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CHAPTER

TWO

What is it like to be . . . ?

BEING A . . .

What is it like to be a bat? This is one of the most famous questions ever asked in the history of consciousness studies. First posed in 1950 it was made famous in a 1974 paper of that name by American philosopher Thomas Nagel. Nagel argued that understanding how mental states can *be* neurons firing inside the brain is a problem quite unlike understanding how water can be H₂O, or how genes can be DNA. 'Consciousness is what makes the mind-body problem really intractable,' he said (Nagel, 1974: 435; 1979: 165), and by consciousness he meant *subjectivity*. To make this clear he asked 'What is it like to be a bat?'.

Do you think that your cat is conscious? Or the birds outside in the street? Perhaps you believe that horses are conscious but not worms, or living creatures but not stones. We shall return to these questions (Chapter 12) but here let's consider what it means to say that another creature is conscious. If you say that the stone is not conscious you probably mean that it has no inner life and no point of view; that there is nothing it is like to *be* the stone. If you believe that the neighbour's vicious bloodhound, or the beggar you passed in the subway, is conscious, then you probably mean that they do have a point of view; there is something it is like to be them.

As Nagel put it, when we say that another organism is conscious we mean that 'there is something it is like to *be* that organism . . . something it is like *for* the organism' (1974: 436); 'the essence of the belief that bats have experience is that there is something that it is like to be a bat' (ibid.: 438). This is probably the closest we can come to a definition of consciousness – that consciousness is subjectivity, or 'what it is like to be . . .'.

Here we must be careful with the phrase 'what it is like . . .'. Unfortunately there are at least two meanings in English. We might say 'this ice cream tastes like rubber' or 'lying on a beach in the sun is like heaven'. In this case we are comparing things, making analogies, or saying what they resemble. This is *not* what Nagel meant. The other meaning is found in such questions as: What is it

like to work at McDonald's? What is it like to be able to improvise fugues at the keyboard? . . . to be someone inconceivably more intelligent than yourself? . . . to be a molecule, a microbe, a mosquito, an ant, or an ant colony? (Hofstadter and Dennett, (1981: 404–5), pose many more such provocative questions.) In other words, what is it like from the inside?

Now, imagine being a bat. A bat's experience must be very different from that of a human. For a start the bat's sensory systems are quite different, which is why Nagel chose the bat for his famous question. Bats' brains, lives and senses are well understood (Akins, 1993; Dawkins, 1986). Most use either sound or ultrasound for echolocation. That is, they detect objects by emitting rapid high-pitched clicks that bounce off any objects in the vicinity and then measuring the time taken for the echo to return. Natural selection has found ingenious solutions to the many interesting problems posed by echolocation. Some bats cruise around emitting clicks quite slowly so as not to waste energy, but then when they are homing in on prey or approaching a potential danger, they speed up. Many have mechanisms that protect their ears from the loud blast of each click and then open them to receive the faint echo. Some use the Doppler shift to work out their speed relative to prey or other objects. Others sort out the mixed-up echoes from different objects by emitting downward-swooping sounds. The echoes from distant objects take longer to come back and therefore sound higher than the echoes from nearer objects. In this way we can imagine that a whole bat world is built up in which higher sounds mean distant objects and lower sounds mean nearer objects.



FIGURE 2.1 • The leaf-nosed bat uses sonar to navigate, sending out brief pulses of sound and analysing the returning echoes so as to avoid obstacles, detect fruit and other food, and to find its mate. What is it like to be this bat?

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What would this be like? According to Oxford biologist Richard Dawkins (1986; see Profile, Chapter 10), it might be like seeing is for us. We humans do not know, or care, that colour is related to wavelength or that motion detection is carried out in the visual cortex. We just see the objects out there in depth and colour. Similarly the bat would just perceive the objects out there in depth, and perhaps even in some batty, sonar, version of colour. Living in this constructed world would be what it is like to be the bat.

