‘Quanta’ and ‘Qualia’

Hello everyone – and thank you to Tim for inviting me to ride my favourite hobby-horse and for helpful editorial comments. It’s particularly good to follow Bob, who I knew from of old would take a rather similar approach to mine and could be relied on to reach an opposite conclusion!

I’m not going to apologise for the general approach, given that I was brought up on post-war Oxford ‘logical analysis’. Paying attention to the words used in a philosophical discussion – or, more accurately, the concepts implied in using those words - may seem to some of you (particularly, I think, some of those with a scientific background) like rather trivial logic-chopping. But the point of this talk is to try to widen your perspective, your way of thinking about ‘reality’ – and that is bound to involve using words (like any philosophy) and being clear about what they imply.

So let’s look at the way Chalmers states ‘the hard problem’. [Slide 1]. It seems to me that this way of stating the problem makes two basic assumptions which I want to challenge. The first is that the problem is about (can best be stated as about) two radically different sorts of ‘thing’ – on one side ‘the natural world’, ‘physical reality’, ‘the totality of things’ – and on the other hand a different sort of reality labelled ‘the mind’. And the second is the presumption that we know about these two kinds of ‘thing’ and about their ‘reality’, so that the problem is to describe them in a way which counts as explaining their relationship – for example the mind ‘arising from’ physical reality in some way analogous to ordinary causal relationships. I want to challenge both these presumptions. The first, on the basis that ‘things’ are (can best be described as) constructs out of happenings (events, changes) and relationships. The second, on the grounds that ‘how we know’ comes before and defines ‘what there is’ – in grand philosophical terms, that epistemology is prior to ontology.

[To help persuade you to take this shift in perspective seriously I’m relying partly on two fairly recent books – so these are the only ‘visual aids’ I’ve brought with me. Some of you may remember the talk Professor Ladyman gave here a year or two ago based on his book ‘Every Thing Must Go’ And the other book was mentioned by Marianne at the end of her recent weekend on ‘the mind-body problem’: Howard Robinson ‘From the Knowledge Argument to Mental Substance: Resurrecting the Mind’ (I don’t go all the way with him to resurrecting ‘mental substance’, but we’ll come to that). Both books seem to me to chime with the view I’ve always held based on a much longer tradition which I like to think of (perhaps tendentiously) as British empiricism.]

1. Anti-reification: So let’s start with physics. Ladyman’s subtitle is ‘Metaphysics Naturalized’, and his objective is to find a ‘radically naturalistic metaphysics’ which can ‘unify hypotheses and theories that are taken seriously by contemporary science’. He gives priority to fundamental physics, but also claims to cover the ‘special sciences’ such as psychology and social sciences like economics. The conclusion, after extensive review of the literature, is that ‘reality’ has to be seen in terms of ‘real patterns’, where ‘patterns’ are relations among data and are ‘real’ if they can be reliably projected forward to unobserved cases – they ‘carry information’ about other real patterns. Hence ‘individual objects, events and properties’ are merely ‘devices used by observers… to keep cognitive books on what science finds to be sufficiently stable to be worth measuring over time’. As the book puts it, ‘the main ontological implication…is that reality is not a sum of concrete particulars….To put matters as simply and crudely as possible, it’s real patterns all the way down.’ [Slide 2]

   This may seem a bit eccentric. But I suggest that it is not far from what contemporary physics says about fundamental ‘reality’. I am no physicist, so I have to rely on popular

accounts intended for innumerate people like me. So I've also put up a quote from Carlo Rovelli, 'Reality Is Not What It Seems': 'In the world described by quantum mechanics there is no reality except in the *relations* between physical systems. It isn't things that enter into relations but, rather, relations that ground the notion of 'thing'. The world of quantum mechanics is not a world of objects: it is a world of events. Things are built by the happening of elementary events….The world of existent things is reduced to a realm of possible interactions'.

2. Epistemology vs. Ontology: So now I turn to the other presupposition in the Chalmers 'hard problem' that I want to challenge – that the question is based on a view of 'reality' – of 'what there is'. I want to argue that our view of 'what there is' depends on – is derived from – our view of 'how we know'. What counts as scientific knowledge, and therefor as 'reality', depends ultimately on actual or potential observations ('observings'); otherwise - like 'string theory', it is said – it is merely theoretical pattern-making.

