Theory of Knowledge

for the IB Diploma

Pearson

3rd Edition

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Knowledge and the knower

1.1

Scope

At first glance, it seems quite straightforward. We all possess some knowledge, and are aware of ourselves as knowers. When we are small, we know rather little; when we grow, we come to know more. When you enrolled for the IB diploma programme, you may even have wondered why the IB should consider a course about knowledge itself to be necessary.

While your childhood development describes a path towards increasing independence made possible through sustained acquisition of knowledge, your personal growth has been forged by the influence of various communities to which you have belonged – arranged around family, friends, school, religion, ethnicity, language facility, and many more. As an adult, community affiliations will continue to exert great influence on your knowledge. All of this plays out against the wider backdrop of the sum of human knowledge, to which countless individuals and groups have contributed throughout the history of our species.

Activity 1

Write down the following.

- Three things that you know that many other people also know.
- Three things that only you (or only you and a few other people) know.
- Three fields of knowledge about which much is known but you know rather little.

Reflect on your responses to these three categories.

What can you learn from this exercise about the magnitude of your knowledge compared with all of the knowledge that exists? What are some of the possible ways to feel about this? How does it make you feel, and why?

Are there significant differences between the kinds of knowledge that can be shared compared to those which can't? What about knowledge that could be shared but isn't?

A key recurring tension in TOK is the relationship between the autonomy of the individual as a knower and the social aspects of knowing. One of the goals of this chapter is to set the scene for exploration in the rest of the book of the diverse contexts in which this relationship occurs.

Another goal is to explore how the attributes of the IB learner profile might assist us individually and collectively in the pursuit of knowledge. As an IB student who is familiar with the learner profile, you probably find it unsurprising – even obvious – that one attribute of a successful learner should be the personal accumulation of knowledge. What else could you have been doing in all of those lessons over the years? And what about your experiences in life beyond the classroom? School is supposed to equip you not only with facts but also with the skills necessary for acquiring, evaluating and building on them. So perhaps we can embark on a deeper investigation of knowledge and what it means to know, by making a provisional distinction between things that we know to be the case (such as that Madrid is the capital of Spain, or that the atomic number of nitrogen is 7) and things that we know how to do (such as searching for an answer to a question on the internet, or using a burette in order to undertake a titration). The former type of knowledge is sometimes referred to as *propositional*, as it can be

expressed in language for everyone to examine; the latter type can be referred to as *procedural*, as it involves an ability to perform a task. As you set out on this inquiry into knowledge and knowing, bear in mind all ten characteristics or aspirations of the learner profile and consider their contributions to the journey.

IB learners strive to be:

- inquirers
- knowledgeable
- thinkers
- communicators
- principled

- open-minded
- caring
- risk-takers
- balanced
- reflective.

The exhibition task in the TOK course requires you to identify three objects and discuss them in the context of knowledge. Here, we are going to set up a virtual exhibition of three objects to discuss in a knowledge context.

Virtual exhibition object 1

Sporting tournaments are always accompanied by fevered attempts to predict the results. Indeed, some people are of the view that the build-up is at least as exciting as the event itself. During the 2010 football World Cup in South Africa, an uncannily accurate forecaster became a celebrity, by correctly predicting the winning team in all seven of the matches played by Germany. This celebrity was Paul, who happened to be an octopus. Before each match, Paul was provided with two boxes, each of which contained a tempting snack and was labelled with the flag of one of the competing nations. Whichever box he opened first was taken to be his prediction. Paul accumulated many followers in Germany until his accurate prediction of German defeat in the semi-final prompted some to suggest he should find himself on someone's dinner plate.

Match	Paul's prediction	Stage	Result
Germany *vs* Australia	Germany	Group match	4-0
Germany *vs* Serbia	Serbia	Group match	0-1
Germany *vs* Ghana	Germany	Group match	1-0
Germany *vs* England	Germany	Round of 16	4-1
Germany *vs* Argentina	Germany	Quarter-final	4-0
Germany *vs* Spain	Spain	Semi-final	0-1
Germany *vs* Uruguay	Germany	Third place play-off	3-2

Can we say that Paul knew who was going to win each match? It would be hard to argue for this; a more convincing explanation involves luck. Do you think a lucky 'guess' can be considered to be knowledge? Can we even claim that Paul was guessing? In any case, even the most committed human beings struggle to assemble the knowledge needed before matches to make sustained accurate predictions. How could Paul possibly have factored in knowledge about the individual players, the record of past encounters between the teams, the conditions in which the match would be played, etc.? More fundamentally, how could he understand that flags attached to snack boxes represented countries, or even what flags or countries were? Many would add that there is a considerable element of chance involved in sport, and hence

truly knowing in advance is not possible. A genuine prediction of a result would seem to require believing that it will happen, and it's not clear that octopuses possess the capacity to hold anything that we might classify as a belief. A 'common sense' response to this scenario seems the only reasonable one: Paul was not really predicting anything because his choices were not informed by relevant information, and they were probably not connected to any mental state that we could accept as a belief.

Figure 1 Paul the octopus in his tank

If knowing is about having beliefs and being able to provide good grounds for them, it follows that Paul did not know anything about the World Cup. This seems fair enough. But does it then mean that octopuses really don't know anything at all? It turns out that, for invertebrates, octopuses have extremely well-developed brains and nervous systems, although the way they are structured is rather different to ours. This makes them particularly interesting subjects for investigation. Paul was singled out by his keepers for the prediction business because he seemed to respond intelligently to his environment. There are well-documented cases of octopuses discriminating between different people by squirting water consistently at only some of them (is this an octopus's version of an insult or a compliment?). They can re-purpose objects like coconut shells as shelters, and display sustained curiosity with inanimate objects. It has also been said that they have a knack of escaping from tanks when no one is paying attention to them.

While we do not know what it is like to be an octopus because we have no direct access to its inner life (if indeed it has anything that can be described in this way), we can see that octopuses do respond to their environments in ways that seem purposeful and well adjusted. Rather than exploring knowledge as something requiring beliefs and good grounds for them, perhaps we should focus on actions and responses as indicators of a creature being knowledgeable – without worrying about what goes on inside an octopus's brain. More boldly, we could regard these actions and responses as instances of knowledge in themselves. It seems likely that, in the event of humans doing things that roughly correspond to those that octopuses quite routinely seem to do (including learning), we would accept that those things at the very least required knowledge or demonstrated skills that count as knowledge in themselves. Perhaps then, we could think of knowledge in terms of solving problems and the actions that provide responses to them.

In TOK, successful inquiry is predicated on an initial open-mindedness that permits us to draw tentative or speculative distinctions for the purpose of analysis. On more detailed reflection, these distinctions may or may not bring our understanding

forward, and then we can elaborate or dispose of them. Here we have made a start in two distinct directions in our exploration of knowledge and knowing.

	Knowledge in the form of	Paying attention to
1	Claims	Beliefs and evidence
2	Skills/abilities	Actions/responses

Activity 2

Using each of the two ways of thinking about what we mean by knowledge, and looking at the table above, what conclusion do you draw about the capacity of an octopus to know? More generally, what might be the advantages and difficulties of insisting that knowledge must be, or must arise from, a certain kind of belief?

Does the second interpretation suggest that all living things have knowledge? For example, what about plants that respond to light and gravity, or yeast that switches to alcohol production in the absence of oxygen? If not, why not? If so, is this interpretation still helpful as a description of knowledge? If not, might it be possible to tighten it up somehow?

Virtual exhibition object 2

Among the many achievements of the Flemish cartographer, Gerardus Mercator, the most well-known is his ground-breaking map of the world, published in 1569. In the heyday of European expansion and exploration around the world, accurate navigation was limited by the technology of the time. Mercator's contribution was to develop a map that always allows a navigator to steer to a constant compass bearing in order to reach the desired destination. There is no way to produce a flat map of a globe without deviating in some way from the reality of the world, and in Mercator's case the simplification of navigation came at the expense of accurate representation of area – the further a territory is from the equator, the greater its size appears on the map (see Figure 2).

