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Metaphysics, Mathematics and Metaphor

"Who lectures in the Hall of Arts today?" asks Princess Ida, eponymous heroine of Gilbert & Sullivan's comic opera. Lady Blanche, Professor of Philosophy, and Ida's rival in academic politics, replies:

I, madam, on abstract Philosophy.
There I propose considering, at length,
Three points – the Is, the Might Be, and the Must.
Whether the Is, from being actual fact,
Is more important than the vague Might Be,
Or the Might Be, from taking wider scope,
Is for that reason greater than the Is:
And lastly, how the Is and Might Be stand
 Compared with the inevitable Must.

This caricature of abstract philosophy, which is as much as to say metaphysics, amusing as it may be, is rather too close to the man-in-the-street's prejudices for a metaphysician's comfort. For many today, non-philosophers and philosophers alike, metaphysics is perceived as an intellectual curiosity that survives only in the sheltered environment of some academic backwaters. For these people, metaphysics has about as much intrinsic validity as the study of Etruscan vases or the sex life of the newt; they regard it as something mildly and eccentrically interesting but of no general concern. An educated person, they feel, would not be embarrassed to be ignorant of metaphysics in the way they would be if they were ignorant of science. This is partly to be explained by the progressive peripheralisation of philosophy as a whole, a peripheralisation which has taken place throughout the last 400 years or so, and which, in part at least, is a result of the ever-increasing centralisation of empirical science as the dominant type (and for some, the only type) of respectable knowledge in western society and in western-influenced societies.

There are three possible positions that philosophy can occupy vis-à-vis first-order knowledge. Either philosophy is an intrinsically second-order discipline with no first-order concerns of its own; or philosophy has some first order concerns but as these are
gradually colonised by science it will eventually become second-order only; or philosophy has first-order concerns that are ineliminable. On the first two conceptions of philosophy, metaphysics is impossible; only if philosophy has ineliminable first-order concerns can metaphysics have room to operate. If science, mathematics and history can answer all possible questions there is no room for metaphysics. If, however, there are questions that cannot be answered by science, mathematics or history then metaphysics is, at least, possible.

Are there properly philosophical questions? Yes. For example, the status of science and its pronouncements are not a matter for science. Whether science is the ultimate form of knowledge, whether its accounts are the most basic available to us—these are not scientific questions, neither are they mathematical or historical questions; these are philosophical questions. To answer them is to do philosophy whether or not one perceives oneself or describes oneself as doing this or not. Even if one is a scientist or mathematician or historian, in asking and answering these questions, one is not doing this qua scientist, mathematician or historian. Of course, such questions regarding the status of science, or mathematics, or whatever, are second order questions, and there are few who have difficulty with philosophy’s posing of such questions.

What of first-order questions? Ethics, politics and aesthetics, or more generally all axiological concerns, are areas where philosophy asks, and answers, first order questions. Normativity is the common feature of all these areas of inquiry and normativity is clearly a first-order phenomenon.

In addition to the second-order questions characteristic of the various “Philosophy ofs…”, and the first-order questions of axiology, there also appear to be questions that one can ask that, adapting John Post’s categorisation¹, have to do with the nature and the meaning and the unity of all there is, which questions are not, I believe, reducible to scientific, mathematical or historical concerns. Furthermore, such questions are descriptive, not prescriptive, factual, not normative. This is the space in which, if it can exist at all, metaphysics lives and breathes.

Mathematics and Metaphor

The Egyptians discovered and used mathematics for what would appear to have been almost purely pragmatic purposes. The Greeks, appropriating the mathematics, reflected on it, and discovered/invented the axiomatic method. This made a powerful, indeed

