What is A Priori Knowledge?

By Peter Gibson

1.

There is no consensus on the definition of a priori knowledge, but it deals with an aspect of reality which is held to be accessible by thought alone. Truths in this area are held not to depend on experience. In recent years 'a priori' has been considered a strictly epistemological notion – a way in which we can know things, independent of experience. The traditional view of this has its roots in Pythagoras, Parmenides and Plato (e.g. *Phaedo* 66c), and became fully explicit in Descartes and Leibniz (1686:31): there is a world of eternal unchanging 'necessary' truths; since we obviously have knowledge of these truths, of geometry, arithmetic, logic, morality, even the existence of God, we must be endowed with a faculty which makes it possible.

Challenges to this view have come in waves. Hume articulates the initial empiricist doubts: sense experience could not possibly reveal necessities to us, and introspection could only reveal relations between ideas which we already possessed (1748:IV.i.20); we just don't seem to have the faculty which would reveal the nature of reality to us by thought alone.

Kant was impressed by Hume's doubts about external experience, but was more optimistic about the revelations available to introspection. He finds necessities within the mind, not about how the 'noumenon' is constituted, but about how human experience (and perhaps any possible experience) must organise and present itself (1781:Prec, B14). It is unimaginable that any conscious and rational mind could fail to intuit its experiences other than by means of Euclidean geometry, arithmetic, and temporal sequence, and even according to the moral law.

The arrival of non-Euclidean geometry was a severe blow to the Kantian view, and perhaps the biggest setback for traditional a priori knowledge. What had appeared to be a priori insights into the necessary structure of space (either as it is, or as we must experience it), suddenly became dependent upon which axioms you decided to start from. If you amuse yourself with a different concept of 'parallel', other models of space appear; modern geometers and topologists explore multi-dimensional and relativistically curved spaces, almost without limit.

This set the scene for the emergence, from the early work of Wittgenstein (1921), of the logical positivist view of a priori knowledge (e.g. Ayer 1936:Ch.4). Hume was right: if we set up a system of ideas, by inventing axioms and rules (the pieces and moves of chess being a favourite analogy), we may then explore the implications of our creation and make discoveries, rather as you might find that checkmate with just two knights is impossible. The resultant knowledge is very much a priori, both because it is accessible just by thought, and because its truths in no way depend upon experience, or the behaviour of reality. If the universe vanished, or became wildly unpredictable and inconsistent, that could not alter the facts about chess positions (and equally about logic, arithmetic and geometry). There is a priori knowledge, but it is just knowledge of human conventions. The view seems to be supported by challenges to features of standard logic (such as the law of excluded middle), and the invention of many different logics (such as C.I. Lewis's five modal logics, none of which he considered to be 'correct').

The final nail appeared in the coffin when Quine argued (1935) that even conventional knowledge does not reveal necessities, because everything is revisable. Defenders of the conventionalist view of the a priori are blind to the circularities in which they are indulging; the principles of logic are needed in order to argue that logic is just conventional. Quine offers his famous 'web of belief' view (1953), which includes the claim that even the core beliefs of so-called a priori knowledge might have to change in the light of experience. The next generation even proposed just such a change – to redefine logic in the light of quantum mechanics.

The dream of achieving a priori synthetic insights into reality appeared to lie in ruins. The concept of humans having 'faculties' in their psychological makeup became unfashionable, and when 'intuition' was offered as central to moral theory, the resulting account looked very thin. For all of these reasons, the problem of a priori knowledge dropped off the philosophical radar.

2.

This simple picture (either dispense with significant a priori knowledge, or cling to an unfashionable tradition) was then dramatically redrawn by Saul Kripke. He made two startling proposals: that some necessary truths could be known through experience, and that some contingent truths about reality might be knowable a priori. Thus it seems necessary that the Morning Star is identical to the Evening Star, but it took early empirical research to know such a fact; it may be that a natural kind such as gold necessarily has an essence and necessary properties (1972:125), but this would only be discoverable by scientists (not metaphysicians). Similarly, it seems to be a contingent truth that a particular rod in Paris at time t_0 happens (by a baptismal ceremony) to be one metre long, but mere understanding of the relevant linguistic act is sufficient to understand this (1972:56).