Figure 2 Mercator's map of the world 1569

Are you familiar with maps of the world that use different projections? There are many alternatives now, and the reason why Mercator's projection has lost advocates in modern cartography is that the original trade-off has shifted. The global positioning system (GPS) and other items of modern technology have undermined the reliance on simple maps as a primary means of navigation, and hence the disadvantage of size distortion is no longer offset by the practicalities of the map. We are left with a map that misleads observers in ways that have an impact on their understanding of the relative importance and power of various regions of the world.

Mercator assembled the best available geographical knowledge about the world available to him in the 16th century and offered this knowledge in the form of a map. Here is a third way of thinking about knowledge: while Mercator literally produced a representation of the world, we can try thinking of knowledge in general as a representation of some aspect of the world.

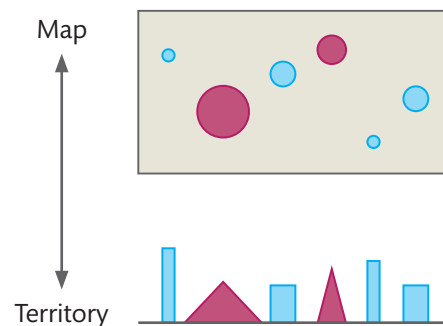**Figure 3** The map is to the territory as knowledge is to the world

Figure 3 shows an overhead map (top) of a cityscape (the territory) shown in sideview (bottom). The relation of the city to the map is the same relation that we find between the world and the knowledge that describes it.

This metaphorical approach can be quite successful. It reminds us that the map and the territory are distinct things, and the map can never be completely correct or else it would have become the territory itself and hence lost its value as a tool. There can be alternative maps that emphasise different aspects of the (same) world. Maps can leave out things about the world that are unknown at the time, or add features speculatively about unknown things. As new discoveries are made, they can be added to the map or used to correct errors. Maps are often designed to solve particular problems (such as navigation). The aspects of a map that distort the world may be there by necessity or by deliberate design in order to solve the problem for which the map was created.

Activity 3

Consider the variants below on the map/territory figure. In what significant way do the two members of each pair of maps differ from each other? Can you 'translate' these differences in the maps such that they illustrate features of knowledge? What examples of knowledge can you think of?

Comparison A   Comparison B

Comparison C
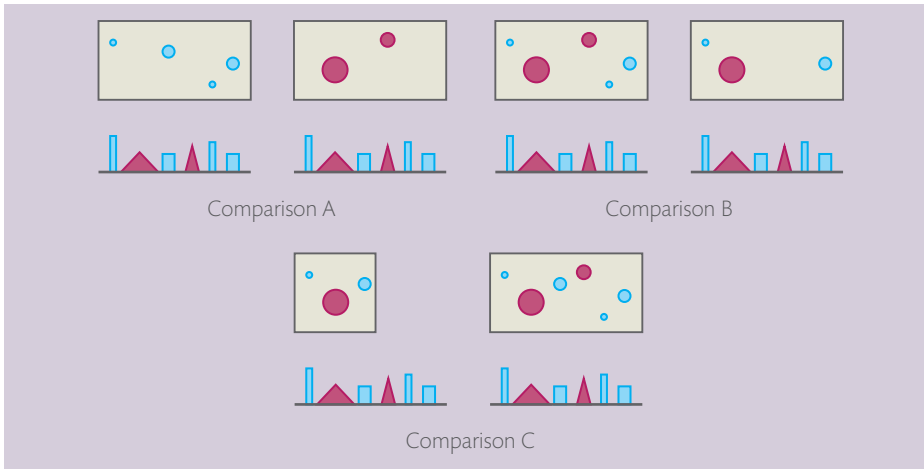
Our inquiries have now raised three ways of thinking about knowledge:

|	Knowledge in the form of	Paying attention to
1	Claims	Beliefs and evidence
2	Skills/abilities	Actions/responses
3	Metaphorical maps of the world	Representations

Take a moment to re-visit the provisional distinction introduced at the start of the chapter – *knowing that* and *knowing how*. How does this distinction relate to the three ways of thinking about knowledge?

If we insist that, in order to count as knowledge, beliefs must correspond exactly with the state of the world, the first way of thinking seems to set a very high bar for knowledge. While we might agree that Paul's predictions do not merit the knowledge label, it does not seem reasonable to suggest that Mercator was ignorant just because his map was not 100 per cent accurate. This sets us on the road to the conclusion that each of us knows very little indeed! The second conception carries with it the danger that, by focusing on actions, we include behaviours that are more readily described as adaptations or instincts as knowledge, and end up stuck with a description of knowledge that is too broad to be useful. Arguably the third conception is troubling because it allows for knowledge that is false in some respect. 'False knowledge' sounds like a weird idea.

Activity 4

Are the three conceptions of knowledge in the table above entirely distinct, or is there some overlap? Does one of them strike you as having more potential as we progress through this book? Or do you think it will be 'horses for courses', with each of them providing enlightenment as we go along? Is it OK to keep switching from one description to another, or is that a kind of argumentative 'cheating'? Does the map metaphor provide middle ground between those approaches to knowledge that are either unrealistically ambitious or unhelpfully inclusive?

THEORY OF PORRIDGE
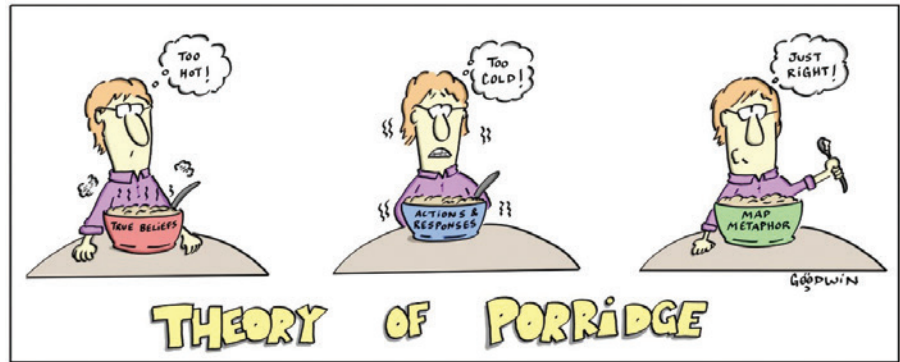
Whatever your responses to the questions in Activity 3, let's keep all three conceptions to hand for now.

Virtual exhibition object 3

The last object in our virtual exhibition is the best-selling jazz album of all time by any solo artist – a recording of the concert given by the pianist Keith Jarrett on 24 January 1975 at the Opera House in Cologne, Germany. On this recording, Jarrett is not playing a pre-existing piece; he is improvising throughout, yet his ability to generate this music spontaneously rests on a rich foundation of knowledge about harmony, melody, rhythm, and musical styles. Jarrett has a sophisticated internal map of musical theory, but that seems insufficient on its own to explain what he has achieved with 'real time' improvisation. There are many people who have comprehensive and deep musical knowledge and yet are not able to do what Jarrett does.

Figure 4 The Köln Concert, Keith Jarrett

Activity 5

Try to employ one or more of the three conceptions of knowledge in order to explain how a musician can give a concert of this kind. What roles, if any, do beliefs, actions, and representations play?

Consider the following quotations from Jarrett himself.

> 'When I'm out there and there's just a piano, it's like my body knows exactly what to do – it's just like my left hand knows how to play. And if I tell it what to play, I'm stopping it. Not only am I stopping it but I'm stopping it from playing something better than I can think of.'
>

> 'I myself am a pawn to this whole thing […] I am either going to be in there inside the process of improvising or I'm going to be on the outside wondering what it is and coming up with a theory and an answer.'
>

Activity 6

Do you think Jarrett is expressing something worth noting about the relationship between *knowing that* and *knowing how* in the context of improvisation? How could it be that his musical performance is diminished by his effort to understand the process by which it is achieved? Even memorisation of a scored piece of music can be undermined by paying too much attention to individual notes and chords. If you are a musician, have you had any such experience?

