The Synthetic *A Priori*

The "Introduction" to the *Critique of Pure Reason* is the place where Kant describes a central problem. The first point he establishes here is the simple one that there is such a thing as "pure" knowledge. By "pure" he initially means knowledge that is independent of experience, so he identifies it with *a priori* knowledge but, further, by *a priori* he is careful to point out he means knowledge that is "absolutely independent of all experience" (B3). The notion of knowledge that is independent of experience is distinguished from knowledge derived from experience with the latter termed *a posteriori* knowledge. The criterion Kant uses to distinguish pure from empirical knowledge is twofold: firstly propositions that are necessary or derived from those which are necessary are said to be *a priori*. Secondly, judgments that are strictly universal are taken to be so. It is important to be clear that experience does not directly provide universal judgments in the strict sense but only comparatively (as in the process of induction). The two criteria for pure or *a priori* knowledge are thought to be inseparable but not necessarily convincingly so in one or other dimension with the effect that it is their combination that shows us that something is not derived from experience.

Kant subsequently refers to two examples of knowledge not derived from experience citing mathematics and the causal principle. Kant also poses a rhetorical question: "For whence could experience derive its

certainty, if all the rules, according to which it proceeds, were always themselves empirical, and therefore contingent?" (B5) This rhetorical question shows that part of the point of establishing the conception of *a priori* knowledge is to provide a ground for rules that is certain and not merely contingent. A final point in support of the general idea that there are concepts that are *a priori* is given when Kant approaches the concept of body adopting a method of subtraction to discover if something is left over when all the empirical elements of it are removed. The response is that the concept of "substance" is integral to being able to think the notion of body at all and that this is something known *a priori*.

The second part of the introduction brings in an argument for the need of a form of science that will determine the possibility, the principles and the extent of all *a priori* knowledge. This science is, in fact, that of a "critique of pure reason" as Kant subsequently makes clear in the seventh part of the introduction. However, preparatory to being able to begin presenting this enquiry there are two stages that have to be gone through first and it is on these that we will now concentrate.

The first stage concerns the establishing of the distinction between analytic and synthetic judgments. In distinguishing these from each other Kant mentions three apparently distinctly different criteria (at least according to Jonathan Bennett). The first criteria is stated at A6/B10 in terms of the relation of subject and predicate with the argument being that in

an analytic judgment the predicate is covertly contained in the subject whilst in a synthetic judgment the predicate lies outside the subject. In the case of a synthetic judgment then something is being *added* and the fact that it is means that the judgment in question is not simply a spelling out of something that was already given to us in the mere concept of the thing prior to the judgment. On this basis the analytic judgment is termed "explicative" by Kant, in contrast to the synthetic judgment which is "ampliative". This view of the difference amounts to an acceptance that there is a method of clarification of analytic judgments which enables these judgments to be better understood through analysis but that this is lacking in terms of synthetic judgments.

This criterion is, however, distinct from a second one which immediately follows the first and which emerges when we attempt to apply the distinction to a judgment. Kant takes the judgment: "All bodies are extended" and declares that this is an analytic judgment, giving the following reason for thinking so: "I have merely to analyse the concept, that is, to become conscious to myself of the manifold which I always think in that concept" (A7/B11). The suggestion of Bennett is that in referring to the process of becoming conscious here Kant is employing a distinct criteria from the first, namely, a psychological criteria (or, as Bennett puts it, appealing to an "introspective semantics"). The suggestion that this is a separate criteria, when it emerges as a way of testing an example given from

the first attempt at a criteria, seems dubious but what is brought out here that was not manifest at first is that the process of analysing the judgment to test whether or not it is analytic refers us to the manifold elements of that are involved in a concept in order to test thereby whether the predicate is an element of it. So, rather than adding a second criterion here, Kant merely specifies more carefully the means of understanding the first one.

Another apparent criterion is introduced when Kant subsequently discusses the point that all judgments of experience are synthetic. Analytic judgments do not require experience for their support since they merely refer us to the elements of concepts. However, in support of this point, Kant now mentions how in the case of the example concerning bodies and extension that all we have to do is take the concept of body and "in accordance with the principle of contradiction, the required predicate" (B12) and I become conscious of the necessity of the judgment. Another way of putting this point is that with an analytic judgment the opposite of the judgment being asserted would necessarily lead one to a contradiction whereas it is always possible to negate a synthetic judgment without producing a contradiction.