The questions now facing us seem to be these:
1) Is it possible to know some contingent truths a priori?
2) If there are any necessary truths, are they only accessible to scientists?
3) Is Quine right, that knowledge of conventions will not reveal any necessities?
4) Is Kant wrong, that analysis of concepts might show how things must be (at least, for us)?
5) Is the traditional view, that direct and profound insights are possible, still tenable?

I think the answer to the first question is negative. Kripke's proposal is that in baptising the rod in Paris as 'one metre', he is simultaneously designating two things: one is the length 'one metre', which is rigidly designated and thereby has necessary identity, and the other is a simultaneous assertion of a contingent truth, that this particular rod is one metre long at this precise moment. The rod, however, is subject to the vicissitudes of physics, and may change its length, so the fact that it is one metre long is a contingent fact. Since, however, its length at t_0 was determined by fiat rather than by measurement, it is known a priori that it has this length. I find this unconvincing. It may be a necessary truth at time t_0 that the rod has that length, but if the rod may have changed length by time t_1, it is hard to see how anyone could know a priori whether the rod has changed, or remained at one metre. The only necessary truth is that it has the length it has *at the instant of baptism*. At a given moment a thing is what it is, and not another thing, but that looks more like a universal necessity. Furthermore, one needs acquaintance with an actual event in the world (the baptism ceremony) to know the truth, which doesn't seem to be a priori. It is hard to see how Zeus could work out by thought alone which of the many rods in Paris had the designated length, if he didn't have spies at the ceremony.

I also think the answer to the third question is affirmative. The classic example of a truth by convention is 'bachelors are unmarried men'. This is not a truth of eternal reality, but nevertheless something which has to be true (in a chess-like way), because we either say that the predicate is contained within the subject, or it is true for all possible objects. But the necessity of its truth seems to rest either on the contingent fact that this is how English speakers happen to use 'bachelor' (and so would no more be a necessary truth than is 'drive on the left'), or on the fact that it reduces to a tautology ('an unmarried man is an unmarried man'). The latter truth (that 'Fa is Fa') may well be a necessity, but it doesn't appear to be a convention; no one could begin to comprehend how 'Fa is *not* Fa' could be ever be rationally asserted.

The choices remaining are to embrace the full Quinean denial of a priori knowledge (perhaps with the very un-Quinean sting in the tail of still investigating necessities, but through science), or to return to the full traditional view, or to investigate the Kantian approach. I have a personal sympathy for the possibility of discovering necessities empirically, but I think there may also be hope for a priori knowledge in our coming to understand the necessary relations between concepts.

3.

There has been a modern debate (or neurotic worry) amongst analytical philosophers over the possibility that attempts at analysis are either impossible, or they only lead to triteness or falsehood. Sydney Shoemaker writes of this:

> The goal of philosophical analysis ... should not be reductive analysis, but rather the charting of internal relationships. (1980:244)

He is discussing a family of concepts: {property, causal power, event, similarity, substance}. His thought seems worth investigating, and it invites the slogan "a priori knowledge is of conceptual relations". However, this has problems. If one investigates the relationships between, say, {triangle, angle, bisection, intersection, area}, one might be looking at a very good candidate for truths with the traditional a priori status, but if the concepts were, say, {trench, rifle, duckboard, gas, helmet} everyone in our culture is aware of strong relationships between these concepts, but they are clearly not a priori. Shoemaker's list seems to stand somewhere between the apparently a priori list and the blatantly a posteriori list. One thinks of Russell's proposal (1912:59) that a priori knowledge is of "relations of universals", rather than just of concepts, but 'duckboard' is just as much a universal as 'angle', so that doesn't seem to help. What is needed is a criterion for deciding which conceptual relationships can be known a priori, and which can only be known a posteriori.