Perhaps the scenarios in which one kind of knowledge can be successful only by subduing another are more widespread. Golfers, snooker players, cricket bowlers, darts players, and baseball pitchers are all susceptible to a condition known as the yips, in which the motor skills needed to perform a particular repeated action (such as a golf swing or a baseball pitch) suddenly desert the player. The exact causes are disputed, but one explanation involves a conflict between performing the action and systematic knowledge of what is required in order to achieve it. Sporting actions of these kinds become automatic through repetition, and this permits the player to focus on their immediate strategy in the game (hitting the ball long to avoid a bunker, exploiting a weakness in a batsman's defence in order to dismiss him) rather than the mechanics of the action. When something goes wrong, the player starts to rely on analysis of their internal map of all the components of the action that are required, in order to understand where the problem lies; but this only worsens the problem and the result is an inability to perform the action to any successful degree at all.

> '[T]he yips are restricted to a quite specific range of sporting activities. They afflict only those actions that are triggered by the players themselves, as opposed to those that are responses to someone else. It is specifically when you need to initiate a sporting action that you are in danger of thinking about the movements you must perform.'
>
> (Papineau, 2017, p. 49)

Pinning down the nature of knowledge and what it means to know is not a straightforward task. There seem to be different kinds of knowledge, different ways of describing them, and some controversy as to how they interact. But with the

assistance of three objects (the octopus, the map, and the album) we have flagged some distinctions and applied some concepts in order to try to tease out the nuances and subtleties. Rather than reaching for the first definition that comes to hand, success in this course involves taking a balanced approach to analysis, with ideas that can be refined or rejected according to circumstances.

Things to think about

- Mercator's projection is only one of many. Research some other projections and their effects on accuracy – do they add any further insight into the nature of knowledge conceived as a map of reality?
- The metaphor of the map might work well in principle for thinking about knowledge but, in a world in which map-reading and interpretation are increasingly delegated to technology, do you think the metaphor will become ever less powerful for TOK students? Does this question resonate with you? Why or why not?

Knowledge questions

- Why are the criteria for what counts as knowledge not obvious?
- What criteria can we use to distinguish between knowledge, belief, and opinion?
- Are there situations where *knowing how* is more important than *knowing that*?

Perspectives

People hold different beliefs about many things. Sometimes, this just amounts to disagreement about individual and specific claims, and often this kind of dispute can be resolved by reference to other facts or experiences about which there is agreement. There are times when we are just wrong, can be corrected, and are willing to accept the correction.

For example: 'Barack Obama was the 45th president of the United States.' 'No, he wasn't – here is the complete list; count them.'

But not every belief can be so easily verified or abandoned. For example, you will have an opinion about the success of your school as a place for learning. We can call this opinion your **personal point of view**. This view will have been formed through your experiences at school, and also shaped by a number of factors external to the school itself yet important to your own identity. Before proceeding, consider what some of these factors might be.

Now read through the following two passages about the nature of education and schooling.

Passage A

Education can benefit from the application of concepts and methods from the business world. Students can be viewed as consumers of education, and their performance measured, quantitatively as far as possible, in terms of 'value added'. Teachers and schools can be made accountable in terms of their success in administering this extra value to students, leading to an effective results-driven

and competitive market in educational opportunity. Computers and related technologies have advanced to the point where they are more effective than humans in delivering curriculum content and adjusting learning experiences according to the needs of individual students. The role of the teacher needs to be downgraded to managing the environment in which technology takes centre stage, or perhaps removed altogether along with schools themselves as institutions for learning.

Passage B

Education and business are fields with distinct differences. Students need to be treated as whole persons with individual goals and interests that inform their intellectual development. Students can learn to take full account of these attributes and become self-directed and balanced citizens only with guidance from experienced adults. 'Well-being' should be understood as extending far beyond material concerns. Objective measurement of students' performance relative to each other is difficult and is often best measured qualitatively. Not only is the teacher key to effective learning, but schools as long-established institutions provide the nucleus of learning communities and safe spaces in which socialisation can take place, with teachers in *loco parentis.* Accordingly, teachers and schools continue to function as effective institutions for learning.

Activity 7

What is your opinion on passages A and B? Does one passage seem more convincing than the other to you? Or are you in the middle somewhere, or possibly somewhere else entirely?

You might be hesitant or deeply convinced by your view, but this doubt or conviction will come from a combination of the influences of factors such as your direct experiences, your interests, and components of your social background including culture, gender, age, or religious and political preferences. Identify how aspects of your own life and background in these categories might have had an impact on your point of view on this topic.

These factors work together to identify the 'location' from which you witness the world as a whole. We will refer to this matrix of circumstances as your *perspective,* and it shapes and explains the views that you hold. Let's set this in the context of the two views above.

Activity 8

Can we describe the perspectives that are likely to give rise to the positions above on the topic of the relationship between education and business? Think about the concepts, practices, and values that are implicit, and about what experiences, interests, and social backgrounds might lead to them.

'He would think/say that because he…'. In attempting to identify these perspectives, to what extent is there a danger of stereotyping? How serious are the dangers of reaching conclusions about someone's point of view on the basis of their perspective?

Perspectives are stable and durable features of our outlook that steer each of us towards particular views, and the acceptance and rejection of various claims. Later on, we will examine claims on an individual basis by focusing on the ways in which they might be supported, but a whole body of knowledge, such as one that may arise from a perspective, might require a different approach. It is important not only to unpack this knowledge and reveal the components of the perspective that lies beneath it; it is also crucial to examine it as a whole. One fruitful field for inquiry here is religion, as the perspectives that underpin religious beliefs and practices are particularly influential. These matters are explored in Chapter 2.4 **Knowledge and religion**.

In the example above concerning education, each passage encompasses an interlocking set of claims that may be better described metaphorically as a map of the territory rather than as a set of independent assertions. Each 'map' has its own emphasis. For the sake of the metaphor, it might be argued that each on its own presents a somewhat distorted view on the subject. Nevertheless, there are areas of consensus: that education is important, that there is a need for differentiated learning experiences, that students must be motivated by whatever resources are considered paramount for learning, and so on. The positions overlap even though they may be steered by contrasting perspectives.

Activity 9

Perspectives are shaped by membership of communities. Take a moment to consider the communities to which you belong and the contribution that each has made to your overall perspective. Is there knowledge that you have acquired in complete isolation from any community? If so, what kind of knowledge might that be?

Think about how your portfolio of memberships has changed over the years and how these dynamics might have influenced shifts in perspective. Who is responsible for these shifts, given that membership is voluntary for some communities but not for others? Might there also have been stand-out events that had a major impact?

Like an iceberg, perspectives are to be found mainly 'below the waterline'. You have probably found in Activity 9 that it takes a concentrated effort to be reflective and uncover the foundations on which perspectives are built.
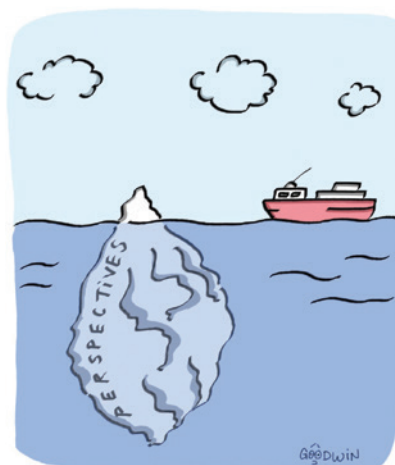

Like an iceberg, perspectives are to be found just 'below the waterline.'

Activity 10

'It is easier to identify the perspectives that other people hold than it is to describe one's own.'

Would you agree with this statement? If so, why would this be the case? If not, why not? Either way, what might be the implications for social interaction and the sharing of knowledge?

