting because I believe that hunting foxes is wrong. After all, it's wrong to kill simply for pleasure and fox-hunting involves the killing of innocent animals for pleasure.

Before moving on, make sure that you can identify the conclusions in each of these examples.

Several points make the identification of conclusions an easier task

1 Once you have decided that a passage or speech contains an attempt to persuade by argument, try to see what the main point of the passage or speech is. Ask what point the speaker or author is trying to establish; that point will be the conclusion. Once you come to reconstruct an argument for analysis, paraphrasing the main point as one simple proposition will make the argument easier to handle. Bear in mind that a writer or speaker may make the same point in a number of different ways, so you may have to settle upon one particular way of expressing it.

2 Any proposition on any topic can be a conclusion. It is possible to attempt to argue for any claim, from the highly theoretical to the most mundane. So the type of subject matter of a proposition – religion, morality, science, the weather, politics, sport – is not in itself a guide to identifying whether or not that proposition is intended as the conclusion of a passage's argument. The premises and conclusions of arguments should ideally be expressed in declarative sentences, but in real-life arguments they may be expressed otherwise. When reconstructing arguments, we may need to rewrite premises and conclusions as declarative sentences in order to clarify the propositions expressed. For example, the apparent question, 'Aren't all socialists idealists?' might be used to express a premise that all socialists are idealists. The types of linguistic phenomena that need to be rewritten for clarity's sake are discussed in detail later in this chapter.

3 A single text or speech may contain several arguments for several different but connected conclusions. Sometimes we argue for one point, then a second, and then use those conclusions as premises in an argument for a third and final conclusion. These chains of arguments are known as **extended arguments** and we look at them in more detail later.

4 A helpful guide to recognising arguments are words which usually indicate that a writer or speaker is putting forward an argument. For

example if someone says, 'Given the facts that A, B, and C, **it follows that** D', you can be sure that D is the conclusion of the intended argument (and that A, B and C are the premises). Other common **conclusion indicators** are:

- Therefore . . .
- Hence . . .
- Thus . . .
- It can be concluded that . . .
- So . . .

Usually (though not in all cases) these words or phrases will follow the sentences that express an argument's premises. Another way of expressing an argument is to contain the premises and conclusion in one sentence with an indicator word separating them. For example, in the sentence 'The fact that Matthew Bordillo is a politician proves that he has a very big ego.', the conclusion that Mr Bordillo has a very big ego is separated from the premise that states that he is a politician by the indicator '**proves**'. Other words that serve the same function are:

- . . . implies . . .
- . . . establishes . . .
- . . . shows . . .

Commonly, a writer or speaker will state the conclusion of their argument before stating the premises. There are indicator words that are typically placed after the conclusion in these cases. For example in the sentence 'Gordon Brown must be a very important man since he is Chancellor of the Exchequer.', the conclusion that Mr Brown must be a very important man is separated from the premise stating that he is Chancellor of the Exchequer by the indicator word '**since**'. Other words and phrases that serve the same function are:

- . . . because . . .
- . . . for . . .
- . . . follows from the fact that . . .
- . . . is established by . . .
- . . . is implied by . . .

These indicators are not foolproof and should not be treated as a substitute for careful identification and interpretation of attempts to persuade by argument. Not all arguers will help the critical thinker out by making use of indicator words. The fact that a sentence does not include an

indicator word is not a reliable reason for thinking that it is not part of the expression of an argument contained in the text or speech under consideration. If a passage does not appear to have any **conclusion indicators** then an alternative way of trying to identify the conclusion is to try inserting conclusion indicators at appropriate places in sentences that appear to be good candidates for the conclusion. Then see if the passage or speech still reads or is heard smoothly and its meaning is unchanged. There are no conclusion indicators in the following speech, but it is still an attempt to argue:

> I think that Dinnah should sue the local council. They have admitted that they were negligent in not mending the cracked pavement that she tripped over when she broke her ankle and that's sufficient grounds for compensation.

Here if we try placing the conclusion indicator 'therefore' at the beginning of the second sentence ('They have admitted that they were negligent . . .'), it becomes clear that it is not the conclusion of the intended argument. Inserting 'because' between the first and second sentence (and thereby joining them to make one sentence), on the other hand, leaves the meaning intact and makes it clear that the conclusion – the claim that the speaker wants us to accept – appears at the beginning of the speech. Of course, when we write out the argument in standard form we change the order of the sentences and place the conclusion at the end preceded by the inference bar. Notice that the second sentence contains two premises so that in standard form the argument would be written thus:

P1) The local council has admitted negligence.
P2) An admission of negligence is sufficient grounds for compensating an injured party.

C) The local council should compensate Dinnah.

5 So far we have only discussed **explicit conclusions** in which a writer or speaker expresses her conclusion directly and more or less clearly. However, there are occasions when conclusions remain unexpressed. These are **implicit conclusions**. They are only implied or suggested by the actual text or speech content, not explicitly expressed by it. This usually happens when the speaker or writer thinks that the context is sufficient to make the conclusion obvious so that it literally 'goes without

saying'. This is often a bad idea as the conclusion is not always as obvious to those whom one is trying to persuade as it is to the persuader. Try to avoid implicit conclusions in your own writing and speech. It isn't clear, for example, what, if any, conclusion is implicit in the following:

> There's so much pornography available on satellite television these days and young people are so easily influenced, it's bound to result in a social collapse into an orgy of rape, abuse and indecency.

Identifying premises

As you go through the process of identifying an argument's conclusion, it is likely that you will also spot some or all of its premises. Thus the stages of identification are not entirely separate. The identification of an argument's premises is a search for reasons given by the writer or speaker to think that their conclusion is true. Like the identification of conclusions, much of the process of identifying premises amounts to close and charitable reading of what a writer or speaker says; but again there are some helpful guides:

1 Ask yourself what the writer's or speaker's reasons for believing their conclusion are. What evidence does the writer or speaker give to think that the conclusion is true? The propositions that you come up with in response to these questions are likely to be the premises of the intended argument.

2 Like conclusions, premises can have any subject matter whatsoever. It does not matter whether a proposition is controversial or unanimously agreed, it can still be a premise.