But can we ever know what it would *really* be like for the bat? As Nagel pointed out, the question is not answered by trying to imagine that *you* are a bat. This will not do. It is no good hanging upside down in a darkened room, making little clicks with your tongue and flapping your arms like wings. Perhaps if you could magically be transformed into a bat you would know. But even this won't do. For if *you* were a bat, the bat in question would not be an ordinary bat – what with having your memories and your interest in consciousness. But if you became an ordinary bat then this bat would have no understanding of English, no ability to ask questions about consciousness, and could not tell us what it was like. So we cannot know what it is like to be a bat even if we believe that there *is* something it is like to be a bat.

Nagel's question clarifies the central meaning of the term 'consciousness'. It is what the American philosopher Ned Block (1995) calls 'phenomenal consciousness' or phenomenality. He explains that 'Phenomenal consciousness is experience; what makes a state phenomenally conscious is that there is something "it is like" to be in that state.' He distinguishes this from 'access consciousness', which is 'availability for use in reasoning and rationally guiding speech and action' (Block, 1995: 227). We will return to this distinction (Chapter 18), and consider issues to do with availability, but 'phenomenal consciousness' is what this book is all about.

So what is it like to be you now? Everything I have said so far implies that there is, uncontroversially, something it is like to be you now – that the prob-

PRACTICE

WHAT IS IT LIKE BEING ME NOW?

As many times as you can, every day, ask yourself '**What is it like being me now?**'. If you worked through the 'Practice' exercise in Chapter 1, 'Am I conscious now?', you will have got used to remembering the task, and perhaps to opening your mind for a little while to watch your own awareness.

This question is important because so many arguments assume that we know, unproblematically, what our own experience is like; that we know our own qualia directly, and that of course we know what it is like to be ourselves, now. The only way to have an informed opinion on this important point is to look for yourself. What is it really like for you, now?

lems only begin when you start asking about what it is like to be someone or something else. But is this right? A thoroughly sceptical approach would mean questioning even this. I urge you to do this chapter's 'Practice' and become a little more familiar with what it is like to be you.

“There simply are no qualia at all.”

Dennett, 1988: 74

SUBJECTIVITY AND QUALIA

Let us suppose that you are, right now, getting the unmistakable smell of fresh coffee drifting in from the kitchen. The smell may be caused by chemicals entering your nose and reacting with receptors there, but as far as you are concerned the experience is nothing to do with chemicals. It is a . . . well, what is it? You probably cannot describe it even to yourself. It just is how fresh coffee smells. The experience is private, ineffable and has a quality all its own. These private qualities are known, in philosophy, as qualia. The feel of the wind on your cheeks as you ride your bike is a quale (pronounced qualay). The sight of the brown pink of the skin on your hand is a quale. The ineffable chill of delight that you experience every time you hear that minor chord is a quale.

The concept of qualia has become mired in confusion, but the basic idea is clear enough. The term is used to emphasise quality; to get away from talking about physical properties or descriptions, and to point to phenomenology instead. A quale is what something is *like* (in the sense explained above). Our conscious experience consists of qualia. The problem of consciousness can be rephrased in terms of how qualia are related to the physical world, or how an *objective* physical brain can produce *subjective* qualia. The dualist believes that qualia are part of a separate mental world from physical objects like pots of coffee or brains. The epiphenomenalist believes that qualia exist but have no causal properties. The idealist believes that everything is ultimately qualia. The eliminative materialist denies that qualia exist, and so on.

You may think it unquestionable that qualia exist. After all, you are right now experiencing smells, sounds and sights, and these are your own private, ineffable qualia aren't they? Most theorists would agree with you, but some think you would be wrong. In 'Quining qualia' Dennett sets out 'to convince people that there are no such properties as qualia' (Dennett, 1988: 42). He does not deny the reality of conscious experience, or of the things we say and the judgements we make about our own experiences, but only of the special, ineffable, private, subjective 'raw feels', or 'the way things seem to us', that people call qualia.