Perspectives are unavoidable given the fact that there is no view available from nowhere. It is crucial to the success of our TOK journey that this point is understood. We are all embedded in a matrix of influences that shape the ways in which we understand the world. At first glance, this might be taken as a death blow to the search for objectivity and hence a licence to adopt an attitude of resignation with respect to knowledge. But as we shall see, knowing can make sense only when there is a particular foundation on which the knower can build. Taking a balanced approach and drawing on the insights provided from a variety of perspectives is often more effective in refining our knowledge than the quest for a single detached outlook.
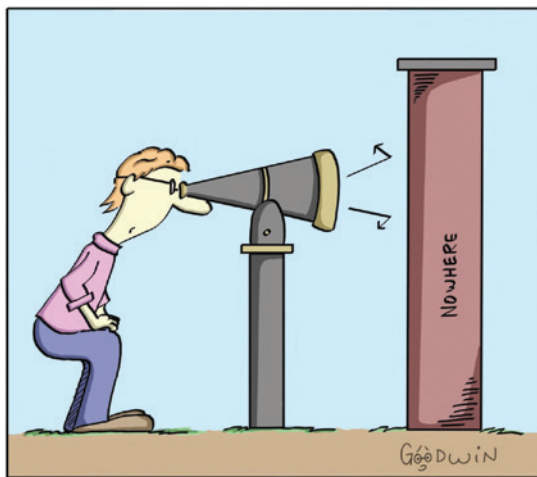
There is no view from nowhere.

The British philosopher, Julian Baggini, has suggested three advantages of taking an open-minded approach to perspectives and the knowledge that they promote (Baggini, 2018, p. 388).

- **Cubist:** by gathering more knowledge about an issue, we can minimise the chances of overlooking something important.
- **Disaggregating:** by examining each perspective, we may discover that there is actually more than one issue at stake.
- **Pluralist:** by comparing perspectives, we may come to realise that there is more than one way of understanding the issue.

While taking on board different perspectives might make sense in principle, achieving it is not always an easy task. It requires more than simply the application of careful reasoning to the claims that emerge from them. It also demands a willingness to develop empathy with those that hold them, and the imagination to bring to life somewhat

▲
Figure 5   Dr Julian Baggini

different conceptions of reality that may seem alien to us. Where perspectives generate conflicting bodies of knowledge, empathy might be difficult and the motivation to explore points of view in opposition to one's own may be hard to sustain.

The map metaphor is an attractive way of thinking about knowledge in the context of perspectives. How far can we run with it? Remember that no map is entirely true, but some are better than others.

It does not seem too far-fetched to suggest that our appreciation of the issues surrounding education are given balance by an engagement with multiple perspectives and the views that they support. After all, there is much to learn, and the relationship between educational goals and the institutions that support them can be framed in different ways. More seems to be better here.

But the relationship between perspectives and knowledge is not always favourable, and it is sometimes the case that perspectives give rise to deeply oppositional stances. Under these circumstances, you might challenge some of Baggini's optimism. Such is the case with climate change; whether it is occurring on a global scale, and, crucially, the degree to which human activity might be contributing to it. While there is overwhelming agreement within the scientific community about the reality of this phenomenon and that there is a human contribution to it, there are still many people who do not accept these claims. Rejection can often be traced back to perspectives that foster a belief in freedom from government intervention in public affairs, and in the economic market as efficient in solving problems. These beliefs in turn are deeply associated with views from the right of the traditional political spectrum. More broadly, those who remain unconvinced by the human contribution to global warming as a component of climate change often have a more comprehensive suspicion of institutions – extending to the scientific community and those within it who possess specialised knowledge. In addition, some may have long-term experience of living in communities that are dependent on industries that emit large quantities of carbon dioxide, or are located in places where the effects of climate change are less likely to be obvious.

Activity 11

Given what has been written above, what values and practices would you expect to find in the perspectives of climate scientists? Can you make any speculative generalisations about aspects of their social background?

In common with many other pressing issues of the world, data can be interpreted in various ways. In such circumstances, the products of different perspectives can thrive. Those who wish to exploit the views of others can find rich opportunities to do so.

'Doubt is our product, since it is the best means of competing with the "body of fact" that exists in the minds of the general public' (1969 memo sent by an executive at Brown & Williamson tobacco; Oreskes, 2010, p. 48). If the evidence seems too stacked against a point of view, rendering the goal of convincing others impractical, the attempt to manufacture doubt may be sufficient to undermine opponents. Rather than trying to undermine the authority of the scientific community, a few scientists can be persuaded to abandon principles by lending their expert status to the task of creating this uncertainty – as happened for many years with the smoking lobby (and continues to happen with the emergence of electronic cigarettes and vaping).

Contestable points of view are fortified by an accompanying raft of justifications that are equally disputable. The integrated nature of perspectives and the knowledge that they facilitate creates a structure highly resistant to change.

Activity 12

Review Baggini's appeal for engagement with multiple perspectives. To what extent do you think the advantages he proposes hold up in the light of the examples given in the areas of climate and health?

We have seen how we unavoidably live in a world of different perspectives. We need to try to unpack those perspectives whenever they can provide us with a better understanding of diverse points of view. Familiarity with different perspectives may enrich our knowledge or provide us with a more solid basis on which to challenge them. Sometimes this latter task is rendered harder when conflicting views are presented as if there were a 'level playing field' in credibility where this is actually not the case. If a principled knower is one who maintains a respect for knowledge and takes responsibility for the health of their own knowledge, then judgements about when to accept knowledge arising from a different perspective and when to call it out as flawed, false, or even dangerous assume great importance. Open-mindedness needs to be moderated by careful reflection. Some of these issues will be explored further in Chapter 2.1 **Knowledge and politics**.

In terms of the map metaphor, we need to distinguish between maps that enhance our understanding of a territory and our ability to navigate it, and those that are poorly constructed or based on principles that distort (unintentionally or deliberately) the relationship with the territory. This calls for a closer look at individual claims, and so in the next section we will focus more directly on the 'micro' business of identifying and examining claims carefully.

Things to think about

- With regard to the topic of education and schooling, is there a perspective that is more likely than others to offer knowledge that is useful for making decisions? Might this vary by place and time? What can happen when a 'foreign' perspective is allowed to dominate in a different environment? On what basis, if at all, can we judge perspectives?
- What might be the advantages and drawbacks of incorporating insights arising from a variety of perspectives into our knowledge?
- Different cultures sometimes exhibit varying responses whenever limits to knowledge are encountered. In modern Western culture, the reaction is often to take limits as challenges to be overcome, but this is not a universal response. Can you think of any circumstances in which limits to knowledge are met with acceptance or even celebration? Attitudes to the limits of what can be known are explored in Chapter 2.5 **Knowledge and indigenous societies**.
- How can we identify the point at which acceptance of the views that emerge from a perspective can no longer be sustained? To what extent can we blame the underlying perspective for toxic views, or overlook or excuse those views on the basis of the perspective from which they emerge?
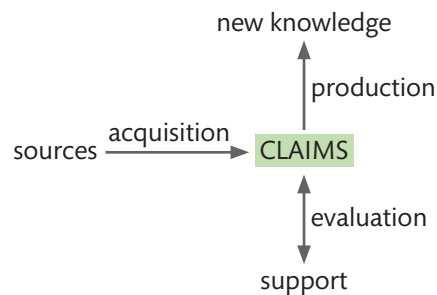
Knowledge questions

- How is it possible to know what shapes my knowledge as a knower?
- How much of our knowledge depends on our interactions with other knowers?
- Are there types of knowledge that are specifically linked to particular communities of knowers?
- Presented with the belief system of a community of knowers, how can we decide what we personally believe?
- Is the truth what the majority of people accept?
- How do empathy and imagination help us to understand other perspectives?
- How can we know that current knowledge is an improvement on past knowledge?

Methods and tools

Reflect for a moment on the exchanges you have with other people. We are at the end of a seemingly endless stream of claims to knowledge offered up by family and friends, the school environment, and from whatever other sources with which we choose to engage or are exposed to. In order to navigate a world full of so many assertions, we often need to call on methods that might be effective in evaluating them. Accordingly, the first part of this section focuses on individual propositional claims. It will also be important to look at how these claims are acquired, and how they might be combined in the quest for new knowledge.

Figure 6 How are claims acquired and combined in the quest for new knowledge?

