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Philosophy, Science and the Value of Understanding

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The best definition of philosophy, in my opinion, was given by Wilfrid Sellars fifty years ago: 'The aim of philosophy, abstractly formulated, is to understand how things in the broadest possible sense of the term hang together in the broadest possible sense of the term'. This definition does not get us very far; and nor should we expect it to (after all, as Nietzsche said, only that which has no history can be defined). But it does give us something to get started on. One important element in the definition, for example, is the emphasis on the 'breadth' of philosophy. Another is the idea of 'hanging together'. Yet another, which I want to focus on here, is that philosophy is a form of *understanding*. Philosophy is a cognitive, rather than an aesthetic or a practical endeavour, aiming at an improvement in our cognitive position rather than at edification or political activism. Certainly philosophy has resulted in edification and political activism, and no doubt it will do in the future too. But this is not its aim.

Understanding and knowledge are not the same thing. Gaining understanding of something may not always involve gaining new knowledge about it, in any interesting sense. Wittgenstein held that philosophy can only result in the re-arrangement of what we already know; the results of philosophy should be simple, he said, while its complexity is the result of our 'knotted understanding'. The process of untying a complex knot for hours, while leaving at the end only a single straight piece of string, is a good metaphor for one kind of understanding that philosophy can yield. I don't believe that this is the whole story about the cognitive value of philosophy, but it is certainly one part of the story.

The idea that philosophical understanding can be different from the acquisition of knowledge should be sharply distinguished from the idea that what is valuable about philosophy is the kind of critical thinking skills it develops. I want to reject this idea: philosophy is not the same as critical thinking, not even high-octane, gold-plated critical thinking. Not all critical thinking is philosophy. Thinking critically about what to do, how to live one's life, the merits and shortcomings of your friends, whom to vote for in an election etc. — these need not be philosophy, since they need not be part of an attempt

to understand how ‘things, in the broadest sense of the term, hang together’. And conversely, a lot of what is undeniably great philosophy does not exhibit much in the way of critical thinking skills. We would not use the works of Kant, Plato, Aquinas, Spinoza etc. to illustrate critical thinking skills — and nor should we.

One difficulty with the ‘critical thinking’ picture of philosophy is that it is hard to state exactly how the principles or rules of critical thinking should lead to philosophy itself. Express yourself clearly, be aware of ambiguities, try and see what reasons support your argument, and what reasons might support those reasons; avoid certain obvious fallacies, try and detect general patterns of reasoning... and then what? Does philosophy emerge out of this? How could it?

To apply such rules, we need to apply them to *something*, to a subject-matter. And this, it seems to me, is what the ‘critical thinking’ picture of philosophy leaves out: the distinctive subject-matter of philosophy, its range of questions, problems and theories embodied in the texts of the tradition. These are not fixed for all time, and there is no algorithm or decisive method that will identify a question as philosophical. Furthermore, philosophical problems are not of interest to everybody; it’s just not true that everyone is a philosopher underneath. Maybe everyone — almost everyone? how could one know? — thinks about their life and what it is all about at some point; but this doesn’t make them a philosopher, and this doesn’t matter.

Perhaps no-one says philosophy is *just* critical thinking; perhaps the idea is that the ability to think critically is one good side-effect of studying philosophy. This is probably true; but should not be exaggerated. The fact is that you will gain little understanding of what philosophy is by thinking of it as a technique or skill, as some of the mid-20th century English philosophers did. Some macho contemporary philosophers may like to style themselves as ‘bullshit-detectors’; but to detect the bullshit you must, so to speak, point your nose in the right direction. There is so much bullshit around that it would take a lifetime to sniff it all out; to find the distinctively *philosophical* bullshit, you have to be looking in the philosophical corner of the cowshed.

Philosophy is a form of understanding; it is not critical thinking. Critical thinking is valuable, but its value does not exhaust the value of philosophy. The truth is rather that if the aim of philosophy is understanding, then if this aim is achieved, the value of philosophy will be the value of understanding things (and it’s not the purpose of this essay to defend the value of understanding). But what if the aim of philosophy is not

achieved? What if philosophy aims at understanding, but in reality offers none whatsoever? This may happen because its methods, whatever they are, are no longer suited for the aim of understanding how things generally hang together.

This is, in effect, Stephen Hawking's view, expressed in his now well-known remark that 'philosophy is dead'. This remark comes right at the beginning of *The Grand Design*, his 2010 book co-written with Leonard Mlodinow. Hawking and Mlodinow cannot mean that the activity of philosophising is dead, since *The Grand Design* itself is full of philosophy. In fact, it is probably Hawking's most philosophical book. Unlike *A Brief History of Time*, which left it to a brief epilogue to lament about how philosophy has lost the plot, *The Grand Design* contains a large amount of argument in defence of its own metaphysics (i.e. its theory of reality) and its philosophy of science. The point is rather that the discipline of academic philosophy is dead because it 'has not kept up with modern developments in science, particularly physics'.