3 Most real examples of writing and speech will embed their arguments within other language that is not intended as part of the argument itself, although some of this language may be used in what in Chapter 4 we call **sham-reasoning**. Again it helps to work out the overall structure of the passage when trying to identify the premises. Consider the following:

> I really think the Government should reconsider its policies on higher education. Education is such a complicated topic, and their policies are just more poll-driven nonsense; Blair and his cronies are so image-oriented with their expensive suits

> and so on, they invite pop stars to their parties and comport themselves as if they too were pop stars, just out to sell themselves really.

In this example the speaker gets side-tracked into commenting upon the prime minister's suits and party guest-lists, and fails, beyond the vague charge that the government's policies are 'poll-driven nonsense', to offer a substantive criticism. Most of what is said is at best only obliquely relevant to the issue.

4 As with conclusions, there are certain words that are usually (but not always) reliable indicators of the presence of premises – **premise indicators**. We have already seen some of these because they mark the speaker's or writer's move from premises to conclusion or from conclusion to premises ('since', 'because', 'is implied by', and so on.) There are other words and phrases that introduce sentences stating a premise or premises. A speaker or writer might state their conclusion and then begin the next proposition with such phrases as:

- My reason is . . .
- My evidence for this is . . .
- This is so because . . .

For example:

> I put it to you that Ms White killed Colonel Mustard in the ballroom with the candlestick. <u>The reason</u> I make this claim is that on the night of Colonel Mustard's death Lady Scarlet saw Ms White in the ballroom beating Colonel Mustard over the head with the very candlestick that was later found to have Ms White's fingerprints and Colonel Mustard's blood on it.

Other premise indicators may occur at the beginning of a sentence containing both the premise and the conclusion. For example:

> <u>On the basis of the fact that</u> they have promised big tax cuts, I conclude that the Conservative Party will probably win the next general election.

We should be aware, however, that **indicator words** can be used with other meanings. The sentence, 'Since 2000 I have been a student at the University of Anytown' does not express the conclusion of an argument because 'since' is used here to talk about a period of time. 'Because' can

be particularly tricky as it is frequently used in **explanations** that are not intended as attempts to persuade. These are cases where we have to think hard about the context of the word's use and what is the most likely intention of the speaker or writer. We need to work out whether they are telling us that such-and-such event occurred as a result of some other event – that is, whether they intend to assert a causal relationship. For in that case, 'because' is being used to introduce an explanation, not an argument. For example:

> The tap is leaking because it needs a new washer.

This is an explanation of why the tap is leaking; 'because' is used to indicate a causal relationship rather than a connection between premise and conclusion.

This dual role of 'because' – its role in both arguments and explanations – can be confusing where the explanation of actions is concerned. Suppose you are driving fast and your passenger asks, 'Why are you driving so fast?' You assume your passenger is not in any way suggesting that you shouldn't drive so fast. You think they don't mind in the slightest. You assume they are merely curious as to why you're driving fast – whether it's because you're late, being chased by the police, or perhaps testing the limits of your new car. Your reply, however, is simply 'Because I enjoy it'. This would be an explanation: you are telling your passenger why you're driving fast, not trying to persuade them of some further proposition.

But suppose when your passenger asked 'Why are you driving so fast?', you didn't assume that they didn't mind your driving fast. You think perhaps they do mind. So you take the question as demanding a **justification** for your driving so fast. If you now say 'Because I enjoy it.', then you would be arguing, roughly, that it is all right to drive at such a speed on the grounds that you have a right to do what you like. In that case 'Because I enjoy it.' would be a premise of an argument, which might initially be expressed thus:

> It's OK for me to drive as fast as I like, because I like driving fast. I think we should be free to do anything that we enjoy.

It might be re-written thus in standard form:

P1) I enjoy driving fast.
P2) It is acceptable for me to do anything I enjoy.

C) It is acceptable for me to drive fast.

As demonstrated by the following examples, 'Since', 'thus' 'so' and 'therefore' may also be used in explanations that are not intended to provide reasons for acting or believing something:[3]

- Since we forgot to add yeast, the bread didn't rise.
- We forgot to add yeast, therefore the bread didn't rise.
- We forgot to add yeast, thus the bread didn't rise.
- We forgot to add yeast, so the bread didn't rise.

5 Again, as with conclusions, a text or speech may not include specific premise indicators. Context is the best means of identifying premises in such cases. It may also help to try adding premise indicators to propositions to see if the passage or speech still runs smoothly.

6 Ordinary language can make identifying arguments more difficult than it might otherwise be because people do not always express all of their premises explicitly. Thus many attempts to persuade by argument rely on **implicit premises**. In Chapter 5 we will discuss the interpretation of hidden premises and the reconstruction of arguments to include them.

Intermediate conclusions

The conclusion of one argument may serve as a premise of a subsequent argument. The conclusion of that argument may itself serve as a premise for another argument, and so on. A simple illustration:

> Fido is a dog. All dogs are mammals, so Fido is a mammal.
> And since all mammals are warm-blooded, it follows that Fido
> is warm-blooded.

In this argument, an **intermediate** conclusion – that Fido is a mammal – is used as a premise for a further argument, whose conclusion is that Fido is warm-blooded. We represent **extended arguments** of this kind like this:

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3 While reading this book you may also have noticed a further use of 'thus'. 'Thus' can be used to mean 'in this way' and often precedes an example or a quotation.

P1) Fido is a dog.
P2) All dogs are mammals.

C1) Fido is a mammal.

P3) All mammals are warm-blooded.

C2) Fido is warm-blooded.

We give the two conclusions numbers: C1 is the conclusion of an argument whose premises are P1 and P2; C2 is the conclusion of an argument whose premises are C1 and P3. So C1 is both the conclusion of one argument and the premise of another.

Normally, in such cases, the last conclusion reached (the one with the highest number) is the proposition which the arguer is most concerned to establish. It is the ultimate target. So we call this simply *the* conclusion of the argument, whereas any other conclusions, reached as steps along the way, are called **intermediate conclusions**.