Dennett provides many 'intuition pumps' to undermine this very natural way of thinking. Here is a simple one. The experienced beer drinker says that beer is an acquired taste. When he first tried beer he hated the taste, but now he has come to love it. But which taste does he now love? No one could love that first taste – it tasted horrible. So he must love the new taste, but what has changed? If you think that there are two separate things here, the actual quale (the way it *really* tastes to him) and his opinion about the taste, then you must be able to decide which has changed. But can you? We normally think in a

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FIGURE 2.2 • Is this an ineffable quale?

confused and incoherent way about how things seem to us, claims Dennett, and the concept of qualia just confuses the issue in this case, and many others. We should get rid of the notion of qualia altogether because 'there simply are no qualia at all' (Dennett, 1988: 74).

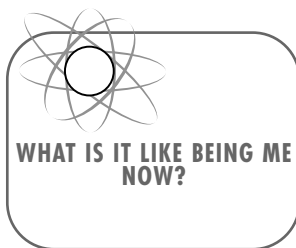
How does one decide whether qualia exist or not? We cannot do experiments on qualia, at least not in the simple sense of first catching a quale and then manipulating it in some way. That is the whole point of qualia – they do not have physical properties that can be measured. We can, however, do thought experiments.

Thought experiments are, as the name implies, experiments done in the head. It is important to be clear about their purpose. In an ordinary experiment you manipulate something in order to get an answer about the world. If you do the experiment properly you may get a reliable answer that is widely applicable and that helps decide between two rival theories.

Thought experiments are not designed to provide reliable answers to anything. Rather, they help to clarify our thinking.

Einstein famously imagined riding on the back of a light wave, and from this idea came to some of his theories about relativity and the speed of light. Most thought experiments are, like that one, impossible to carry out, although some end up turning into real experiments as technology changes. Most philosophical thought experiments are of the impossible kind. They have not been done, cannot be done, will never be done, and do not need to be done. Their function is to make you think.

One of the best known of such thought experiments gets right to the heart of the problem of qualia. Are qualia something separate from the brain? Do qualia make any difference? Does a quale contain information above and beyond the neural information it depends on? Mary may help.



MARY THE COLOUR SCIENTIST

Mary lives in the far future when neuroscience is complete and scientists know everything there is to know about the physical processes in the brain and how they produce behaviour. Mary specialises in the neurophysiology of colour vision. She knows everything there is to know about colour perception, about the optics of the eye, the properties of coloured objects in the world, and the processing of colour information in the visual system. She knows exactly how certain wavelengths of light stimulate the retina and produce the contraction of the vocal chords and expulsion of air that results in someone saying 'the sky is blue'. But Mary has been brought up all her life in a black and white

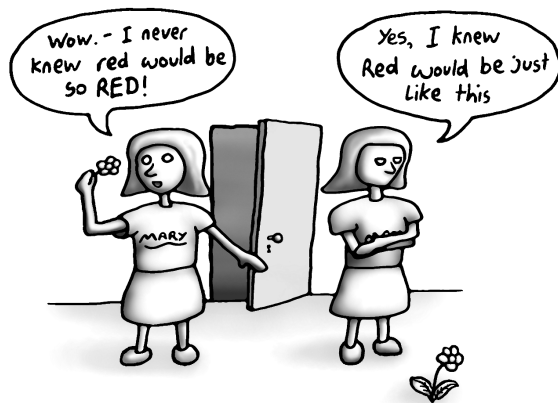


FIGURE 2.3 • What does Mary say when she finally emerges from her black and white room?

room, observing the world through a black and white television monitor. She has never seen any colours at all.

One day Mary is let out of her black and white room and sees colours for the first time. What happens? Will she gasp with amazement and say 'Wow – I never realised red would look like *that*!' or will she just shrug and say 'That's red, that's green, nothing new of course'? You may like to think about your own answer, or do the group activity before reading on.

The philosopher Frank Jackson devised the Mary thought experiment as an argument against physicalism (Jackson, 1982). He argued that when she comes out she obviously learns something fundamentally new – what red is *like*. Now she has colour qualia as well as all the physical facts about colour. As Chalmers puts it, no amount of knowledge about, or reasoning from, the physical facts could have prepared her for the raw *feel* of what it is like to see a blue sky or green grass. In other words the physical facts about the world are not all there is to know, and therefore materialism has to be false.