The criterion of contradiction is genuinely distinct from the criteria of "containment" and it specifies a definite way of clarifying a difference between an analytic judgment and a synthetic one. Having clarified the difference both between analytic and synthetic and between *a priori* and *a*

posteriori we can now ask about the relations between them. Analytic *a priori* judgments would be judgments that purely concern the properties of concepts alone and would require no reference to anything beyond them. They would be both necessarily and universally true and non-informative concerning the world. Synthetic *a posteriori* judgments would all be judgments of experience that were particular and contingent, informative but not lawful. There would be no such thing as analytic *a posteriori* judgments, this would be a null class. But the area of synthetic *a priori* judgments would be the one that would require philosophical investigation. In them there would appear to be a universal and necessary judgment, which was informative concerning the world and which, in so being, involved a combination of two elements that were apparently not logically internally connected.

With the question of the synthetic *a priori* we reach Kant's fundamental problem. As he puts it: "What is here the unknown = X which gives support to the understanding when it believes that it can discover outside the concept A a predicate B foreign to this concept, which it yet at the same time considers to be connected with it?" (A9/B13) Since we are aware that the unknown = X cannot be experience since we have already been given arguments for treating the *a priori* as being a source of knowledge separate from experience then we need something else in order

to tell how it can be that there are principles which are necessary *for* experience which do not arise *from* it.

After arguing that there are such things as synthetic *a priori* judgments in a general sense Kant proceeds to give examples of bodies of synthetic *a priori* truths. The first such are provided by mathematics. The key point that has to be proved to adopt this view is not that mathematics is a body of *a priori* truths as this is generally granted but rather that it is a body of synthetic truths. The point here is that mathematical inferences evidently proceed in accordance with contradiction and hence appear to be analytic. Kant's correction of this view resides in the statement: "though a synthetic proposition can indeed be discerned in accordance with the principle of contradiction, this can only be if another synthetic proposition is presupposed, and if it can then be apprehended as following from this other proposition; it can never be so discerned in and by itself" (B14).

The point hence has to be established that mathematical propositions owe their status to supplementary propositions, which give them the appearance of being governed by the principle of contradiction. Kant accepts that mathematical judgments are necessary and he here attends only to what he terms "pure" mathematics by which he means mathematics that is not related to given specific quantities and hence could in principle be replaced by algebraic constants. The example he gives is of the simple sum 7 + 5 = 12. It appears that the statement is guaranteed by the principle of

contradiction but, as Kant points out, the concept of the sum merely involves the combination of the numbers in question and not some necessary reference to the solution of this combination. “The concept of 12 is by no means already thought in merely thinking this union of 7 and 5; and I may analyse my concept of such a possible sum as long as I please, still I shall never find the 12 in it.” (B15)

The question is how the solution to the sum is arrived at? Kant’s suggestion that it is not arrived at merely by analysis of the numbers involved in the sum is that the thought of seven and the thought of five and even the thought of their combination is insufficient to produce the thought of the solution. An example as to why this is insufficient is given though it is one that is misleading. Referring to a contemporary textbook Kant discusses the procedures by which points are added together in producing the answer to a sum but his point is that we require a reference to what he terms “intuition” in order to get to the solution to the sum. Whilst we will not until next time assess this term clearly what we can say here is that by it Kant is referring to a process whereby something over and above concepts is required. In the case from the textbook we have references to procedures that are brought in that could never be required if pure conceptuality only was at issue.

In further support of the argument that mathematical propositions are synthetic is an argument from geometry concerning the principle that the

shortest distance between any two points is a straight line with Kant pointing out that the concept of straight "contains nothing of quantity, only of quality" (B16) so that, if it were a question of concepts alone we would not arrive at this proposition. Something further is brought in which shows we have here a synthetic judgment, albeit one that is *a priori*.

A second body of synthetic *a priori* truths is mentioned in the area of pure natural science, which is the area of natural science that is effectively foundational for it. Kant gives two examples of such truths in this area: that in all changes in the world the quantity of matter remains constant and that in all communication of motion action and reaction are always equal. Both propositions are necessary and hence *a priori* but also synthetic as in neither case does one element of the proposition include the other.

Finally, and most importantly, the area of metaphysics contains synthetic *a priori* truths is it is to exist at all. A key point here is the causal principle that underlies all the laws of natural science.