overwhelming intellectual impression on Greek thinkers. From a small number of axioms one could generate, as a spider spins her web, an enormous and organised body of knowledge. This knowledge was demonstrable by virtue of its relation to the axioms and the whole, axioms and theorems, was intellectually transparent. It is not insignificant that the motto of Plato’s Academy was “Let no one without mathematics enter here!” Plato’s Forms, whatever their ultimate metaphysical status, are, I believe, derived from the notion of definition of terms that has its natural home in mathematics. It is significant that one of the few interlocutors in a Platonic dialogue who grasps the point that what Socrates is in search of is not a series of examples but a definition is Theaetetus, who is a mathematician. Socrates is inquiring into the nature of knowledge. He puts the question to Theaetetus and Theaetetus at first replies by giving a series of example of different kinds of knowledge. Socrates remarks “But the question you were asked, Theaetetus, was not, what are the objects of knowledge, nor yet how many sorts of knowledge there are. We did not want to count them, but to find out what the thing itself-knowledge-is.” Theaetetus, the mathematician, gets the point. “It appears easy now, Socrates, when you put it like that. The meaning of your question seems to be the same sort of thing as a point that came up when your namesake, Socrates here, and I were talking not long ago....Theodorus here was proving to us something about square roots....The idea occurred to us, seeing that these square roots were evidently infinite in number, to try to arrive at a single collective term by which we could designate all these roots...” Socrates confirms the aptness of the mathematical model: “Take as a model your answer about the roots. Just as you found a single character to embrace all that multitude, so now try to find a single formula that applies to the many kinds of knowledge.”

The characteristics of mathematics most appealing to the Greeks were its certainty and its explanatory power. First, catch a small bunch of axioms. Then, using the heat of reason, cook up a vast structure that partakes of the same worthiness to be believed that belonged to the original axioms. This mouth-watering prospect made an enormous appeal to Plato and to the members of the Academy whose metaphysics is, I believe, a philosophical analogue to mathematics. It is worth recalling that Plato began his philosophical life influenced by the Pythagoreans: I believe that he ended his philosophical career similarly.

2 Plato, Theaetetus, 146E-148D.
Plato’s student, Aristotle, provided a useful antidote to this mathematics-mania in the \textit{Nicomachean Ethics} when he remarked that: “Our discussion will be adequate if it achieves clarity within the limits of the subject matter. For precision cannot be expected in the treatment of all subjects alike, any more than in all manufactured articles....We must be content, then, in speaking of such subjects [what is noble, and just, and good] to indicate the truth roughly and in outline, and in speaking about things that hold good only as a general rule but not always to reach conclusions that are no better....it is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject admits; it is evidently equally foolish to accept probable reasoning from a mathematician as to demand strict demonstrations from a rhetorician.”\textsuperscript{3} It should be pointed out that Aristotle was expressing these reservations about the degree of precision to be expected primarily in relation to the normative investigations of ethics and politics and not necessarily in relation to metaphysics. Nevertheless, he was willing to accept from any field of inquiry the degree of precision it was capable of producing; whether he was correct in his estimation of the degree of precision available from the investigations of first philosophy remains to be seen.

So things stood balanced until modern times. With the breakdown of the medieval synthesis and the rise of modern science, the mathematical model re-emerged as the very type of explanation, of power, of clarity. It is not accidental that two of the three prototypical Rationalists—Descartes and Leibniz—were first class mathematicians, inventing/discovering, respectively, co-ordinate geometry and the calculus, and that the third Rationalist, Spinoza, set out his \textit{Ethics} in geometrical style which was not just a stylistically charming idiosyncrasy but an acknowledgement of the central position of the mathematical model. Descartes, Leibniz and Spinoza are the progenitors of all modern metaphysics and their concerns—Descartes’ with clarity and distinctness, Leibniz’s with generating a calculus for resolving all human disputes—show their obsession with the certainty that is characteristic of mathematics.

It is a moot point whether scepticism gives rise to a search for certainty, or whether the (failed) search for certainty gives rise to scepticism. Whether or which, the quest for certainty that is characteristic of modern philosophy has given rise to scepticism. If certainty is equated with knowledge and if certainty is not unattainable, then the only

scepticism remains; mathematics gives rise to metaphor. Certainty and scepticism, like the Colonel's lady and Judy O'Grady, are sisters under the skin.