Why is it so hard to think in terms of this 'paradigm shift', from things to 'experiencings', and from 'what there is' to 'how we know'? I think the answer is in the nature of language, and how we learn. A teacher has to set up situations where a child learning can perceive that several experiencings are 'alike' in some respect, and then to give a name to that 'likeness' – either a 'proper' name (say, 'Mother') or a 'type' noun (like, say, 'elephant'). Then standard indicative statements are in the grammatical subject-predicate form, stating 'facts' about 'things', so presupposing the existence of 'substances' with 'properties'. This makes it hard to talk about happenings: in a statement like 'It is raining' there is no answer to the question 'What does 'it' refer to?' – to avoid the misleading grammar you would have to say something cumbersome like 'There is raining happening'. This may explain why it is so easy to accept the metaphysical intuition about reality that Ladyman and Ross pejoratively describe as 'the fantasy world of ultimate little things and micro-bangings'.

So how does all this ground-clearing help with the 'hard problem'? The physicalist might reasonably argue that it is all understandable as a matter of stimulus-and-response, publicly observable behaviour which could possibly be replicated by a computer, and certainly (by definition) by one of Chalmers' zombies. This is where the 'knowledge argument' comes in – my other 'sacred text' (Howard Robinson). I expect you are familiar with the thought-experiment, as spelt out by Frank Jackson (1986): Mary has been brought up in a black-and-white room, and knows all there is to know (in a 'completed' physics) about colour, but then is let out into the coloured world and learns for the first time 'what it is like' to see colours – so this is something she knows 'directly', as a matter of subjective experience, distinct from the objective physical facts. Howard Robinson formalises this [Slide 3]:

(1) Mary knows all the facts about the perception of colour which can in principle be expressed in the vocabulary of physical science.
(2) Unlike those who have normal visual experiences, Mary does not know what it is like to perceive colour.

Therefore

(3) What it is like to perceive colour cannot be characterised using the vocabulary of physical science.
(4) The nature of any physical thing, state or property can be expressed in the vocabulary of physical science.

Therefore

(5) What it is like to perceive colour is not a physical thing, state or property.

I have slightly simplified the Robinson version, because he shifts from 'what it is like to perceive colour' to 'the perceptual nature of colour', which seems to me an unfortunate example of reification. Also the argument stops halfway, with the negative conclusion that what it is like is not physical; it leaves unsaid the implication of (2), that the rest of us, and Mary when she is let out, do know something which is non-physical, namely what it is like to perceive colour.

This conclusion, if accepted, is obviously very important, because it is a denial of physicalism: there is a kind of knowledge, of 'what it is like', which is different from our knowledge of physical things/states/ properties. It depends on, indeed is defined by, subjective experiencing. It reflects the intuition that the fullest possible account, in physical and neurological terms, of what is happening when I see something coloured, leaves out that essential subjective feature – what it is like for me. And that subjective experiencing is not just a raw fact – it is recognisable as like other experiencings in some respect (in this example, experiencing colours). But as an 'argument' the knowledge argument is at best debateable – I believe Frank Jackson himself later rejected it. It is hard to say precisely what the argument 'proves'. As I said, the premise at (2) seems to beg the question, by assuming as a given that people with normal visual experiences know what it is like to perceive colours (whether or not they know all the physical facts about colour perception). It rests on the intuition that each of us knows 'what it is like for me'. I suggest the argument is best understood as an intuitively-imagined ostensive definition – where 'ostensive definition' is a grand label for the standard way of learning what words mean: we don't generally learn the meaning of ordinary words by looking them up in a dictionary (more words) but by being shown several examples and learning to recognise 'what they are like'. So we do all in fact know what it is like to see colours; then we imagine what it would be like for Mary to see colours for the first time; so we recognise that *that* is what it is like; so *that* is a way of knowing – knowing what it is like – which doesn't depend on knowing any objective facts.