If you think Mary will be surprised, are you forced to reject materialism and adopt dualism? Chalmers does so, but there have been many objections to this conclusion and other ways of using the thought experiment. For example, some have argued that Mary comes to know an old fact in a new way or from a new viewpoint, or to connect up old facts in new ways, or that she learns a new skill rather than a new fact (see Chalmers, 1996, for a philosophical

ACTIVITY

Mary the colour scientist

When Mary comes out of the black and white room will she learn anything new? Will she be surprised at what colours are *like*? Or does she already know? Acting out Mary's story in class may help you decide.

Get two volunteers to act as Mary, and make a corner of the room as black and white as possible. You might give them a white tablecloth, a newspaper, a toy grey rat, a doll to do brain scans on, some black and white diagrams of brains, or dress them in white lab coats – whatever you have to hand. Ask the 'Marys' to sink themselves into the role of futuristic colour scientist while you explain to the rest of the group what is happening. The 'Marys' know *everything* there is to know about the brain, the visual system and colour. *Everything*.

Now let them out in turn to do their best possible impersonations. 'Mary-amazed' acts completely surprised at what she sees, gasping at the delightful colours. 'Mary-know-it-all' explains why she is not surprised at all – how she understood everything in advance. Mary-know-it-all is the far harder role, so it may be best to choose someone who is familiar with the arguments for this one. Everyone else can now ask questions of the 'Marys', discuss their answers and make up their own minds.

Write down your own decision. You may be interested to find that it changes as you learn more about the nature of consciousness.

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PROFILE

David Chalmers (b. 1966)

Born in Australia, David Chalmers originally intended to be a mathematician, but then he spent six months hitchhiking around Europe on his way to Oxford, and spent most of his time thinking about consciousness. This led him to Douglas Hofstadter's research group, and a PhD in philosophy and cognitive science. He is responsible for the distinction between the 'easy problems' and the 'hard problem' of consciousness, and he is one of that rare breed: a self-proclaimed dualist. His major aim now is to get a science of consciousness off the ground, but his other interests include artificial intelligence and computation, philosophical issues about meaning and possibility, and the foundations of cognitive science. He is Professor of Philosophy at the University of Arizona and Director of the Center for Consciousness Studies, where he organises the conference 'Toward a Science of Consciousness', held every two years in Tucson.

overview). This sort of argument allows you to think that Mary really does experience something surprising when she comes out – but not because there are irreducible *subjective* facts in the world.

An alternative is to deny that Mary will be surprised. Dennett, for example, argues that this story is not the good thought experiment it appears to be, but an intuition pump that lulls us into a vivid image and encourages us to misunderstand its premises. We simply fail to follow the instructions – we fail to allow Mary to know *everything* there is to know about colour.

Dennett tells his own ending to the story. Mary's captors release her into the colourful world and, as a trick, present her with a blue banana. Mary is not fooled at all. 'Hey,' she says, 'You tried to trick me! Bananas are yellow, but this one is blue!' (Dennett, 1991: 399). She goes on to explain that because she knew *everything* about colour vision she already knew exactly what impressions yellow and blue objects would make on her nervous system, and exactly what thoughts this would induce in her. This is what it means to know *all* the physical facts. When we readily assume that Mary will be surprised it is because we have not really followed the instructions.

The imaginary Mary has led to many philosophical tangles but she can be very helpful in making a tricky dichotomy easier to think about. If you believe that Mary will be surprised when she comes out, then you believe that consciousness, subjective experience, or qualia, are something additional to knowledge of the

physical world. If you think she will not be surprised then you believe that knowing all the physical facts tells you everything there is to know – including *what it is like* to experience something.