Unfortunately, much of the book's own philosophical argument is of a very low standard, and shows a striking lack of reflection on the complexities of what is being claimed. Take, for example, the book's central metaphysical thesis, *model-dependent realism*: 'there is no theory-independent concept of reality'. What does this mean? If all concepts are part of some theory of the world, then the claim is trivial — since if this were so, no concept would be theory-independent. So this can't be what Hawking and Mlodinow mean. What I think they mean is that there is no way of 'getting at' reality except via our theories of it. Since we have no way to, for example, compare reality directly with our theories, 'it is pointless to ask whether a model is real, only whether it agrees with observations' (note for philosophers: 'real' here means 'correct').

What about perception or observation itself? Might that not be a way of getting at reality which does not go via some model or theory? If I see a bird outside on a tree, is that the result of me having made some kind of model of this bit of the world? Hawking and Mlodinow think so: 'model-dependent realism applies not only to scientific models but also to the conscious and sub-conscious mental models we all create in order to interpret and understand the everyday world… Our perception — and hence the observations upon which our theories are based — is not direct, but rather is shaped by a kind of lens, the interpretive structure of our human brains'. Everyone agrees, of course, that perception is the result of neural activity. If those who say that perception is 'direct' must deny this, then obviously no-one should say that perception is direct. But as

a matter of fact, no serious philosopher or psychologist who has held that perception is 'direct' has thereby denied that perception is the product of processes in the brain. So the fact that perception is a product of the brain cannot show that it is not direct, in any plausible sense of that word.

Hawking and Mlodinow think otherwise. They think it follows from the fact that 'our brains interpret the input from our sensory organs by making a model of the outside world' that *all* our knowledge of that world is in a sense indirect. In fact, they go further. From the fact that 'we form mental concepts of our home, trees, other people, the electricity that flows from wall sockets, atoms, molecules and other universes' they infer that 'these mental concepts are the only reality we can know'. So the only things we can really know are items in our minds. We don't *really* know other people, places, objects, events — let alone electrons and quarks. This radical position is not only very hard to believe — and I don't think Hawking and Mlodinow really believe it underneath — but it also simply does not follow from the idea that we (or our brains) construct concepts or models of the world.

The claim that our brains create models of reality is itself a scientific claim, for which the evidence is as good (or bad) as the evidence for any other scientific claim. By their own lights, Hawking and Mlodinow cannot occupy a model-independent standpoint from which they can make these claims about the brain. So what entitles them to say that *all* our access to the world is via models? This claim (like the claim (e.g.) that science can explain everything) is not part of accepted scientific knowledge. Rather, it is part of an attempt to understand how things, in the broadest possible sense of the term, hang together; it's a philosophical claim. And as such, it's neither novel, nor especially plausible, nor supported by any good arguments or reasons.

It may be said that this criticism is unfair, since *The Grand Design* is intended as a popular book, and we should not expect detailed philosophical argument in a book of this kind. True enough; but we might reasonably expect to be given some sense of the complexity of the issues being discussed. And this is indeed what we get with the book's lucid, nuanced discussions of quantum mechanics, relativity and M-theory. When it comes to the underlying philosophy, however, their approach is different, for Hawking and Mlodinow give no indication that their model-dependent realism is the slightest bit controversial. In fact, they present it as if it is just obvious. But it isn't; as just indicated, it's deeply problematic.

The question of scientific realism has been discussed at great length in the philosophy of science of the last forty years; and the discussions are for the most part informed by a sophisticated knowledge of the relevant sciences, including physics — contrary to what Hawking and Mlodinow claim. These days it is now impossible to do serious philosophy of science without detailed knowledge of the science about which one is philosophising. On the evidence of Hawking and Mlodinow's book, the situation is actually the opposite of the way they describe it: it is the scientists who have not kept up with developments in philosophy. Serious philosophers of science are doing quite well in keeping up with science, as the most cursory glance at the leading academic journals in this area will show.

Hawking and Mlodinow's book is an instance of a more general phenomenon. It has become common for scientists to spend some of their middle years engaging with philosophical questions, normally in books for a general readership. This trend is very welcome for those interested in science and in philosophy. But what many scientists do not seem to realise is that philosophy is, like their own subjects, a discipline with a substantial history, with its own intellectual norms and standards, a body of established methods and opinions (albeit relative to philosophical traditions and regions of the world). When I use the word 'discipline', I mean the word not just in the sense of an academic institution, but also in the sense of *order* or *rigour*. Philosophy requires that you discipline your thought, and anyone familiar with the tradition will know that standards for this discipline are high.

Given the vast amount of human effort, ingenuity, thought, learning, scholarship and wisdom that have gone into forming our philosophical tradition, it is extremely unlikely that a scientist, no matter how brilliant, will make any substantial contribution to the discussion of philosophical questions these days without at least considering the contributions made by others. After all, this is only what they should expect, from their knowledge of what is required by their own disciplines. So, to take an extreme example, Francis Crick's bestseller, *The Astonishing Hypothesis* (1994), defended the view that our mental lives are identical with processes in our brains. This hypothesis would not have been astonishing to Thomas Hobbes or to the 18th century Cartesians, or to the 19th century German materialists. Since the 1950s what Crick calls the astonishing hypothesis has been a mainstream (if not an orthodox) view in English-language philosophy. He really should have got out more.