We sometimes want to concentrate for a moment on a particular part of an extended argument. In the above case, for example, we might be particularly interested either in the first part of the argument, or in the second. We will sometimes speak of the argument *from* P1 and P2 to C1, or of the argument *from* C1 and P3 to C2. We can also speak of the **inference** from P1 and P2 to C1, and the **inference** from C1 and P3 to C2.

The use of the word 'inference' in logic and critical thinking is another case where a word is used in a somewhat restricted sense in comparison with ordinary language. All reasoning consists of inferences, in the logician's sense of the word – each step of reasoning, each jump from premise or premises to conclusion, is an inference. Contrary to the way the word is often employed ordinarily, there need be nothing doubtful about an inference. We sometimes say, 'but that's just an *inference*', meaning to cast doubt upon whether a given proposition should really be accepted on the basis of others. But in our sense of the word, an inference may be completely certain, not subject to doubt. For example it is an inference, in our sense, to go from 'John is a classical musician' to 'John is a musician' – despite the fact that there can be no doubt that if the first proposition is true, then so is the second (in the terminology to be introduced in Chapter 2, it is a **valid** inference).

Linguistic phenomena

As we've seen, once we've determined that a text or a speech contains an attempt to persuade by argument, the remainder of argument reconstruction is largely a matter of interpreting the speech or text as accurately as possible. Here we are trying to work out what the speaker or writer intends readers or listeners to understand and consequently do or believe on hearing or reading their words. Phenomena in ordinary language sometimes make this task more difficult because they obscure speakers' and writers' intended meanings and therefore make it difficult to tell which proposition their sentences are supposed to convey. So aspirant critical thinkers need to be aware of the ways in which language can work to hide writers' and speakers' meanings and must practise spotting potentially problematic sentences. At this stage you should aim to be able to recognise these sentences and to be able to give the possible interpretations of them; that is, the propositions that they could be used to convey.

Ambiguity

A sentence is **ambiguous** in a given context when there is more than one possible way of interpreting it in that context – that is, if there is more than one proposition it could plausibly be taken to express in that context. There are two types of ambiguity.

Lexical ambiguity

This is a property of individual words and phrases that occurs when the word or phrase has more than one meaning. The set or group of things to which an expression applies is called its **extension** (it helps to think of an extension as all the things over which the word or phase extends or spreads itself). Thus the extension of the word 'student' is the set of all students. An ambiguous word or phrase, then, has two or more separate and different extensions – it picks out two or more different sets of things. Ambiguous words and phrases can bring their ambiguity into sentences, making those sentences capable of having more than one possible interpretation. The word 'match' is one such word. The sentence 'He is looking for a match' could be intended to mean any of the following propositions:

- He is looking for a small stick of wood with an inflammable tip.

- He is looking for another one the same [as this one].
- He is looking for [wants] a game of tennis (or some such).

Notice that it is not only nouns that can be lexically ambiguous. Suppose you are going to meet someone for the first time and all you've been told about them is what a friend has told you – 'She's a hard woman'. This could mean: She's a difficult person; She's an aggressive person; She has a very well-toned, muscular body. Whichever interpretation you adopt will have an important effect on your expectations of the woman in question. When interpreting sentences that are lexically ambiguous, we have to focus on the context in which they are written or said and the consequent probability of each of the possible interpretations being the correct one. For instance the sentence 'A visitor to the zoo was attacked by the penguins' is lexically ambiguous because the preposition 'by' has two possible meanings in this context. The sentence could express either of the following propositions:

- The penguins attacked a visitor.
- A visitor was attacked beside the penguins' enclosure.

However, in the absence of any information about a vicious penguin, and given what we know about the usually non-aggressive behaviour of penguins towards zoo visitors, it would probably be reasonable to interpret the sentence as intended to express the second proposition.

There are a few words that are not really ambiguous but may seem so when we hear them, though not when we see them written. This is because the words, though spelt differently, sound the same. For example when heard, as opposed to read, the question 'Are you a mussel (muscle) man?' could be either an enquiry as to someone's taste in seafood or as to his physique. Of course, once we see the question written, we are in no doubt as to its meaning.

The examples considered so far are relatively simple to understand because the alternative meanings of words such as 'match' and 'hard' are very different. However, instances of lexical ambiguity also occur when a word has alternative meanings that are much closer together. Such cases are much harder to interpret and we need to pay a lot of attention to the context in which the word is being used and to the probability of the speaker or writer intending one interpretation rather than the other.

Suppose someone argues, 'Fewer women have the ability to do complex mathematics than men'. The speaker or writer might mean to say that men have a greater **natural** or **innate capacity** for complex mathematics than women; that is they might want to express the idea

that if the same number of women as men were to study complex mathematics under the same conditions, more men than women would succeed. If that were the intended interpretation, the claim would be sexist if it unjustifiably assumed that gender is a biological condition for success in mathematics. On the other hand, the speaker or writer might have intended to claim that as a matter of actual fact, there are fewer women than men successfully working at complex mathematics. This is true, but it is much less likely to be intended or interpreted as sexist: the relevant statistics are easily obtainable, and indeed might be cited by opponents of sexism as evidence that social factors encourage men, but discourage women, from specialising in mathematics.

The ambiguity here is due to the use of the word 'ability'. 'Ability' can refer to one's natural potential to do something – a potential with which one is born, and which may require training before engendering the actual capacity to do the thing – or it can refer to an actual capacity immediately to do the thing, a capacity which one may have acquired partly or wholly by training or practice. Often, it is not clear which meaning the speaker or writer intends. As you can see, the two ways of interpreting the word 'ability' are not entirely unrelated, as they are in the case of 'match'. Nonetheless, correct interpretation of which meaning a speaker or writer wishes to convey is crucial in determining how one should evaluate and respond to their remark.

Syntactic ambiguity

This occurs when the arrangement of words in a sentence is such that the sentence could be understood in more than one way (as expressing more than one proposition.) You will probably be familiar with examples of syntactic ambiguity as it is often the basis of jokes and newspaper headlines that appear odd. For example '33-year old Mrs Jones admitted to dangerous driving in Leeds Crown Court yesterday.' could mean either of the following:

- In Leeds Crown Court yesterday Mrs Jones admitted to dangerous driving.
- Yesterday Mrs Jones admitted to driving dangerously inside Leeds Crown Court itself.