THE PHILOSOPHER'S ZOMBIE

Imagine there is someone who looks like you, acts like you, speaks like you, and in every detectable way behaves exactly like you, but is not conscious. Perhaps this fake 'you' has a silicon brain, has inherited a strange 'no qualia' mutation, or has undergone a dangerous operation to remove all traces of consciousness. In any case, in spite of its normal behaviour, there is *nothing it is like* to be this creature. There is no view from within. No consciousness. No qualia. This – not some grotesque and slimy half-dead Haitian corpse – is the philosopher's zombie.

The zombie has caused more trouble than Mary. As far as many thinkers are concerned, a zombie is easy to imagine and obviously possible, at least in principle. For example, the American philosopher John Searle (see Profile, Chapter 14), argues that there could be identical behaviour in two systems, one of which is conscious and the other totally unconscious (Searle, 1992). It follows that one would be a zombie system.

Chalmers confesses that 'the logical possibility of zombies seems . . . obvious to me. A zombie is just something physically identical to me, but which has no conscious experience – all is dark inside.' He goes on, 'I can detect no internal incoherence; I have a clear picture of what I am conceiving when I conceive of a zombie' (Chalmers, 1996: 96, 99). Chalmers' zombie twin, living on zombie earth, is quite conceivable, he argues.

He suggests we imagine a silicon version of Chalmers who is organised just like the real philosopher and behaves just like him but has silicon chips where the real one has neurons. Many people would expect such a creature to be unconscious (whether or not it would be in fact). Then, he suggests, just replace the chips with neurons in this conception, and you have his zombie twin – totally indistinguishable from the real philosopher, but all dark inside. This works, he argues, because there is nothing in either silicon or biochemistry that conceptually entails consciousness. The idea that zombies are possible, or that consciousness is a kind of optional extra, is 'consciousness inessentialism'.

“A zombie is just something physically identical to me, but which has no conscious experience – all is dark inside.”

Chalmers, 1996: 96



FIGURE 2.4 • Which is which? Can you tell? Can they?

Zombie earth is a planet just like ours, peopled by creatures who behave exactly like us, but who are all zombies. There is nothing it is like to live on zombie earth. In 'conversations with zombies', philosopher Todd Moody (1994) uses this thought experiment to reject consciousness inessentialism. He imagines the whole zombie earth to be populated by people who use such terms as think, imagine, dream, believe or understand, but who cannot understand any of these terms in the way we do because they have no conscious experience. For example, they might be able to talk about sleep and dreaming because they have learned to use the words appropriately, but they would not have experiences of dreaming as we do. At best they might wake up to a sort of coming-to-seem-to-remember, which they learn to call a dream.

On such an earth, Moody argues, the zombies might get by using our language but zombie philosophers would be mightily puzzled by some of the things we conscious creatures worry about. For them the problem of other minds, or the way we agonise about qualia and consciousness, would make no sense. They would never initiate such concepts as consciousness or dreams. So zombie philosophy would end up quite different from ours. From this he argues that although the zombies might be individually indistinguishable from conscious creatures, they would still show the mark of zombiehood at the level of culture. At this level, consciousness is not inessential – it makes a difference.

Moody's thought experiment inspired a flurry of objections and counter-arguments from philosophers, psychologists and computer scientists (Sutherland, 1995). One of the main objections is that Moody has broken the rules of the thought experiment. Zombies are defined as being behaviourally indistinguishable from conscious humans so they must be truly indistinguishable. If their philosophy, or the terms they invented, were different, then they would be distinguishable from us and hence not count as zombies. If you really follow the rules, there is nothing left of the difference between human and zombie.

Some philosophers think the whole debate is misguided. Patricia Churchland calls it 'a demonstration of the feebleness of thought-experiments' (Churchland, 1996: 404). Dennett thinks it is based on bogus feats of imagination. As they point out, being able to say that you can imagine something counts for nothing. If you know no science you might say you could imagine water that was not made of H₂O or a hot gas whose molecules were not moving fast. But this would tell us more about your ignorance than about the real world. To help us think clearly about zombies, Dennett introduces the concept of the zimbo.