In our efforts to navigate our way in the world, we gain knowledge from other people and from the world itself (**acquisition** of knowledge). It is important that we subject this knowledge to scrutiny in order to have confidence in it (**evaluation** of knowledge). As consumers of knowledge, we need to engage both of these processes. Furthermore, new knowledge can be built on the foundation of what we have established (**production** of knowledge).

For instance, this video claims that: 'Water conducts electricity' (ForeverGreen: 8 principles of health; www.youtube.com/watch?v=zFC7xtXol2g; after 1 min 34 sec).

Here we encounter the first challenge in evaluation – namely that we simply do not have time to test rigorously every claim with which we make contact. Imagine what would happen to social interaction and your peace of mind if you tried to do so! We must be selective, and being knowledgeable is the first line of defence against falsehood because it helps us to identify those claims that seem suspicious as they do

not immediately seem to fit with our background knowledge. Once flagged in this way, what are some of the methods by which you could check the claim above?

1. You could undertake a basic scientific experiment in order to gather first-hand evidence to see whether there is a **correspondence** with the claim. At first glance, this might seem to be an attractive method; direct observation on a personal basis. But in this case and many others, it is not going to be the easiest option – materials and apparatus will have to be collected, and the outcome of the experiment is likely to be reliable only if several precautions are taken that may not be immediately obvious (such as the need to use water that is as pure as possible). Furthermore, you will need familiarity with the concepts in which the claim is framed – what does it mean to 'conduct' electricity, and what actually is electricity in the first place?

2. Alternatively, having flagged the claim as contestable, you could call on previous knowledge in order to check for **coherence**. Knowledge from chemistry or physics (either that you have memorised or can readily acquire) would help:

    No covalent compound conducts electricity./Water is a covalent compound./Hence water does not conduct electricity.

    In this case, it is fairly straightforward for you to build a watertight (!) argument that refutes the claim, but often this is not possible when claims are more complex or open to interpretation.

3. Another way forward would be to run the claim past one or more experts in the relevant field of knowledge. A good choice might be one of your science teachers; alternatively, expert knowledge can be accessed from sources such as books and the internet. You would need to be as confident as possible that this knowledge does indeed originate with an appropriate **authority**, and so the skills and practices you have learned concerning source evaluation need to be activated.

4. In the absence of experts you might resort to asking friends and colleagues what they think about the claim. There are obvious advantages and dangers of searching for the **consensus** – not least issues to do with the composition of the group involved, which may be unconsciously skewed towards a desire for confirmation or otherwise.
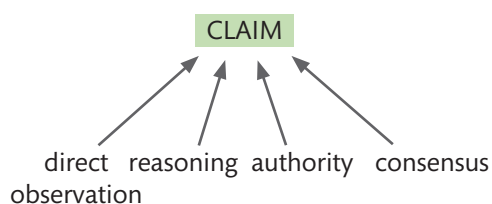
Figure 7 The search for good grounds for accepting a claim

Activity 13

Consider each of the following claims. In principle, which of the methods above is available for evaluating the claims? In reality, which of the methods is a viable choice?

1. No human being has ever set foot on the Moon.

2. Giovanni Riccioli's 1651 map of the Moon has an orthographic projection.

3. The shadow of the Earth on the Moon during a lunar eclipse is curved.

4. The Moon was formed from a collision between the Earth and another body early in the history of the Solar System.

5. The Moon plays a role in tides on Earth.

6. Luna 10 was the first spacecraft to orbit the Moon.

7. The acceleration due to gravity at the surface of the Moon is 1.62m/s^2.

8. On average, there is a full moon every 29.5 days.

We all know that a standard method of finding things out is to connect to the internet and conduct a search. What might be the implications of this? How can we be confident about the accuracy of what we discover? (Issues to do with authority and consensus remain.) What about the knower's motivation to sustain a comprehensive and deep reservoir of knowledge in a world where so much of it can be accessed so easily? We have already seen how critical evaluation depends on what we already know, and there are those who claim that the internet promotes a shallowness in our knowledge as a consequence of 'outsourcing' memory. Might a reliance on online sources undermine personal initiative in finding ways to test claims? Your teacher may decide to focus on some of these issues more deeply in Chapter 2.2 **Knowledge and technology**.

Whatever the answers to these questions, internet searches should not be considered as a method of evaluation that is independent of what has been outlined above. Identification of genuine authorities, the composition of groups in which to trust, the ways in which different facts need to be logically arranged – all these issues remain. Indeed, a brief survey will show how interconnected some of these methods are, and in particular how reasoning is involved in all of them. Reasoning is essential in order to establish what observations signify, and it is needed in order to establish who is (and is not) an appropriate authority.

An effective appraisal of the methods for evaluating claims will require an examination of the tools that make those methods possible. On the one hand, this set of tools permits us to acquire, evaluate, and produce knowledge on an individual basis; but at the same time the fact that we are aware that each of us possesses more or less the same set of tools makes shared knowledge and understanding possible.

'We know ourselves as individuals, but we also know that what goes on inside ourselves is almost exactly what goes on inside everyone else. We recognise the whole of the human race within ourselves.'

(Jacob Bronowski)

Observation relies on a range of biological apparatus (eyes, ears, a variety of sensory cells) for collecting sense data from the world and relaying it to the brain, where it can undergo some interpretive processing. The result is what we call *perception*. You will probably be able to recall situations where you have been misled by expectations based on your prior experiences held in the memory.

What you perceive in the café wall illusion above is an example of a warped perception of reality that we all experience. Contrastingly, there are two distinct ways of perceiving the Necker cube as a three-dimensional object but neither is preferred and each seems equally persuasive. However, we all interpret the image of the indent illusion with light from above casting shadows accordingly – a perception that can be altered by
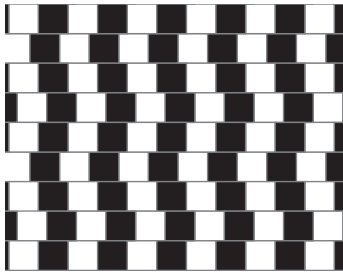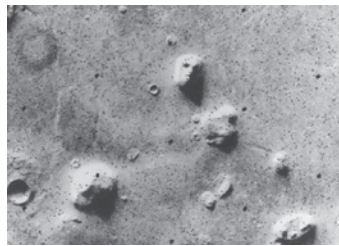
▲ **Figure 8**   Café wall illusion
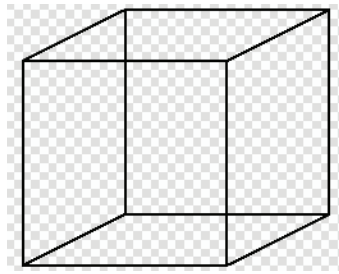
▲ **Figure 9**   Necker cube
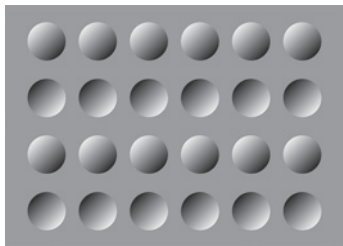
▲ **Figure 10**   Indent illusion

▲ **Figure 11**   The 'face on Mars'

imagining the image illuminated from below (you can try this, or alternatively turn the image upside down to see what happens). Nevertheless, we settle on the interpretation that is in accordance with the world which we normally inhabit. It is experience that creates a perceptual preference. The fourth image is the 'face on Mars' – we have a deeply ingrained tendency to perceive faces that interferes with the fact that, in this case, what we have is a particular landscape configuration. This time it is evolutionary forces at work. Perceptual illusions are engaging and provide a rich field in which to explore the bases on which we interpret the world. Despite the odd anomaly or confusion that perceptual illusions can offer, it is worth keeping in mind that our ability to function in the world does suggest that the process of perception is generally effective.