So the conclusion seems to me inescapable, that there is a kind of knowledge, of 'knowing what it is like', which is radically different from the way we know about physical facts; the first is 'subjective', direct, and can only be described in first-person statements (and only to a limited extent – see Wittgenstein on 'private language'); the second is public, impersonal, capable of being described in standard language with 'objective' truth-conditions allowing recognition, classification and measurement. This implies (ontology following from epistemology) that there are subjective 'experiencings' distinct from objective physical 'happenings' (a position which I'm inclined to label 'epistemic dualism').

I called this conclusion 'inescapable'; Galen Strawson, for example, remarked somewhere that anyone who doubts the reality of subjective experiences can't have suffered from insomnia. And it is interesting that Ladyman and Ross do not see this degree of dualism as altogether untenable. Instead they treat it as uninteresting because it is outside their 'radically naturalistic metaphysics' which is part of a 'collective attempt to model the structure of *objective* reality'. So they say explicitly that a statement is 'pointless' if it 'makes no contribution to objective inquiry', and they state a 'Principle of Naturalistic Closure', and later 'Primacy of Physics Constraint', as 'naturalist constraints on metaphysical hypotheses'. Elsewhere they deny that they 'rely on a premise to the effect that scientific objectivity is all that matters [Slide 4].....People who wish to explore the ways in which the habitual or intuitive anthropological conceptual space is structured are invited to explore social phenomenology. We can say 'go in peace' to Heideggerians, noting that it was entirely appropriate that Heidegger did not attempt to base any elements of his philosophy on science...We, however,

are interested in objective truth rather than philosophical anthropology' (p.5). Later, discussing 'intuitions', they say (quoting Dennett) 'philosophers who speculatively elaborate on intuitions might….be interpreted as doing introspective anthropology. (In fact, introspective anthropology is done all the time, and most people regard it as highly valuable. Its expert practitioners are mainly writers of fiction. We do not recommend turning their job over to philosophers). Obviously, this would not be metaphysics – the attempt to discover general truths about the objective world' (p.14 and note). This seems to me to be 'physicalism by diktat'. The chapter is headed 'In Defence of Scientism'. (I'm reminded of Howard Robinson's joke about Dennett's general method, which he calls 'the Jericho method': 'he believes that if he marches around a philosophical problem often enough, proclaiming what are, plausibly, relevant scientific truths, the problem will dissolve before our eyes').

Chalmers, and those who take 'the hard problem' seriously, take a broader view of metaphysics, to include the 'philosophical anthropology' which scientism rejects. This broader view takes in experiencing as a distinct, subjective way of knowing – 'knowing what it is like'. Discussion in this area is generally labelled 'phenomenology' – often dismissively, because the Anglo-American analytical tradition, since the Vienna Circle, has focused on 'scientific' objective knowledge, condemning the other kind, which is necessarily imprecise, as hopelessly woolly, to be left to Continental philosophers and fiction-writers. That is why I prefer the neutral label 'subjective knowledge'.

The problem, of course, is how this kind of first-person experiencing, uniquely available to conscious individuals, relates to all the other kinds of happening which are observable by anyone with normal perceptual faculties.

The first point is that one kind of experiencing appears in both halves of the story. In cases of perceptual observation, the same happening is both an introspectable 'experiencing' and an observing of a physical relation.

As a result, the subjective before-and-after sequence of experiencings can be matched against objective physical time-measuring – that is what we do every time we look at a clock. This makes it possible 'in principle' to correlate subjective patterns of experience with objective patterns of physical happenings – including neurological happenings in the brain. But the qualification is important: this correlation ('matching') is in individual cases (tokens). Correlations between physical happenings are standardly between 'types' which are recognisably alike in some respect – indeed that is what makes them interesting. To meet the L& R definition of a 'real pattern', they need to be 'projectible forward to unobserved cases' (of the same type), rather than being merely 'coincidental'. The concept of causation is built on this notion of regular 'projectible correlation', by including the further condition of 'causal necessity' (not merely 'Whenever A then B' but 'If not-A then not-B' – the 'sufficient set of necessary conditions').