The sentence is syntactically ambiguous because it could, consistently with English grammar, be used to express either proposition. But since the second interpretation is extremely unlikely, it is unlikely that an actual use of this sentence would be ambiguous. But consider this case:

> US President Bush has cancelled a trip to Scotland to play golf.

We can easily imagine a real context in which this sentence is ambiguous as to whether the purpose of the cancelled trip was to play golf or whether the trip was cancelled so that the president could play golf.

Once we decide the most likely interpretation, we should always rewrite the ambiguous sentence so as to eliminate the ambiguity. For example we might rewrite the above sentence thus:

> In order for him to play golf, US President Bush trip to Scotland has been cancelled.

Notice that in cases such as this we have to change the sentence quite radically to rid it of the syntactic ambiguity and clarify its meaning. Consider a further example:

> The government will announce that the electricity supply is to be cut off tomorrow.

The sentence leaves ambiguous the question of when the announcement will be made and when the electricity supply is to be cut off:

- Tomorrow, the government will announce that the electricity supply is to be cut off. (The announcement will be made tomorrow.)
- The government is going to announce that, tomorrow, the electricity supply will be cut off. (The announcement will be made now, the electricity will be cut off tomorrow.)

Syntactic ambiguities are sometimes more difficult than lexical ones to interpret on the basis of context. Also, the possible interpretations of a sentence may be closely related so that there may not appear to be a very wide difference in meaning. Often we assume that one interpretation is intended without giving any consideration to alternatives. But such differences can be very significant indeed. Suppose someone were to claim:

> We should not tolerate those homeless people living on our streets.

They might be saying that we should be intolerant of homeless people themselves. Or they might be saying that the people who do live on the

streets should not be allowed to live on the street. On the other hand, the intended proposition might be that we should not tolerate the fact that there are homeless people living on our streets. That is to say, the view expressed might be critical of a society in which people are forced to live on the streets rather than critical of such people themselves.

Vagueness

Vagueness is a property of words and phrases. It is not the same as ambiguity, but it is often mistaken for it. For instance, when former US President Clinton famously said, 'I did not have sexual relations with that woman . . .' he was not (as alleged) hiding behind the ambiguity of the phrase 'sexual relations', but rather behind its vagueness. As we saw when considering lexical ambiguity, a word is ambiguous when it has two or more possible and different meanings – thus two or more separate extensions. The vagueness of a word, on the other hand, is really a feature of its meaning: The meaning of a word or expression is vague if it is indefinite or uncertain what is conveyed by the word. Thus a word may be ambiguous without being vague – as in 'ball' (round plaything, formal dancing-party) – or vague without being ambiguous, as in 'sexual relations' (what exactly constitutes sexual relations?).

Sometimes, someone aware of the weakness of their own position will deliberately leave their meaning vague in order to camouflage that weakness and to evoke strong feelings of approval or disapproval in their readers or listeners. Many highly-charged words that wield rhetorical power in public discourse are used vaguely. Examples include: 'rights', 'liberal', 'harassment', 'racism', 'sexism'. It is hard to discern one perfectly exact meaning for each of these words and it would be unrealistic to expect them to have such a meaning. Their extensions tend to include a cluster of objects, beliefs or actions that are not necessarily unified in any precise way. Take 'liberal', for instance. This word conveys various characteristics including:

- Belief in a permissive society.
- Belief in freedom of speech, of association, of choice.
- Belief that certain restrictive laws should be relaxed (e.g. against drugs).
- Belief that the state should interfere as little as possible in citizens' lives.
- Belief in laissez-faire economic policies.

- Supports the Liberal Democratic Party.
- Not strict.
- Politically left-wing.
- Wishy-washy.
- Soft on crime.

One might be a liberal and not hold all of these beliefs, or have all of these characteristics. Indeed, someone might have some or even many of them and not be a liberal.

Here is a whole passage infected with vagueness of the kind we have in mind:

> Make no mistake, the researchers involved in the highly controversial project to map the human genome are involved in a radical project of unprecedented gravity and spiritual significance. Do they venture there with appropriate caution and humility? What they are doing is not even comparable to the research that made the atomic bomb possible, for it goes right to the essence of what we are. Like Dr Frankenstein, they are tinkering with life; they are travelling into unknown and sacred regions as no scientist previously has ever dared. The secret wellsprings of life, of our very being as *Homo sapiens*, have ever remained shut up, concealed by aeons of either blind but cunning and ultimately unfathomable natural processes, or, as some continue to believe despite the showy displays of science and technology, concealed by the very hand of its Author, the Author of Nature Himself.

What is the writer of this rather over-excited dose of hyperbole trying to argue? Clearly they think that there is something dangerous or otherwise ill-advised about the project to map the human genome. But they have not begun to make it clear what the danger is. The research is distinguished from atomic research by its concern specifically with life, but nothing is said as to why this is peculiarly dangerous beyond the use of extremely vague verbiage such as 'sacred', 'radical', 'gravity', 'spiritual significance', and so on. In a context such as this, with so much at stake, we need to have precise reasons why, despite the promise of medical benefits, the project is dangerous.

Words can also be vague in another, more philosophically technical respect. Philosophers of language use the term 'vague' to apply to words that have a clear meaning, but which have an indefinitely demarcated extension. Obvious cases are colour-words like 'orange': there is no precise

division between orange things and yellow things, for example. Things can often be precisely compared with respect to such attributes, however. For example X may be more bald, or fatter, sleepier, taller or faster than Y, even if it is not definite whether or not X is bald, fat, sleepy, tall or fast. Borderline cases can also arise in the case of nouns. In fact vagueness occurs in many more cases than we might at first think. Take 'city'. York is normally said to be a city, but is it really? What about Doncaster? Lancaster? Harrogate? Carlisle?