Activity 14

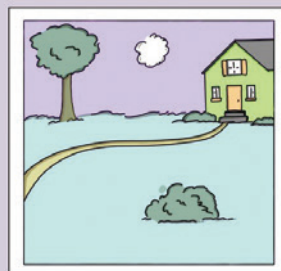Consider the interpretations of alternative metaphors as shown in the pictures below. What are the implications of describing the perceptual process in terms of windows, lenses, filters, or maps? Do these metaphors pick out different features? Which metaphor do you think provides the most insight into the relationship between the world and what we perceive?
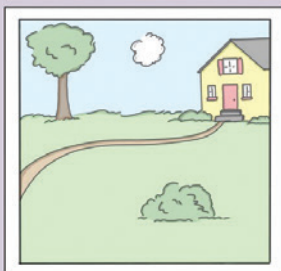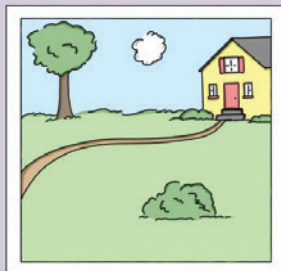
Window (ORIGINAL)   Lens (SHARPENED)   Filter (ALTERED)

While observation makes use of essential connections to the world, relying solely on perceptual tools will never be sufficient in order to give us all the knowledge we need. In alignment with the discussion on authority and consensus above, much of our knowledge comes from what we are told by others, which of course is mediated by language. There is much more to consider about this dynamic relationship in Chapter 2.3 **Knowledge and language**. Languages offer great power for describing the world in different ways – for example, consider the use of the terms *climate change deniers* and *climate alarmists* with respect to what could be called *climate change* or *climate emergency*. Individuals or groups wield this power in the service of their particular agendas; we need to pay careful attention to the ways in which words are selected and presented if we aspire to the effective understanding of communication that is needed for our self-defence as knowers.

In addition to sensory and linguistic capabilities, reasoning on its own provides an effective means for evaluating claims and building knowledge. You may be familiar with two basic types:

Deductive reasoning	Inductive reasoning
All octopus species possess eight arms *O. mercatoris* is an octopus species **Hence *O. mercatoris* possesses eight arms**	*O. mercatoris* is an octopus species and has eight arms *O. vulgaris* is an octopus species and has eight arms *O. maya* is an octopus species and has eight arms *O. salutii* is an octopus species and has eight arms *O. rubescens* is an octopus species and has eight arms **So all octopus species have eight arms**

Deductive reasoning allows us to infer a conclusion that is as certain as the premises from which we started, although it could be argued that this conclusion is of limited value as it is already implicit in the premises. Inductive reasoning offers a trade-off between the advantages of generalisation and the necessity of risk-taking, as the conclusion is open to revision in the light of more data.

The examples of reasoning offered above are simple and 'clean' so that their structure is clear for the purposes of demonstration. But 'real life' is almost always messy and harder to reduce to such straightforward arguments.

Consider the following four examples.

> Greenhouse gases help to trap solar radiation.
> Greenhouse gases include carbon dioxide, methane, and water vapour.
> Hence carbon dioxide helps to trap solar radiation

The conclusion necessarily follows from the premises, but we have not learned much that we didn't know at the start.

> Mean global temperatures have increased over the past 100 years.
> Atmospheric carbon dioxide levels have increased over the past 100 years.
> Hence what?

The premises on their own do not lead to a conclusion about which phenomenon causes the other. Nor that there is any cause and effect relationship between them at all.

> Mean global temperatures have increased over the past 100 years.
> Anthropogenic emissions of carbon dioxide have increased over the past 100 years.
> Hence what?

A definitive conclusion is difficult to reach because the premises provide no data on the relative size of emissions from each type of source, nor any data over a longer timescale with which to contextualise them.

> Increased mean global temperatures will generate more clouds.
> Some clouds produce a net cooling effect by reflecting solar radiation away from the Earth.
> Hence what?

In this case the premises seem insecure and so the content of the argument may lead to a false conclusion.

As a result of these kinds of challenges, reasoning about the 'real world' tends either to become lengthy and less transparent as a result of trying to plug any 'holes' in the argument. As premises become more complex and more realistic in their description of the world, it becomes more difficult to spot assumptions in them that are not stated and may need careful exposure and scrutiny. Do you think that the messiness of real life diminishes the value of studying 'clean' forms of reasoning?

Nevertheless, you will no doubt be familiar with the notion that reasoning is a reliable and productive activity that is sometimes undermined by emotion. How many times have you heard that emotion 'clouds' our reasoning and is responsible for many of the errors that we make? This is an unflattering and inaccurate description of the role that emotions play in our lives – without them, we would struggle to know what to investigate, and decision-making would be stripped of meaning and made impossible.

The eminent Israeli-American psychologist Daniel Kahneman and his late Israeli colleague Amos Tversky devoted much of their careers to setting out a different vision that explains aspects of human cognition. In addition to the activities that we traditionally think of as reasoning (such as careful, conscious, deliberate drawing of conclusions from premises, as exemplified above), they suggested a complementary mechanism that makes rapid judgements by comparing current situations with previous experiences of the world. This 'system 1' operates largely below the level of consciousness and may be essential in order to relieve the burden on the slower, more methodical 'system 2' (reasoning) which would otherwise quickly become overloaded by the effort to process the rich stream of events and data of daily life. The idea is that successful negotiation of events depends on a dynamic balance between these two systems.

We can think of system 1 as continuously monitoring the world and comparing it with prior experiences and deep-seated expectations. This kind of activity is often described as a kind of intuition, although it might be argued that it is really a form of rapid unconscious reasoning. The key point about system 1 is that it can respond in 'real time' to events, but it does this by applying some short-cuts (called *heuristics*) that run the risk of producing errors (called *cognitive biases*). In principle, some of these errors
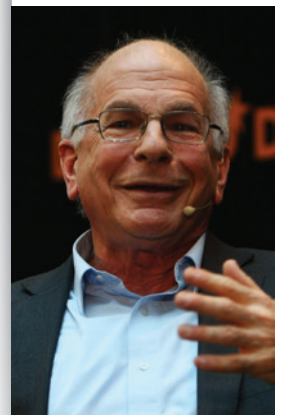
▲
Figure 12 Professor Daniel Kahneman

Figure 13   Kahneman's system 1 and 2 thinking
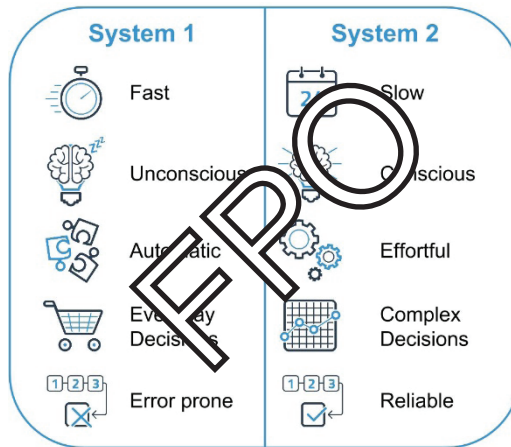
can be corrected by the careful application of system 2 thinking. However, despite the mental effort invested in the operation of system 2, some logical errors (called *fallacies*) can occur here, too.

	Speed	**Application**	**Procedure**	**Drawbacks**
System 1	Quick	Always available	Employs short-cuts	Prone to biases
System 2	Slow	Selective use	Methodical processes	Possible fallacies

System 1: here are a couple of examples of cognitive heuristics proposed by Kahneman and Tversky:

Availability	Estimating probability of an event on the basis of instances that come most readily to the mind of the knower.
Anchoring and adjustment	Estimating probability of an event by adjusting from a value provided to the knower.

System 2: here are a couple of examples of fallacies – can you spot the problem in each case? Not every fallacy is as easy to identify:

Affirming the consequent	**Exclusive premises**
If Paul predicted a German win, football fans in Germany will be happy. Football fans in Germany are happy. Paul predicted a German win.	No octopuses are fish Some fish are not pets Some pets are not octopuses

While the success of system 2 thinking is limited by our tendency to make logical errors, the reputation of reason as a way of evaluating and producing knowledge remains undiminished. This is an outcome of a close association with the concept of rationality and all of its positive connotations. However, the question remains as to whether the pursuit of rational outcomes always produces the best result.