It is here that we begin to wonder whether we are faced with a false dichotomy. The items from 1916 are related historically, but the simplest understanding will suggest that a rifle is a better weapon than a duckboard, or that helmets will ward off shrapnel better than gas will. The facts about triangles can be learned when laying out a garden or reassigning land ownership after a flood, as well as by attending a geometry lesson. Geometry reinforces truths about garden design, and experiences of garden design reinforce geometry.

My suggestion is that the issue can be clarified by examining levels of abstraction. Truths about particulars cannot be known a priori; to know whether this particular helmet stops that particular piece of shrapnel, you had to be there. But as soon as you start generalising about objects, the possibility begins to present itself of knowing something simply from the concepts involved. This helmet may be useless, but helmets are worth wearing. German helmets seem a bit better than British helmets, because they protect the ears and temples. Wearing something protective is certainly to be recommended. And so on.

The highest level of relationships between concepts is what we now call 'metaphysics' (represented by Plato as the highest section of his Line; *Rep* 511d). The lowest level is common sense generalisations about local aspects of life. If that picture is correct, then the interesting question is whether an ascent of the ladder of increasing abstraction can take us into the world of necessity, or whether we are merely spotting patterns among empirical generalisations. For what it is worth, I have a certain faith that it is the former – that our grasp of general truths, when it spreads out into large generalisations, leads us into an understanding of necessities about reality. This picture is helped by the modern view, of Russell and Bonjour, that self-evidence to humans comes in degrees, and that it is fallible, and doesn't demand the absolute insights of the traditional view.

How, though, could one argue for such a claim? Even the most sceptical follower of Quine has to admit an strong intuition that simple arithmetic and certain core ideas in logic (such as modus ponens or and-elimination) are true. Quine tries to persuade us that we are merely in the grip of deep cultural or theoretical prejudices, but it won't quite wash. We apply our discredited intuition to the problem. Kripke observes of intuition "I really don't know what more conclusive evidence one can have about anything, ultimately speaking" (1972:42). We then realise that intuition largely depends on our imagination, which is also coming under modern attack, but it is all we have. Imagination is deceptive; we may imagine a bonfire on the moon, until someone points out the absence of oxygen. We must remember Kant's foolish dove, which thinks it can fly better in outer space (1781:A5). But when the combined forces of the human intellect are unable to imagine an alternative to 7+5=12, or to modus ponens, we should consider that we may have discovered necessary truths. If we have, they may have originated in experience, of war or gardening, but the necessities only appeared when we began to analyse the abstract concepts, and so such insights would be clear candidates for a priori knowledge.

I take, then, the exploration of a priori knowledge to be a frontier for the communal human knowledge. Our first duty is to formulate concepts which correspond with nature, that 'cut at the joints'. The next stage is to abstract from these initial concepts in a coherent manner, and this should lead us to accurate a priori understanding of the necessities of nature, which will (if all goes

well) dovetail neatly with the necessities discovered by the scientists. The frontiers of the quest are mathematics and logic. The mathematicians are doing a splendid job, because their a priori studies confront the purest of the pure in a narrow area, though the Intuitionists are trying to reign in the more remote results by denying excluded middle. The logicians are only in the early stages. At first it seems that a connective such as 'or' might be fundamental, until Quine (1970:24) and others point out that 'or' can be reduced to 'not(not-a and not-b)', so that the fundamentals become uncertain. Nothing seemed more certain than the law of non-contradiction, which was central for Leibniz, but Graham Priest suggests that if someone is standing in a doorway they are both in-the-room and not-in-the-room. (Sorensen 2004:73). The nature of vague concepts (which seems to include 'in'!) will have to be explored to resolve that one. Working out what the number 3 is would seem a fairly easy job for a priori specialists, until Benacerraf notes that Zermelo and Von Neumann offer successful but irreconcilable accounts

The frontier in the analysis of the relationship between abstract ideas is fraught with uncertainties, complexities and disagreements, but that is not a reason to despair. Those who persevere and keep the faith are approaching the truth about the necessities of nature.

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