To a great extent, we take these sorts of vagueness in our stride, having become used unreflectively to interpreting these phenomena in ordinary language. But even the simplest cases can cause misunderstandings. Suppose your boss promises that you're going to receive a 'big pay rise' this year. When you receive the pay increase you discover that the rise is only ten pence an hour. When you complain, your boss defends their promise by saying that the rise is bigger than last year's and therefore big in comparison (see the section on **implicit relativity** for further discussion of such cases).

Primary and secondary connotation

The rich secondary connotation of some words provides a further source of vagueness. Every ordinary noun and every adjective – 'elephant', 'immoral', 'company', 'stupid' – has a range of things to which it applies: the **extension** of the term. The set of all bananas constitutes the extension of 'banana'; the set of all square things constitutes the extension of 'square'. A given thing falls within a word's extension if and only if it fits a certain rule associated with that word. For example the rule for the noun 'ram' is 'male sheep'. This rule is called the **primary connotation** of the term. This will be some set of characteristics, in this case being male and being a sheep which, by definition, everything to which the word applies must have. All of a term's primary connotation must apply to an object for that term to apply to it. The notion of a female ram, for example, is a logical impossibility, a contradiction.

However, when we are told that something is a ram, we tend to assume other things about that thing that are not included in the primary connotation: that it is woolly, has horns, lives on a mountainside or in a field, eats grass . . . So if you know that something is a ram, it is reasonable to suppose that it has these additional characteristics. These further characteristics that the term 'ram' also conveys make up its **secondary connotation**. Things which fall under the term will generally exhibit these characteristics, but there is no logical contradiction in supposing there to be a thing that falls under the term but lacks a characteristic

included under the secondary connotation. For instance, there is no logical contradiction in supposing that a thing might count as a ram – that is, fulfil the demands of the primary connotation – yet lack some or, indeed, all of these characteristics. It is not logically impossible that there could be a bald, hornless male sheep that lives in a barn and whose diet consists of potatoes.

Why should critical thinkers be interested in the distinction between primary and secondary connotation? The most immediate relevance was demonstrated in our examination of vagueness. It is difficult to pin down the precise meaning of a word such as 'liberal' because, on the one hand, its primary connotation is very difficult to pin down, and on the other, its secondary connotation is so rich. Take a look back at the list given earlier of characteristics conveyed by 'liberal': it is difficult to say which are part of its primary connotation, and which are only part of its secondary connotation.

A further reason for us to concern ourselves with this distinction is because it is the secondary connotation of many words that gives them their rhetorical power. Consider the noun 'feminist'. Its primary connotation is difficult to pin down and it is full of secondary connotations that can be used to the rhetorical advantage of both those who support and those who oppose feminism. Here are just some of the characteristics our critical thinking students have come up with when asked what the word 'feminist' conveys to them:

- Man-hating
- Lesbian
- Dungarees
- Unshaven
- Strong
- Political
- Fighter
- Staunch
- Left-wing
- Pro-abortion
- Pro-women

Rhetorical questions

Rhetorical questions take the form of a question but indirectly assert a proposition (like a declarative sentence does). That is, they are not really used to ask a question, but to make a point in an indirect way. Speakers and writers often use rhetorical questions when they're making a point they assume to be obvious, so the answer to the question 'goes without saying'. However, in many cases the point is neither obvious nor universally agreed. Rhetorical questions obfuscate speakers' and writers' intended meanings because they make it more difficult to interpret whether or not a speaker/ writer really does support a given claim. Rhetorical questions are common

in polemical newspaper articles and in readers' letters to an editor. If you encounter rhetorical questions in texts and speech that you are analysing, try to rewrite the question as a declarative sentence. For instance, if someone were to write:

> Should my right to freedom of speech be limited just because you disagree with me?

they probably wish to convey the proposition that their freedom should not be so curtailed, so they are not genuinely asking a question. They expect that the reader's response will be an automatic 'No, of course not'. To convey the proposition that seems to be intended, we could rewrite the rhetorical question as a declarative sentence:

> My right to freedom of speech should not be limited just because you disagree with me.

Irony

Speakers and writers sometimes express their claims using irony. This takes the form of language that, taken literally, would convey the opposite of what they wish to convey, or something otherwise very different from it. Consider the following instance:

> It is pouring with rain, very windy and cold. Mr I. Ronic says, 'Mmm lovely weather today'.

Mr Ronic is probably being ironic, and intends to comment that the weather is lousy.

It is important to be aware of the possibility of irony. In order to ridicule a position they are opposed to, speakers and writers sometimes sarcastically pretend to espouse that position; but it isn't always obvious that they are doing so.

Implicitly relative sentences

Consider the following examples:

- She earns an above average salary.
- He is of average intelligence.
- Great Aunt Edie is a fast runner.

- Taxes are high.
- The rent on our flat is low.

Sentences such as these represent another potential problem for the critical thinker striving to work out exactly what a speaker or writer intends to convey by their words. The sentences are **implicitly relative**. They make a comparison with some group of things, but that comparison is not explicitly mentioned. For instance, to understand what it is for someone to earn an 'above average salary', we need to know of what group the average to which it is compared is. Or consider the one about Aunt Edie? Does the speaker intend to convey that Great Aunt Edie is a fast runner such that she runs at world record pace or that she is a fast runner for a woman of her age? Or something in between, such as that she is faster than the average person? If such sentences are interpreted without the recognition of their implicit relativity, then there is the possibility that they will be interpreted as making a comparison with a group other than that intended by the writer or speaker. Great Aunt Edie is not a fast runner when compared with Linford Christie and, thus interpreted, the claim would be false. But when compared with other ninety-four year olds, many of whom haven't broken into a run for many years, she is a fast runner and the claim is true. Once we recognise such claims as implicitly relative and interpret them accordingly, they are more likely to have a definite truth-value. But not always. Implicit relativity is often compounded by other sources of vagueness. For example, even if we do know what comparison class is being invoked in the case of Aunt Edie, it is by no means clear just how much faster a person must be than the average person of that class in order to be fast relative to it.