Krill are small crustaceans found in vast quantities in the Southern Ocean. Their economic value stems from their use as animal and fish feed, and increasingly to provide ingredients such as omega-3 fatty acids in health products. Their ecological

value derives from their key niche in the overall Antarctic marine ecosystem. Unfortunately, the economic value has been allowed to undermine their ecological value as overfishing of krill has accelerated. This is a classic 'commons tragedy', in which self-interest (in this case, that of national fishing fleets) trumps the common good. Extracting ever more krill from the ocean by any one fleet leads to the degradation of an ecosystem that has to be shared by all. If rationality is understood to mean reaching a logical but self-interested decision on the basis of the local situation of the participant, then this individual rational choice does not seem to produce the best result for all in situations where resources are jointly owned or not strictly owned (or recognised as being owned) by interested parties at all. Can you think of other real-life examples of commons tragedies?

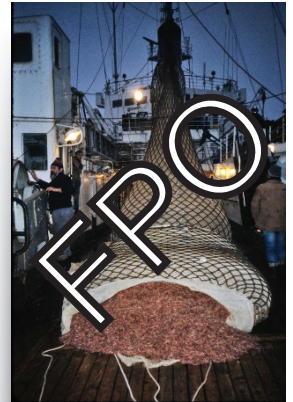

Figure 15   Commercial krill fishing

▲
Figure 14   Antarctic krill

You will no doubt see that situations such as these have an ethical dimension, and hence can provide a connection to the next element of the knowledge framework, ethics.

Are there viable strategies for enhancing the performance of our cognitive tools or the behaviours that arise from them? Daniel Kahneman is not entirely confident that awareness of biases and fallacies can help us to avoid them, but an awareness of errors that arise from the activities of both systems 1 and 2 may help. In addition, taking care with the construction of logical arguments and engaging in extended practice might have some impact. Hence, remedy through education could be one successful approach but it is unlikely to be sufficient when it comes to resolving issues where self-interest is involved, such as overfishing. The best outcome might be reached only by coercion of some kind, such as legislation, although several additional challenges emerge here, such as the need for acceptance not only of this approach among all parties, but of the body whose job it is to police it and sanction those who flout it.

Another type of intervention is to accept the existence of cognitive biases, but arrange the contexts in which decisions are made in order to minimise or counteract any negative effects. In this way, behaviour can be 'nudged' towards better outcomes. This strategy of adjusting the world rather than cognitive performance or applying

coercion is sometimes labelled *choice architecture*. One example that demonstrates how a systematic bias towards the status quo can be exploited, rather than left to undermine outcomes, concerns organ donation permissions. Simply changing the wording on the permission form, as has been done in some countries, so that the citizen has to make an active choice in order to opt out rather than to opt in results in far more organs potentially becoming available. This is because a systematic bias favouring the default option means that most people do not take the deliberate purposeful step needed to remove themselves from the register.

As we shall see later in this book, the production of knowledge in the various areas of knowledge depends for the most part on tried and tested methods. These methods are often expressly designed to counteract or minimise limitations of the human 'toolkit'. For example, scientific methods contain protocols for how to make observations, and narrow the number of variables under investigation as far as possible in order to sharpen the conclusions that can be drawn.

If preoccupied with the exploration of propositional claims, it would be easy to overlook the development and maintenance of procedural *knowing how* knowledge. Acquiring skills involves observation and attempted imitation of those who have already mastered them, and retention and further refinement is a product of practice. It is obvious that these are requirements for excellence in fields such as the arts and sports, but subsequent chapters will show how there can be very little *knowing that* without any *knowing how*.

Things to think about

- Find out about *Haliphron atlanticus,* the seven-arm octopus. Can you make any connections to inductive reasoning and expectations?
- Alfred Russel Wallace, co-founder of the theory of evolution by natural selection, got himself involved in an ill-tempered and extended dispute with several individuals who claimed that the Earth is flat. This was in the 19th century when the shape of the Earth was long established beyond reasonable refutation. How can we know when to tackle the falsehoods promoted by others and when to ignore those who are doing the promoting? Consider here what is known as the 'backfire effect'.
- Some 'conspiracy theories' have survived for long periods. Consider the assertions that have been offered to support the view that the Apollo Moon landings never happened. Are these views best tackled by trying to refute individual claims or by challenging more fundamental beliefs arising from the underlying perspectives?
- Investigate the **prisoner's dilemma** – what are the formal similarities and differences with respect to commons tragedies as exemplified earlier by krill fishing?
- Try out the **ultimatum game** with a partner. Consider what the rational choice might be for the recipient of the deal. Did you accept or reject the offer made to you strictly on this basis? If not, why not? What might we learn from this about human motivation?
- As a child, Tiger Woods was drilled in very specific skills applicable to golf, whereas, at a similar age, Roger Federer was encouraged to accumulate a much wider range of sporting experiences. What can we learn from this?

Knowledge questions

- How do we acquire knowledge?
- What constitutes a 'good reason' for us to accept a claim?
- Are intuition, evidence, reason, emotion, consensus, and authority all equally convincing methods of justification?
- Does knowledge always require some kind of rational basis?
- How do our expectations and assumptions have an impact on how we perceive things? How can we know when our expectations and assumptions are impacting our perceptions?
- What are the advantages and disadvantages of requiring that all knowledge is verified by a group?

Ethics

Huntington's disease is a neurogenerative genetic disorder caused by a faulty version of a single gene. Symptoms typically begin in middle age. A dominant version of the gene is responsible – so anyone who has a parent with the disorder has a 50 per cent chance of inheriting it. In 2017, a woman won the right to sue the doctors who had earlier tested her father and found him positive for the disease but had not informed her. Their inaction arose from the father's insistence that the test result be kept confidential. What kinds of questions might you ask? What can we conclude about any responsibilities that accompany knowing?

In many countries, confidentiality is a key to the relationship between a doctor and patient. There are practical reasons for this – notably that patients will be less likely to share knowledge with doctors unless the patient is convinced that this knowledge will not be passed on. Again, in some places, this understanding is so important that it is enshrined as a legal duty as well as a moral one, and the patient has a right to insist on it.

But what about the harm that might be inflicted if medical knowledge is not shared with those who are vulnerable to that harm? Given what has been written above, what is your personal point of view about whether the father's condition should be disclosed? On what basis can you support it?

Faced with the nature of the disease, there might be those who would prefer not to know – either for their own piece of mind or simply because you cannot share what you don't know and therefore may feel absolved of responsibility. But, in the case described here, the woman was pregnant at the time that her father was tested. How, if at all, does this impact the balance between rights, duties, and knowing?

The father claimed that he withheld his knowledge about his condition in order to protect his daughter from distress and from terminating the pregnancy. Accepting his motivation at face value, do you think it has any impact on what was the right thing to do? In the end, the daughter submitted to the test and was also found to be positive. Does this subsequent event influence your own view about the issue as a whole? In the end, the court found in favour of the woman on the basis that there are situations in which a duty of care for others outweighs the right of the individual to confidentiality. Would you agree with this? Can you identify any aspects of your own perspective that shaped your responses as this case study unfolded?

Abstracting from this example, we might reflect on the roles played by the outcomes of, and intentions behind, decisions concerning the sharing or withholding of knowledge to or from others. We should consider here not only factual knowledge but also knowing how to do things (think about the call for a doctor to attend to a fellow passenger on a commercial flight, for instance). In this book you will find numerous examples of ethics in action in various domains of knowledge. This is only an introduction to some of the approaches that might be adopted in order to reach at least tentative answers that may be useful in such a contentious field.

Activity 15

The case study above is clearly concerned with extreme and traumatic circumstances, but the moral dimension of knowledge can also be found in much more everyday scenarios. Think of three instances from your own personal experience in which controversy arose from decisions you, or others around you, made to share or not share knowledge. On what basis have you formed your personal point of view in each case?