It's easy enough to see the connection between mathematics and certainty. Where does metaphor come in? Well, if you are unwilling to say what anything literally is, the only alternative to saying nothing is to say what it literally isn't; and that is precisely what a metaphor is. Who, then, are our metaphoricians? For my purposes, let me take as a prime example, Richard Rorty. Rorty's ironic detachment is simply scepticism in disguise, a scepticism that not only dares speak its name but a scepticism that talks an awful lot. The Chess World Champion, Capablanca, complained in the 1920s that the possibilities of chess were exhausted when the truth was that it was Capablanca who was exhausted. Rorty's response to the difficulties faced by modern philosophy appears to be similarly a product of exhaustion. The expression of this despair may be elegant and charming but it is ultimately specious. It either collapses into nihilism or manages to preserve a core of genuine beliefs, which, however, are unearned, thus exhibiting all the advantages of theft over honest toil. Similarly, Derrida's deconstruction is a kind of intellectual guerrilla warfare. You hide behind the bushes and fire on the enemy; but when fire is returned, like Macavity the wonder cat, you're not there! Rorty and Derrida are mired in a miasma of metaphor where the literal is systematically denied and repressed, at least explicitly. But metaphor is parasitic upon the literal. If nothing simply is then there can be no shock, still less a revelation, in stating that A is B when A, in fact is not B. And the literal, even if expelled with a pitchfork, re-enters once vigilance has been relaxed and, as the horror movies teach us, you can't stay awake for ever!

What is First in First Philosophy
The question of being is commonly held to be the most central metaphysical question. What is it to be? Several answers to this question have been proposed, among others

1. To be is to perceive or be perceived
2. To be is to be the value of a variable
3. To be is to be the referents of whatever is required by our ordinary language
4. To be is to be whatever is required by scientific discourse
5. To be is to be relative
6. To be is not to not-be

(Answer 6 is not as absurd as it may at first appear. Many are the intellectual contortions produced by the effort to understand negativity. Perhaps more can be learned from a
joke than from more serious disquisitions. In the film *Ninotchka* Mervyn Douglas is trying to get a stony-faced Greta Garbo to laugh. He tries telling her some jokes. A man says to a waiter: “Bring me some coffee without cream.” The waiter disappears. After about 10 minutes he comes back and says “Sorry about the delay, sir. We don’t have any cream. Can I bring the coffee without milk.”? It doesn’t make Garbo laugh but it causes the lads sitting at a nearby table, eavesdropping on the conversation, to fall to the floor with laughter.

How, if we could, should we choose from, or add to, this list? The first thing to realise is that even metaphysics must start somewhere. Possible starting points aplenty have been suggested. These starting points are supposed to have some very special properties; self-evidence, incorrigibility, and so on. There are generally two kinds of criticism that can be levelled against such starting points: one; either they are (relatively) ungainsayable, because formal, such as the principle of non-contradiction, but then, nothing very significant follows from them; or, two, they are ‘thick’, such as ‘All men are created equal’, but then, they are very far from being ungainsayable.

It seems to me that one ineliminable starting point of every inquiry cannot but be the very act of inquiry itself. All men, by nature, desire to know. And the expression of that desire is a question. Perhaps to be is to be the answer to a question.

Is this a variation on the strategy of the Cartesian *cogito*? In a way, yes, but with a difference. Aristotle made much of the principle of non-contradiction. Descartes made central the *cogito ergo sum*. For both Aristotle and Descartes their respective starting points give a firm point of departure; for both, the rejection of this point of departure involved a performative contradiction. The difference between their respective positions is this, that Descartes’ cogito represents a retreat to subjectivity while Aristotle’s principle of non-contradiction, involving as it does a commitment to language and communication, is inherently social. The Cartesian cogito leads to the solipsistic self but the act of inquiry, which is impossible without language, leads to a community of speakers. What more recent thinkers, such as Wittgenstein and Apel, add to Aristotle’s point is the insight that language is the property of no one individual but of the whole community of language users. Language is the repository of our common ‘intentions’ and is the property of the entire speech community, not the idiosyncratic plaything of individual speakers. “Human beings are essentially language-using animals, an idea shared by Aristotelianism and hermeneutics.”

established the ineluctably social nature of language. “If you are not certain of any fact, you cannot be certain of the meaning of your words either.” One can see much of what Wittgenstein as doing in his later work in the Investigations and in the On Certainty as a polemic against the fundamentally mistaken assumptions of modern philosophy.

Take as an example the representational problem has dogged modern philosophy. In the Early Modern period ideas were said to be the objects of knowledge. The so-called representational problem immediately arose. How do we know that the ideas that are supposed to be the direct objects of our knowledge actually correspond to anything? The answer is simple; we don’t and we can’t. In the Late Modern period language comes to occupy the place given to ideas in the earlier dispensation. The same problem arises. Language now serves as a veil to conceal all else. In both cases, a barrier is erected between self and world. How to get past it? I believe that history has shown that if you erect this barrier you will never get past it. We might call this the Humpty-Dumpty problem: all the king’s horses and all the king’s men, couldn’t put Humpty together again. As Bernard Lonergan once remarked: “Empiricism is a bundle of blunders and its history is their successive clarification.”