Imagine there is a simple zombie; some sort of creature (biological or artificial) that can walk about and behave in simple ways appropriate to its needs. Now imagine a more complex kind of zombie. In addition, this complex zombie also

... monitors its own activities, including even its own internal activities, in an indefinite upward spiral of reflexivity. I will call such a reflective entity a *zimbo*. A zimbo is a zombie that, as a result of

"I take this argument to be a demonstration of the feebleness of thought-experiments."

Churchland, 1996: 404

self-monitoring, has internal (but unconscious) higher-order informational states that are about its other, lower-order informational states.

(Dennett, 1991: 310)

Imagine a conversation with such a zimbo. For example, we might ask the zimbo about its mental images, or about its dreams or feelings or beliefs. Because it can monitor its own activities, it could answer such questions – in ways that would seem quite natural to us, suggesting that it was conscious just like us. As Dennett concludes ‘the zimbo would (unconsciously) believe that it was in various mental states – precisely the mental states it is in position to report about should we ask it questions. *It* would think it was conscious, even if it wasn’t!’ (ibid.: 311). This is how Dennett comes to make his famous claim that ‘We’re all zombies. Nobody is conscious – not in the systematically mysterious way that supports such doctrines as epiphenomenalism!’ (ibid.: 406). What he means is that we are complex self-monitoring zombies – zimboes – that can talk and think about mental images, dreams and feelings; that can marvel at the beauty of a sunset or the light rippling in the trees, but if we think that being conscious is something separable from all of this we are mistaken.

At its simplest the zombie debate amounts to this. On the one hand, if you believe in the possibility of zombies then you believe that consciousness is some kind of inessential optional extra to behaviour. We might do everything we do either with or without it and there would be no obvious difference. It is therefore a mystery why we have consciousness all. On the other hand, if you believe that zombies are not possible you must believe that anything that could perform all the behaviours we perform would necessarily be conscious. The mystery in this case is not why we have consciousness at all, but why or how consciousness necessarily comes about in creatures who behave like us. There are many different views in each of these camps, but this is the essential distinction.

IS THERE A HARD PROBLEM?

We can now return to Chalmers’ hard problem with more mental tools at our disposal. There is no question that the problem of subjectivity is what makes

CONCEPT THE PHILOSOPHER’S ZOMBIE

The philosopher’s zombie is defined by two statements.

- 1 The zombie is behaviourally indistinguishable from a conscious human being.
- 2 There is nothing it is like to be a zombie. That is, the zombie is not conscious.

When thinking about zombies it is cheating if you allow your zombie to do things we would never do, or behave in ways we would not (then it would not fit statement 1). Equally your zombie cannot have little bits of inner experiences or a stream of consciousness (then it would not fit statement 2). Could a zombie exist?

- 1 If you say yes, then you believe that consciousness is an inessential extra – we could do everything we do without it.
- 2 If you say no, you believe that we could not do everything we do without consciousness; any creature that could behave as we do would necessarily be conscious.

It is worth thinking very carefully about this and writing down your own answer – ‘Yes’ or ‘No’. You may change your mind as you learn more about consciousness, and you will encounter the zombie again.

Zombies appear in arguments about the hard problem, the function and evolution of consciousness (Chapters 3 and 11), artificial consciousness (Chapter 14), blindsight (Chapter 18) and first-person approaches (Chapter 25).

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“A zimbo is a zombie that, as a result of self-monitoring, has internal (but unconscious) higher-order informational states that are about its other, lower-order informational states.”

Dennett, 1991: 310

studying consciousness both difficult and interesting. Chalmers' distinction between the hard problem and the easy problems of consciousness relates directly to Nagel's question 'What is it like to be a bat?' and gets at the central issues of the two thought experiments just described: 'Why aren't we all zombies?' and 'What does Mary gain when she emerges from her black and white room?'. The way people react to these thought experiments is intimately related to how they deal with the hard problem of subjectivity.

At the risk of oversimplifying I shall divide responses to the hard problem into four categories.

1. THE HARD PROBLEM IS INSOLUBLE

William James long ago wrote about believers in the soul, and positivists who wish for a tinge of mystery. They can, he said, continue to believe 'that nature in her unfathomable designs has mixed us of clay and flame, of brain and mind, that the two things hang indubitably together and determine each other's being, but how or why, no mortal may ever know' (James, 1890, i: 182).