Problems with quantifiers

Quantifiers are words that tell us how many/much of something there are/is, or how often something happens. As you will see, not all quantifiers specify an exact quantity of the thing, rather they provide a rough guide. In the following examples the quantifiers are underlined (this is not an exhaustive list of quantifiers):

- <u>All</u> men drive too fast.
- Members of Parliament are <u>often</u> self-serving.
- <u>Few</u> doctors support the health reforms.
- The lecturer awarded <u>almost all</u> the assignments an A grade.

- Nearly all the students passed the course.
- She likes hardly any of her fellow students.
- No examiner should take bribes.
- Lots of computers develop faults.
- Nine hospitals will close at the end of this year.
- She never closes the door behind her.
- There are adequate computing facilities in fewer than half of the country's schools.
- He always writes his own speeches.
- Most women would choose to stay at home with their children if they could afford to.

There are four potential problems with quantifiers:

1 Speakers and writers don't always use quantifiers with sufficient precision, so that the proposition they intend to convey is unclear and open to misinterpretation and rhetorical abuse. Suppose your friend says, 'Premiership footballers all earn massive payments from sponsorship deals'. You don't agree and you mention an exception – Fergie Footballer receives only his footballer's salary, with no extra money from endorsing sports shoes or shirts. Suppose your friend defends her claim by saying that she didn't really mean that every single player in the Premiership earns big money from endorsements and sponsorship, but only that *most* or *nearly all* of them supplement their earnings in this way. Now that her claim is clear, you see that it is one with which you are more likely to agree.

2 Some quantifier words are themselves **vague**. Suppose, for instance, that someone claims

> Some Members of Parliament support the decriminalisation of cannabis use.

What does 'some' mean here? It could mean that only a handful hold the view described, it could mean that a larger minority of members hold that view. Without a more precise understanding of how many Members of Parliament are intended to be conveyed by 'some', it is difficult to know how to respond to the claim. Moreover, the claim is open to abuse from people who hold views on both sides of such a debate. Advocates

of decriminalisation can use it in support of their cause; their opponents can use it to back up their anti-decriminalisation stance (the latter might say, '*Only* some members of parliament support. . .').

3 Often people simply *omit* quantifiers. For instance, someone might protest:

> Lecturers don't give students a chance to complain.

At face value this might appear to convey the proposition that

> No lecturer (ever) gives a student a chance to complain.

Yet it is likely that what the speaker really wants to say is something like

> Most of the lecturers I've encountered haven't given students enough chance to complain.

Notice that once the appropriate quantifier is made explicit, the claim applies to a much smaller group of lecturers than one might have supposed when the quantifier remained implicit.

Consider another example:

> Today's students are dedicated to their studies.

If we interpret this as expressing this proposition:

> All of today's students are dedicated to their studies.

we are likely to want to challenge the claim as we will be able to cite exceptions to the generalisation. If, however, we interpret the claim as it is more likely to be intended, then the quantifier that we make explicit should be 'most' or 'almost all', thereby exposing the proposition really intended as

> Most of today's students are dedicated to their studies.

and this proposition has a greater likelihood of being true. Cases that we use to challenge the truth of a generalising claim are known as **counter-examples**. (The process discussed here should not be confused with that of refuting a complete argument by counter-example, which is dealt with in Chapter 6.)

4 Quantifiers are used to express **generalisations**, and even where at least one quantifier is used explicitly, it can be unclear exactly what generalisation is intended. Consider the claim

> Everyone has tried drugs at some time in their lives.

Taken literally, the claim is a generalisation stating that every single person in the world has tried some drug or other at least once.[4] Even if we give 'drugs' the widest possible interpretation, the claim will be falsified by those cases of people who, for instance, have never even taken an aspirin for a headache. Of course, when challenged with such cases, the speaker or writer will most probably qualify their claim by saying that they didn't really mean literally everyone, but most of the people they know. So in order accurately to convey their meaning, the claim needs to be rewritten to make explicit to whom it applies. We do this by changing the quantifier to one that denotes fewer people than 'everyone' and by being more specific about to whom the claim is intended to apply. (This latter move is called 'restricting the scope of the generalisation'; we deal with it in more detail in Chapter 6.) The claim thus becomes,

> Most of the people I know have tried drugs at some time in their lives.

Notwithstanding the vagueness of 'drugs' (noted earlier), the claim now stands a better chance of being true than it did when it was expressed using an inappropriate quantifier.

Quantifiers: further issues

It is a commonplace for people to say that you can never really generalise. However, this is certainly not true just as it stands. When someone says this they might be understood as claiming, 'all generalisations are false'. But this is itself a generalisation; so if the claim is true, the claim is false! So that can't be what it means. It is in any case obvious that some generalisations are true (even if they are not very interesting ones). That is, there are counter-examples to the claim that all generalisations are false. For example, 'All cities in the UK have a bus service' is true and no case could really be raised to undermine its truth.

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4 As you may have noticed, the word 'drugs' is used vaguely in this claim. Although in the context of most arguments about legislation and criminality it means illegal drugs, it could also include alcohol, prescription medicines, pain-killers, nicotine, and so on. Deliberately vague use of words in such a way constitutes either the rhetorical ploy of trading on an equivocation; see pp. 108–109 or the fallacy of equivocation; see pp. 140–141.

To get a better grasp of which types of generalisations may cause problems during the analysis and assessment of arguments, we need to distinguish between **hard** and **soft** generalisations. Consider the following generalisations (note that few of them have explicit quantifiers):

- Private schools attain better examination results than state schools.
- Traffic congestion is bad in Glasgow.
- Regular exercise benefits your health.
- Labour voters support a ban on hunting with hounds.
- People play less sport when they get older.

No doubt the counter-example fanatic will be able to provide us with plenty of exceptions – congestion-free short cuts across Glasgow; labour voters who are keen fox-hunters; the person who had a heart attack while doing their regular work-out at the gym. And they can cite this as a reason to accept the claim that all generalisations are false because one can always find an exception to them. However, to do so would be to misinterpret what people usually intend to convey when they say or write such things. It's rare for someone to mean that these sorts of generalisations are true without exception. The quantifier they intend to imply is probably one that is not synonymous with 'all' or 'every', but one such as 'in most cases', 'usually', or 'almost all'. These generalisations are **soft generalisations**. We use soft generalisations when we want to express the idea that such and such is true of certain things **normally**, **typically**, **generally**, **usually**, **on average**, **for the most part**. In the examples above, the speaker/writer could make her intended meaning much clearer by adding one of these words or phrases; for example,

> Private schools generally attain better examination results than state schools.