Our inability to solve the representational problem is not a measure of its intellectual difficulty. It’s not as if it were a complex problem in differential calculus. The problem is caused by the very way in which certain assumptions are made. Once made, the problems they cause become insoluble. The way out is not to try harder; it is to reset (or reject) the problem by questioning the assumptions.

Metaphysics and Naturalism

Earlier, I suggested that the idea that there might be first-order concerns that belong intrinsically to the province of philosophy was not obviously absurd. However, the dominant intellectual ideology of the age, naturalism, is committed to the view that all that is can ultimately be accounted for in purely natural (read; scientific) terms. If naturalism is correct we can have here no abiding city for metaphysics. Under the constraints of space I can merely suggest some ideas for consideration.

First, what I believe is an important methodological point. Apart from the formal constraints on theories of consistency and coherence, and the material constraints of adequacy and coverage, there is also a self-referential constraint on theories, namely, that a theory must not render impossible the conditions of its own statement or the

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conditions of being maintained. So, to take an example, unless human beings are fundamentally free in their choices and decisions it's not possible for statements to be meaningfully asserted, and that includes all statements, including the statement of strict determinism. Such a statement of a radical determinism is rendered referentially incoherent by its own content.

Hugh Lawson-Tancred reviewed Daniel Dennett's new book, *Freedom Evolves*, which one might reasonably expect from the title to be a demonstration of the evolution of freedom. At the end of a very flattering review Lawson-Tancred says "Harder, of course, is to show that though everything is determined we still have choice...Of course, this only means that Dennett has no solved the deepest problem in moral philosophy." Yes, but this is hardly a minor failing in a book which set out to do precisely that. Lawson-Tancred goes on to claim that what Dennett has done is to relocate "the popular discussion of selfhood, responsibility and control to its proper home in best-practice scientific psychology." Note the phrase – 'proper home' – this is naturalism with a vengeance.

Does naturalism meet the self-referential constraint? Naturalism derives a large amount of its plausibility from the progressive and inexorable elimination of folk-physics by the advances of modern science. From science, the method is extended to other areas so, for example, in the psychological realm so that it is held so-called folk-psychology, the psychology in which we describe and explain our everyday behaviour, is similarly eliminable by the development of a scientific psychology.

There can be a folk physics, an explanation of people's everyday; experience, which is potentially eliminable. What is not, however, eliminable is people's experience of weight, resistance to movement, and so on. These are facts of experience that are not subject to scientific dissolution. Similarly, there could indeed be a folk psychology (indeed, the quasi-substantialist notion of the mind characteristic of much modern philosophy is a thesis of just such a refined folk psychology) but beliefs, thoughts, judgements, and so on, are also scientifically indissoluble. Unlike folk physics, however, the very attempt to assert the eliminability of our ordinary psychological descriptions and explanations these cannot be done without making use of that which is denied. This is where the parallel with physics breaks down.

Why should we accord naturalism the place of honour. Given its enthronement of science as the paradigm of human intellectual endeavour, naturalism, as science’s

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philosophical cheerleader, to some extents basks in its reflected glory. But naturalism is just one theory among others. It originates from within our human experience and so cannot, coherently, radically contradict that experience.

So, where do we start? From where we are; there are no other possibilities. And where we are is with people asking questions, answering them, arguing, explaining, describing, and so on, all the multifarious things we do with language. This is not a mere starting point, a ladder that can be kicked away when we ascend to a higher level. We never escape from this realm. We may discard some questions, ask others, and so on, but the process of asking and answering questions, of reasoning, of persuading and being persuaded, of grasping insights, of affirming truth, is never, and can never, be abandoned or transcended without a descent into radical incoherence.

So, the task for a contemporary metaphysics is to avoid the lures of an unattainable certainty and the blandishments of scepticism (under whatever name it may be currently masquerading), to resist a surrender of its legitimate territory to naturalism, and to recover a confidence in the power of the human mind to ask and to answer questions about the nature, meaning and value of all that exists.

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