More recently, Nagel argued that the problem of subjectivity is intractable or hopeless. Not only do we have no solution – we do not even have a conception of what a physical explanation of a mental phenomenon would be. The British philosopher Colin McGinn conceives the problem in terms of a 'yawning conceptual divide' (1999: 51); an irreducible duality in the way we come to learn about mind and brain. As he puts it,

You can look into your mind until you burst, and you will not discover neurons and synapses and all the rest; and you can stare at someone's brain from dawn till dusk and you will not perceive the consciousness that is so apparent to the person whose brain you are so rudely eye-balling.

(McGinn, 1999: 47)

He argues that we are 'cognitively closed' with respect to this problem – much as a dog is cognitively closed with respect to reading the newspaper or listening to poetry. However hard the dog tried it would not be able to master mathematics because it does not have the right kind of brain. Similarly our human kind of intelligence is wrongly designed for understanding consciousness. On McGinn's view we can still study the neural correlates of conscious states (what Chalmers would call the easy problems) but we cannot understand how brains give rise to consciousness in the first place.

Psychologist Steven Pinker thinks we can still get on with the job of understanding how the mind works even though our own awareness is 'the ultimate tease . . . forever beyond our conceptual grasp' (Pinker, 1997: 565). Nagel, McGinn and Pinker have been called the 'new mysterians'.

2. SOLVE IT WITH DRASTIC MEASURES

Some people argue that the hard problem can be solved but only with some fundamental new understanding of the universe – what Churchland calls ‘a real humdinger of a solution’ (1996: 40). Chalmers’ own solution is in terms of a kind of dualism: a dual-aspect theory of information in which all information has two basic aspects – physical and experiential. So whenever there is conscious experience it is one aspect of an information state, and the other aspect lies in the physical organisation of the brain. On this view we can only understand consciousness when we have a new theory of information.

Others appeal to fundamental physics or to quantum theory for solutions. For example, British mathematician Chris Clarke treats mind as inherently non-local, like some phenomena in quantum physics (1995). On his view, mind is *the* key aspect of the universe and emerges prior to space and time: ‘mind and the quantum operator algebras are the enjoyed and contemplated aspects of the same thing’ (i.e. the subjective and objective aspects) (ibid.: 240). Chalmers’ and Clarke’s are both dual-aspect theories and are close to panpsychism.

The British mathematician Roger Penrose (1989) argues that consciousness depends on non-algorithmic processes – that is, processes that cannot be carried out by a digital computer, or computed using describable procedures (Chapter 14). With anaesthetist Stuart Hameroff, Penrose has developed a theory that treats experience as a quality of space-time and relates it to quantum coherence in the microtubules of nerve cells (Hameroff and Penrose, 1996). All these theories assume that the hard problem is soluble but only with a fundamental rethink of the nature of the universe.

3. TACKLE THE EASY PROBLEMS

There are many theories of consciousness that attempt to answer questions about attention, learning, memory or perception, but do not directly address the question of subjectivity. Chalmers gives as an example Crick and Koch’s theory of visual binding. This theory uses synchronised oscillations to explain how the different attributes of a perceived object become bound together to make a perceptual whole (Chapter 17). ‘But why,’ asks Chalmers, ‘should synchronised oscillations give rise to a visual experience, no matter how much integration is taking place?’ (1995b: 64). He concludes that Crick and Koch’s is a theory of the easy problems.

If you are convinced, as Chalmers is, that the hard problem is quite distinct from the easy problems, then many theories of consciousness are like this, including theatre metaphors of attention and processing capacity (Chapter 5), evolutionary theories based on the selective advantages of introspection (Chapter 11), and those that deal with the neural correlates of consciousness (Chapter 16). In all these cases one might still ask, ‘But what about subjectivity? How does this explain the actual phenomenology?’