In the previous section, we have explored a few types of errors that creep into human reasoning, and some tensions that can occur between what might be considered the rational choice and the best outcome in certain situations. These scenarios have been presented as potential weaknesses in human thinking that may to some extent be offset through awareness of their nature, or by adjustments to the world in which we live in order to minimise their negative effects. Sadly, it is only a short journey from 'honest' misjudgements to malevolent intent on the part of individuals and groups with agendas to promote. Some distinctions are in order, so let's start with the common-sense view that a true statement is one that corresponds accurately with the aspect of the world that it sets out to describe. A falsehood, then, is a statement that has no such accurate correspondence. So far, so simple – these definitions concern only the relationship between knowledge and the world, are independent of the knower, and morally neutral.

But for someone to utter a lie, there are psychological conditions attached, such that the knower must know the truth and assert something different (false) with the intention that others will believe it. We are all familiar with the role that lies play in everyday life, but the concepts of truths, falsehoods, and lies do not cover the whole spectrum of claims to which we are exposed. What do we get if we drop the requirement that the knower is attentive to the truth in order to try to obscure or subvert it? The American philosopher Harry Frankfurt has explored the nature and consequences of claims of this kind – let's call them 'humbug' – characterised by 'an indifference to how things really are' and stimulated 'whenever a person's obligations or opportunities to speak about some topic are more excessive than his knowledge of the facts that are relevant to that topic' (Frankfurt, 2005, p. 19). It must be pointed out that this indifference means that humbug need not always be false – whereas truth and falsehood are concerned solely with the status of claims, an appraisal of lying and humbug require a consideration of the intentions of the knower.

▲ **Figure 16** Professor Harry Frankfurt

- **True:** close correspondence between claim and world
- **False:** poor or no correspondence between claim and world
- **Lie:** falsehood delivered in awareness of the truth with the intention of subverting it
- **Humbug:** claim delivered without awareness or regard for the truth

Activity 16

Identify instances of true statements, falsehoods, lies, and humbug from current affairs. Are there any tangible differences between the impact of the last two categories in public discourse? Do they have different motivations? Are they the stock in trade of different types of people? Which should we be more concerned about?

Frankfurt's view is that the production of humbug is a greater moral transgression in that it signals a total lack of respect for the truth, while lying involves at least an act of recognition that truth is something that people value. As such, the former shows a disdain for the value of knowledge, and undermines a principled approach to civic life. If humbug highlights vices detrimental to social interaction, it might be worth trying to identify some of the virtues that guard against it. How can we ensure that we respect the autonomy of the individual knower and treat knowledge conscientiously, regardless of its origin? Further exploration of these issues can be found in Chapter 2.1 **Knowledge and politics**.

Things to think about

- Under what circumstances might the withholding of knowledge be justifiable? Consider films, video, and other media in relation to children. What about situations of war or civil unrest, or the knowledge needed to build weapons?
- Do you think that 'humbug' is a good name for the category of claims identified by Harry Frankfurt? How easy is it with real examples to distinguish this category from lies? Do you think there might be more humbug around today than in the past? If so, why?

Knowledge questions

- Are there responsibilities that necessarily come with knowing something or knowing how to do something?
- As knowers, do we have a moral duty to examine our own assumptions and biases?
- Under what circumstances, if any, do we have a moral duty to share what we know?
- In what ways do ethical judgements differ from other kinds of judgements?
- Is there knowledge that a person or society has a responsibility to acquire or not acquire?
- If moral claims conflict, does it follow that all views are equally acceptable?
- What personal traits (such as taking seriously the knowledge of others) do we need in order to be ethical knowers?
- How might science or any other area of knowledge depend on truth-telling?

Conclusion

In this chapter, we have explored some different ways of thinking about knowledge and what it might take to become a thoughtful and principled knower. We have tried to apply these conceptions in order to gain some understanding of the architecture of knowledge that we find in individuals and groups – from isolated claims to overarching

perspectives. Perhaps you feel a sense of awe when contemplating the great edifice of human knowledge that has been constructed and renewed throughout history. We have pointed to some of the human weaknesses that can hinder the quest for knowledge, and indicated some of the methods at our disposal for overcoming them. As is the case across all of human activity, our relationship with knowledge cannot be value-free, and hence often exhibits a moral dimension that must be addressed. It is hoped that the issues raised here will find resonance in the chapters to follow.
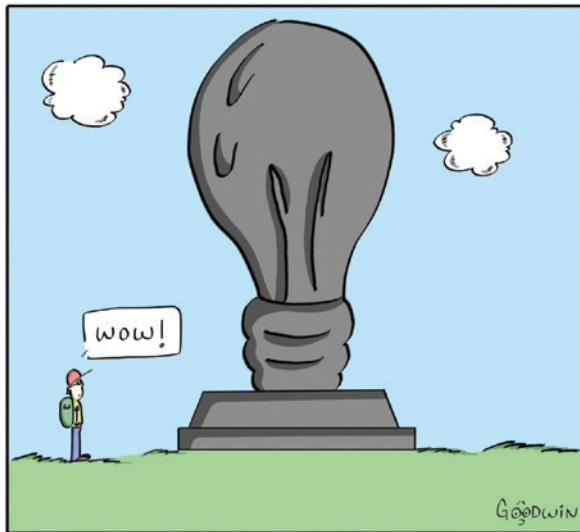
Perhaps you feel a sense of awe when contemplating the great edifice of human knowledge.

At the start of this chapter, we mentioned the IB learner profile and picked out 'knowledgeable' as an attribute that IB learners strive to develop. In TOK, we are in the business of examining knowledge itself – we might say to become knowledgeable about knowledge – and so our course offers us a double dose here! Go back over the chapter and look for references to other learner profile attributes. Reflect on the extent to which they (a) relate to the conceptions of knowledge that we have explored, and (b) might be useful to you in your TOK journey. In this way, we can evaluate the roles of the learner profile attributes in not only the processes of knowing, but also in the enterprise of learning about them. This is consistent with the essence of TOK as the ability to take a step back and shift the focus of inquiry from the acquisition of knowledge itself, to a 'second-order' investigation into the nature of knowledge and the basis on which we can claim to know things. This chapter is an attempt to set the scene for this grand enterprise.

Things to think about

- Given the aims of TOK, the IB philosophy of education itself should not be immune from scrutiny and challenge. Are you convinced by the contribution that each attribute of the learner profile offers to everyone involved in the TOK course? Do you think the learner profile itself is well balanced or is there is any characteristic or aspiration that is superfluous, or has been overlooked?
- What do you think the group who discussed this list and finally agreed on it talked about for the weeks it took to work it out?

Exhibition thoughts

- As we shall see in detail in Chapter 3, **Assessment** – **Exhibition**, the internally assessed exhibition task in TOK invites you to identify three objects that provide opportunities to respond to a knowledge question selected from a prescribed list of 35. In this context, these knowledge questions are called internal assessment prompts (IA prompts for short). Each of the chapters in this book that is dedicated to a theme offers examples of how this task might be approached.

- The three objects offered in the **Scope** section of this chapter could provide the basis for an exhibition on prompt #1: *What counts as knowledge?* What three objects would you choose in relation to the prompt? What are your reasons for choosing them? How do your objects answer the question in the prompt?

- Further thought and development of the **Perspectives** element of the knowledge framework might yield successful entry points for prompt #14: *Does some knowledge belong only to particular communities of knowers?* What would it mean to say that knowledge 'belongs' to certain people? Can this be reconciled with the dynamic membership of various communities? Which objects would you choose in order to launch a consideration of these questions?

- The treatment of **Methods and tools** might lead to prompt #5: *What counts as good evidence for a claim?* You might take a broad view that evidence can take many forms – not restricted to what is directly and empirically observed but including other types of support, many of which have been outlined in this chapter. Would you select objects with the purpose of illustrating this diversity or take a narrower approach focused on observation and empirical knowledge?

- The **Ethics** element seems connected to prompt #27: *Does all knowledge impose ethical obligations on those who know it?* How would you distribute your choice of objects in order to posit different answers to this question?

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