It may be said that academic philosophy must take some of the responsibility for the ignorance of these leading scientists, since philosophers are so bad at communicating their ideas to those outside the discipline. Unfortunately, there is some truth in this complaint. Contemporary academic philosophy combines an impressively high level of intellectual sophistication with a baffling lack of concern to make itself intelligible to anyone immediately outside a small circle of specialists. Here I am not criticising contemporary academic philosophers for not being popularisers; there is no requirement on every scholar to popularise the ideas in their discipline. It's rather that philosophers often do not even see the need to explain themselves to those in other areas of philosophy, let alone to other academics, or the wider population.

Part of this is surely an inevitable result of the micro-specialisation which is common to all academic fields. But there is also something specific to philosophy: a conception of itself as a 'technical' discipline, expertise in which requires years of specialised training. To succeed in philosophy generally requires taking a question currently discussed in the academic journals, and subjecting it to harsh critical scrutiny, discovering (for example) inconsistencies, inexplicit assumptions or alternative, ignored answers to the question. The danger is that the intense application of these skills can be combined with an inflexible approach to the assumptions which give rise to philosophical questions. This can make it hard for people to understand standard treatments of the problem if they do not share or understand these assumptions. And yet academic philosophers are not very good at making their assumptions clear or intelligible.

This situation is sustained by the tenure system in the USA, the home of most of the leading philosophy departments in the world. Junior professors are normally appointed for seven years during which time they have to produce a number of articles, in order to guarantee their permanent appointment. These professors are encouraged to publish in a handful of top journals which have strikingly high rejection rates (sometimes they reject more than 95% of all submissions). The whole set-up is unwittingly designed to produce articles which are highly professional discussions of some inevitably specialised, and therefore narrow, theme. What it discourages is work that challenges or exposes the governing assumptions of philosophical debates. Pre-tenured philosophers are careful, meticulous, scholarly, and above all, orthodox. Having achieved tenure, their research habits become so ingrained, or they themselves become so exhausted, that they rarely move beyond this orthodoxy. The whole academic process in the US thus

helps to underpin a kind of conformity and insularity in professional philosophy, the kind of thing Thomas Kuhn called ‘normal science’.

I am exaggerating here, of course; but only a little. It is perfectly sensible that disciplines should have their own jargon and terminology, which if used properly are necessary for the abbreviation of complex ideas. It’s also true that to make progress you cannot question everything. And philosophy does require a considerable patience and hard work; it is in the nature of its problems that they take a long time to unravel. However, it remains the case that the technicalisation of philosophical questions in the last thirty or so years has produced not just a vast body of difficult work, but also a self-described ‘profession’ of highly-skilled intellectuals who seem unable or unwilling to explain to other educated people — some of whom are even philosophers — the significance of their work.

When you ask an academic philosopher what they do, they will typically answer by saying something like ‘I work on the problem of X (time, truth, goodness, justice etc.). In the recent literature, many philosophers have put forward view Y about X. I argue against view Y and propose Z instead’. What it is often harder to get out of them is an answer to the question of why X *matters*, other than because of the fact that it is discussed in the philosophical literature. And by ‘matters’ I do not mean ‘matters outside philosophy, or outside intellectual life, or that it has to have some practical application’. There can be no requirement in a civilised society that philosophy or any other theoretical attempt at understanding has to matter in these ways (though it’s not my task to argue for this here). What is needed is an explanation of why it matters *philosophically*. My concern, to put it simply, is not that philosophy is losing touch with the outside world; it is that it is losing touch with philosophy.

How, then, should academic philosophy get back in touch with philosophy itself? This would have to be the subject of another essay. But I would like to end by connecting my remarks with a more local question about the teaching of philosophy: whether it should be more widely taught at the pre-University level in the UK. It is well-known that young children are very open to philosophical questions and discussion, and some excellent work has been done (e.g. by Peter and Emma Worley’s Philosophy Foundation in the UK) in developing philosophy teaching for children at all levels in Britain. But it is only a very small part of the available examined curriculum in British schools. Would the understanding of genuine philosophy be aided by a more extensive engagement with it

in the curriculum?

The question of at what age philosophy should be taught does not, of course, have a universal and *a priori* answer. The answer depends on very specific, contingent features of the educational system in question. But my knowledge of the contemporary UK secondary educational system leads me to think that we should hesitate to introduce more philosophy into schools. The reason is that much of the school system is geared towards assessment based on exams rather specific learning outcomes. But it is in the nature of philosophy that ultimately everything in the discipline is contentious and controversial. This is part of what it means to be a foundational subject: the subject concerns the most basic and general assumptions you can make, and inevitably these are open to question and challenge. If you try and impose the kind of strictly outcome-based learning regime of most UK schools onto philosophy, then you will be compelled to present some dominant assumptions of the day as established facts, and students will leave thinking that they know what the essence of some philosophical questions is. So rather than introducing the questioning, critical mentality which real philosophy requires, it is likely that the contingent, parochial assumptions they are taught will simply become solidified. For this reason, I think it is unlikely that the solution to the insularity of some academic philosophy is to teach more philosophy in British schools than is currently on offer.

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