“consciousness is indeed a deep mystery. . . . The reason for this mystery, I maintain, is that our intelligence is wrongly designed for understanding consciousness.”

McGinn, 1999: xi

Francis Crick (see Profile, Chapter 16) himself admits that he might be criticised for saying 'almost nothing about qualia – the redness of red – except to brush it to one side and hope for the best' (1994: 256). However, he stresses that the study of consciousness is a scientific problem, and believes that we will get nearer to understanding it fully if we start with something reasonably tractable such as visual binding. To this extent he, and many others who work on the easy problems, come close to arguing that there is no separate hard problem.

4. THERE IS NO HARD PROBLEM

In 'There is no hard problem of consciousness', O'Hara and Scutt (1996) give three reasons for ignoring the hard problem. First, we know how to address the easy problems and should start with them. Second, solutions to the easy problems will change our understanding of the hard problem, so trying to solve the hard problem now is premature. Third, a solution to the hard problem would only be of use if we could recognise it as such, and for the moment the problem is not well enough understood.

Churchland (1996) goes further. The hard problem is misconceived, she says. It's a 'hornswoggle problem'. First, we cannot, in advance, predict which problems will turn out to be easy and which hard. For example, biologists once argued that to understand the basis of heredity we would have to solve the protein-folding problem first. In fact base-pairing in DNA provided the answer, and the protein-folding problem remains unsolved. So how do we know that explaining subjectivity is so much harder than the 'easy' problems? Also, she questions whether the 'hard' things – the qualia – are well enough defined to sustain the great division. For example, do eye movements have eye-movement qualia? Are thoughts qualia, or might they be more like auditory imagery or talking to oneself? Finally, the distinction depends on the false intuition that if perception, attention and so on were understood there would necessarily be something else left out – the something that *we* have and a zombie does not.

Dennett likens the argument to that of a vitalist who insists that even if all the 'easy problems' of reproduction, development, growth and metabolism were solved there would still be the 'really hard problem: life itself' (1996a: 4). Dividing the problem of consciousness into the 'easy' and 'hard' parts is, according to Dennett, 'a major misdirection of attention, an illusion-generator' (1996a).

SELF-ASSESSMENT QUESTIONS

- Who asked 'What is it like to be a bat?' and why?
- What is it like to be a . . . ? Make up some questions of your own and consider how you would answer them.
- What is a quale? Give some examples.
- Give two opposing answers to the question 'What does Mary learn when she comes out of her black and white room?'
- What is the philosopher's zombie? List as many people as you can who believe that (a) a zombie could exist, (b) a zombie could not exist. What do you think?
- Give at least three reasons for arguing that there is no hard problem.

When asked 'But what about the *actual* phenomenology?' Dennett replies 'There is no such thing' (1991: 365). This is not because he denies that we are conscious, but because he thinks we misconstrue consciousness. It only *seems* as if there is actual phenomenology – what we need to explain is not the phenomenology itself but how it comes to seem this way.

There is no doubt that the idea of subjectivity – what it's like to be – lies at the heart of the problem of consciousness. Beyond that there is plenty to doubt.

READING

Churchland, P.S. (1996) The Hornswoggle problem. *Journal of Consciousness Studies* 3, 402–8 (reprinted in Shear, 1997: 37–44).

Dennett, D.C. (1991) *Consciousness Explained*. Boston and London: Little, Brown and Co. On Mary, see pages 398–401, and on zombies and zimboes pages 72–3, 280–2 and 310–11.

McGinn, C. (1999) *The Mysterious Flame: Conscious Minds in a Material World*. New York: Basic Books. See Chapter 1 on zombies and the mystery of consciousness.

Nagel, T. (1974) What is it like to be a bat? *Philosophical Review* 83, 435–50. Reprinted with commentary in Hofstadter, D.R. and Dennett, D.C. (1981) *The Mind's I: Fantasies and Reflections on Self and Soul*. London: Penguin, 391–414; and in Nagel, T. (1979) *Mortal Questions*. Cambridge: Cambridge University Press, 165–80.

CHAPTER TWO

What is it like to be ...?