On the other hand, someone using a **hard generalisation** does intend it to apply without exception. Such a generalisation is rightly conveyed by a quantifier such as '**all**', '**every**', '**no**', '**always**', '**never**'. For example

- <u>Every</u> passenger must hold a valid passport.
- <u>No</u> doctor who helps a patient to die should consider themselves to be above the law.

If someone makes a claim that is intended as a hard generalisation and we can find a counter-example to it, then we have refuted their claim. But quantifier-free generalisations are not typically intended as hard generalisations. If the fanatical anti-generaliser does have a point, we believe, it is a point about rhetoric, not truth. What the anti-generaliser is justifiably worried about are generalisations about groups defined by race, ethnicity, nationality, gender, class and sexuality. Suppose that there are two social classes amongst Martians: the Zormons and the Ringons. And suppose the generalisation 'Ringons are more violent than Zormons' is true when taken as a soft generalisation, but false when taken as a hard generalisation. A Ringon anti-generaliser might object to someone's saying this. But we've seen that the point cannot be that the generalisation is not true, in spite of the fact that not every Ringon is more violent than every Zormon. This generalisation is, it must be admitted, true when taken as a soft generalisation.

However, it might be argued, it is rhetorically dangerous. There are two reasons: The first reason is that many people are not very clear about the possible ambiguities of such a statement. It might wrongly be taken as a hard generalisation, and furthermore it might wrongly be taken as asserting something about the innate or genetic qualities of Ringons. (For a similar case, refer back to the discussion of 'ability' in the section on ambiguity, earlier in this chapter.) In itself, it does not do this. So unless these possible misinterpretations are deflected by making the exact intended meaning perfectly explicit, this generalisation will remain very provocative and a likely cause of ill-feeling. The second reason is the brute fact that, even if these ambiguities are resolved, generalisations (even soft ones) about groups of people do often cause people to take offence. There are times when people take offence at a generalisation about a group and are simply irrational in doing so; no amount of explaining the difference between a soft generalisation and a hard one, or the difference between a generalisation about actual facts and one about alleged genetic qualities will change this. Like many kinds of irrationality, this is a natural kind of irrationality that cannot easily be overcome. No matter how factually true a generalisation may be, it is natural to feel that there is something dehumanising about it. So we cannot reasonably expect that people will always be able to overcome that feeling. Morality requires us to consider the consequences of our actions, and since speech and writing are types of action, natural (though irrational) responses to what we say and write must sometimes be taken into account in deciding what we ought to say. We should not say what is false, but that a proposition is true is not always enough to justify expressing it. This, we believe, is the grain of truth in the anti-generaliser's position.

CHAPTER SUMMARY

Critical thinking enables us to ensure that we have **good reasons** to believe or do that which people attempt to persuade us to do or to believe. Attempts to persuade may be **argumentative or non-argumentative**. Most of the latter count as **rhetoric**, which is any attempt to persuade that does not attempt to give good reasons for the belief, desire or action in question, but attempts to motivate that belief, desire or action solely through the power of the words used. The former, on the other hand, persuade us by giving reasons for us to accept a claim or take the action suggested. Not all arguments are good arguments. Good arguments are those that provide us with **good reasons** to act or to accept a claim.

An argument consists of a **set of propositions**, one of which is its **conclusion** – the proposition argued for – the rest of which are its **premises** – the reasons given to accept the conclusion. Once we have determined that a text or a speech contains an argument, we must work out which sentence is intended to express the argument's conclusion and which are intended to express its premises. Words that serve as **conclusion indicators** and **premise indicators** offer a helpful (but not foolproof) guide to doing so successfully. We should also pay close attention to the context of the text or speech. Setting out arguments in **standard form** is a five-stage process that enables us to see the form of arguments better and hence, to compare, analyse and assess them more easily.

There are various **linguistic phenomena** that can make the task of identifying and interpreting arguments more difficult. In the case of **ambiguity**, **vagueness**, **metaphor**, **rhetorical questions** and **irony**, these can be problematic because they obscure speakers' and writers' intended meanings. In the case of **implicitly relative sentences** and sentences which use **quantifiers inappropriately**, they can be problematic because they fail to convey speakers' and writers' intended meanings in their entirety. Quantifying sentences can also cause problems for the interpretation of arguments when they are used inaccurately to express **generalisations**. There are two types of generalisation: hard and soft. **Hard generalisations** are true only if they are true without exception. To avoid misinterpretation they should be expressed in sentences that use quantifiers such as **all**, **every**, **no**, **none**, **always**, **never**. **Soft generalisations** are only true of the majority of the class that is the subject of the generalisation. They

should be expressed in sentences that use quantifiers such as **most**, **almost all**, **in most cases**, **generally**, **typically**, **usually**. In all cases where linguistic phenomena prevent the intended meaning from being explicit, we should pay careful attention to context in order to render the most plausible interpretation of the attempt to persuade. Where appropriate we should **rewrite** sentences to make their meaning explicit.

EXERCISES

1 Decide whether each of the following cases contains an argument. If it does not, write 'N/A'. If it does, identify its premises and conclusion by underlining the appropriate propositions and writing 'C' under the conclusion and 'P' and the appropriate number under the premises.