None of this applies to the token matching in individual cases of subjective patterns of experience with objective patterns of physical (neurological) happenings. Each individual case of a subjective pattern of experiencing (thinking, feeling, imagining…) is by definition 'subjective', available to only one experiencer. Whether it belongs to the same type as another individual experience – whether they are alike in some relevant respect - can only be judged definitively by the experiencer. Anyone else can make an 'educated guess' from the physical evidence – what has just happened to the person concerned, what behavioural or neurological symptoms they show, and how other observers have felt in similar situations – a basis for making, at most, broad predictions of probability, not statements of 100% causal regularity. Given the increasing reliability of these probability-statements

as neurology develops, it is natural to assume, as a working hypothesis, that 100% type-type regularities are there to be found, as they are in physical cases; but this is to ignore the special subjective nature of experiencings, as distinct from observable physical happenings. In this whole area of subjective/objective correlation the 'cause' model does not apply.

These 'broad predictions of probability' are very familiar, and work in both directions: when someone is physically injured they are probably in pain – and when someone feels tired they are less likely to react quickly to emergencies. But there are asymmetries: despite my aversion to the 'reifying' move, from happenings to 'things', it is hard to avoid seeing the 'experiencing' subject as one 'person'(Frege: 'No experience without an experiencer'), rather than as a bundle of interrelated 'experiencings' (even though the introspectable recognisable 'self' is equally elusive, as Hume said). And the phenomenon of 'agency' is another asymmetry: when I decide to pick up a pen the movement of my arm that follows is not merely 'likely' but follows directly ('automatically').

All these are very obvious features of everyday experience, with nothing particularly mysterious about them. It is only when we elevate the question to very general terms – 'Why are there two ways of knowing? – How are they 'essentially' related?' – that philosophical puzzlement sets in. One standard way of answering such questions is to 'explain' the unfamiliar in terms of the familiar; but nothing could be more familiar than knowing how one is feeling and knowing what is physically happening. Another possible answer is in evolutionary terms: why have these two ways of knowing evolved? Given that there are 'degrees' of experiencing, there is a fairly plausible evolutionary story – from reproducible life, through movement, stimulus-and-response, perception, language, to introspection and self-awareness. But given the difficulty of verifying any story of this kind ('Just-So stories'), it is debateable whether it qualifies as 'the best available explanation'.

In any quest to 'explain' the relationship between two sets of data, a standard move is to treat one set as basic and the other set as explicable in terms of the first: hence on the one hand physicalism (where 'objective' physical happenings are basic and subjective experiencings have to 'emerge' or remain ineffective 'epiphenomena' or unscientific 'philosophical anthropology') – and on the other hand panpsychism (which I'll happily leave to Tim!). From each standpoint, the other perspective dwindles into insignificance. And yet physics cannot do without observers, nor can phenomenology do without substantive language. So I prefer to treat the two ways of knowing as 'equal and opposite', each very obviously useful in their own way:

1) 'Subjective': direct and on its own terms unquestionable (Descartes), yielding experiencings with recognisable similarities, including perceivings and observings; the key to understanding people as agents, in terms of thinking and choosing.

2) 'Objective', based on observing public physical happenings with features which are recognisable/testable/measurable (hence 'types'); the key to predicting physical outcomes by understanding 100% law-like regularities between types of observable happenings.

Finally, given two sets of data with equal status, it is natural to look for one underlying set to explain the relationship. Hence Davidson's 'anomalous monism' – seeing the two ways of knowing as 'aspects' of an underlying reality, under different descriptions. There is no way of disproving this view, but this is precisely because every possible observation is one way of knowing or the other (or, in fact, both). So it remains an empty metaphor – a Kantian 'thing in itself', about which nothing

more can be said.[That was the point of Wittgenstein's terse comment in the 'Tractatus' – 'on something of which one cannot speak, on that one must remain silent'].

I am not claiming that this 'paradigm shift' to 'epistemic dualism' solves the hard problem, only, at most, that it might 'dissolve' the sense of puzzlement [(in the spirit of Wittgenstein, 'getting the fly out of the fly-bottle')]. I like to think that it is in a long tradition of 'radical empiricism', predominantly British and going all the way back to William of Ockham – 'entities are not to be multiplied beyond necessity' – beyond what we actually know [Slide 5].