Example
<u>Bob is a dog</u> and <u>all dogs are black</u>. So <u>Bob is black</u>.
P1 P2 C

Notice that we have not underlined the words that connect or introduce the propositions, only the propositions themselves.

a It follows from the fact that all cats are pests that this cat is a pest.

b I'll never get to work if this traffic keeps up.

c Whenever a person drinks instant coffee they end up with stomach ache and Jack is going to have stomach ache since he just drank a cup of instant coffee.

d There is going to be a frost in the morning because the temperature has fallen below zero.

e The biscuit tin is empty because the children ate all the biscuits.

f We should not go to war against the Ringons because it would be unjust.

g Since this animal is a fish, it can't be a mammal.

h People really shouldn't drive so fast, I don't see what all the hurry is.

i Leeds is north of Birmingham and Birmingham is north of Brighton. So Leeds is north of Brighton.

j My ex-partner was always telling me to change my appearance, so I changed my partner.

k If those chemicals are released into the river, thousands of fish will die.

l Since inflation is increasing, the price of mortgages is sure to go up.

m Everyone at the lecture is bored. No one who is bored is listening. Therefore no one at the lecture is listening.

n He's been on crutches since he was injured in the accident.

o On the basis of the fact that it includes scenes depicting drug abuse, the film should not be shown on prime-time television.

p If we don't do something to control the level of car traffic now, air pollution will become so bad that our grandchildren will not be able to walk the streets for fear of asphyxiation.

q The government proposes to reform the benefits system. Whenever such reforms occur someone loses out, so the government's proposals are unfair.

r Something must be done to regulate the cultivation of genetically manipulated foodstuffs. Uncontrolled production of these crops will lead to a collapse of the ecosystem.

s If we hit our children, they will learn that violence is acceptable, so we shouldn't physically discipline our children.

t It is, therefore, an impractical solution to the problem of homelessness.

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2 Write out the following arguments in standard form. You need not supply missing premises or change the words used unless it is absolutely necessary to retain the sense of a sentence.

Example:
The government should ban hunting. Hunting causes suffering to animals and anything that causes suffering to animals should be banned.

P1) Hunting causes suffering to animals.
P2) Anything that causes suffering to animals should be banned.

C) The government should ban hunting.

a If Leeds win against Arsenal, Manchester Utd will go to the top of the Premier League. Leeds have beaten Arsenal so Manchester Utd will be top of the league.

b Children should not watch television programmes that lack educational merit. *Pokemon* fails to promote linguistic and cognitive development and programmes only have educational merit in so far as they promote linguistic and cognitive development. Children should not watch *Pokemon*.

c I put it to you that Ms White killed Colonel Mustard in the ballroom with the candlestick. The reason I say this is that on the night of Colonel Mustard's death Lady Scarlet saw Ms White in the ballroom beating Colonel Mustard over the head with a candlestick, which was later found to have Ms White's fingerprints and Colonel Mustard's blood on it.

d The team manager should be sacked. Whenever the team manager is sacked, team spirit is revitalised and this team's spirit certainly needs revitalising.

e Excessive consumption by consumers in the developed world causes poverty and disease in the developing world and that's simply unjust. So if we care about the rest of the world, we should curb our consumption.

f History will show President Clinton to have been a successful president after all. The reason is that he managed to maintain the strength of the US economy and that's the most important criterion by which to judge a president.

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3 Without looking back at the relevant section, write a paragraph explaining the difference between lexical and syntactic ambiguity, then give a plausible example of each and explain their possible interpretations.

4 In the following sentences indicate the words or phrases that are lexically ambiguous and explain their possible meanings.

a The last time I saw them they were on their way down to the bank.

b Happiness is the end of life.

c Archbishop of Canterbury praises organ donor for their humanity.

d Museum visitor attacked by mummy.

e Stolen car found by statue.

f British left waffles on Ireland.

g Iraqi head seeks arms.

h An intense depression swept over the British Isles today.

i Blair leans further to the right.

j Chancellor wins on budget, but more lies ahead.

5 The following sentences are syntactically ambiguous. Rewrite them so as to give the most plausible interpretation. If two or more interpretations are equally plausible, give them all. You may need to rearrange the word order and/or add words.

Example:
A former professional dancer was accused of assaulting a 33-year old woman with her daughter.

A former professional dancer and her daughter were accused of assaulting a 33-year old woman.

a The two suspects fled the area before the officers' arrival in a red Ford Escort driven by a woman in black.

b I was invited to go to the movies yesterday.

c Mary left her friends depressed.

d People who use cocaine often die early.

e Smith had a pair of boots and a pair of slippers that he borrowed from Jones.

f That was John Major, the replacement for Thatcher, who was deposed for being too unpopular with the voters.

g Jones left the company in a better state.

h Glasgow's first commercial sperm bank opened last Friday with semen samples from twenty men frozen in a stainless steel tank.

i They were exposed to someone who was infected with the virus a week ago.

j The police would like to speak to two women and a van driver who fled the scene of the accident.

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6 Without looking back at the relevant sections, write a paragraph explaining the difference between vagueness and ambiguity. Give examples to illustrate your explanation.

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7 For each of the following, identify the quantifier and say whether the generalisation is soft or hard.

Example:
Almost all students have contemplated cheating in an examination.
Almost all
Soft generalisation

a No one may leave the room until the culprit owns up.

b Few of the applicants are sufficiently qualified for the job.

c Most Members of Parliament are committed to their constituents.

d A majority of our members are prepared to go out on strike in support of their pay claim.

e All passengers must fasten their seatbelts for take-off and landing.

f Usually birds can fly.

g Almost all of the patients are ready to be discharged.

h Hardly any of the people surveyed were in favour of the proposed law change.

i Every doctor must abide by the Hippocratic Oath.

j Almost none of the candidates have the charisma to succeed in politics.

8 Each of the following sentences expresses a generalisation, but its quantifier is missing. For each sentence, if you think it is uncontroversially true as a hard generalisation, add an appropriate quantifier to make it a hard generalisation. If you think that it could only be true as a soft generalisation, add an appropriate quantifier to make it a soft generalisation.

Example:
Passengers must hold a valid ticket before boarding the train.

All passengers must hold a valid ticket before boarding the train.

a Cats have tails.

b Children like to eat ice cream.

c Voters voted for Labour Party candidates at the last general election.

d Owls are mammals.

e Cars run on petrol or diesel.

f Citizens of a democratic country should be free to come and go as they please.

g Members of Parliament are male.

h Universities in the UK have mathematics departments.

i People care enough about the environment to change their lifestyles.

j British people can speak a foreign language.