THE GREAT IDEAS ONLINE

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THE CONDITIONS OF PHILOSOPHY

Chapter 6 - A Method of its Own

Mortimer Adler

Part 2 of 2

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There is no need to identify the discipline or group of disciplines being referred to when we speak of mathematics; though, perhaps, it should be said that we are concerned exclusively with pure, not applied, mathematics—that is, mathematics divorced from all its physical or technical applications.

There is also no need to explain or argue the obvious distinction of mathematics from both science and history. In the framework of the dichotomy which divides all disciplines into the investigative and the non-investigative, mathematics is clearly on the latter side. It makes no use of special experience; if it has any dependence at all on experience, common experience suffices for all its purposes. This is just another way of saying that mathematics is "armchair thinking," which everyone recognizes to be the case.

In the framework of the Humean dichotomy, which divides all knowledge into the spheres of statements that are and statements that are not testable by experience, mathe- matics is also clearly on the latter side. No one with any understanding of mathematics would ever try to refute a mathematical proposition by appealing to experience, common or special. This is simply another way of saying that mathematical statements are "formal" or "analytic," which almost everyone recognizes to be the case. The one outstanding exception is, of course, Kant; but even here the exception is more apparent than real, in view of the fact that Kant, though he treated mathematical statements as synthetic rather than analytic, also regarded them as *a priori* rather than as *a posteriori*, which means that for him they were *not* testable by appeal to experience. While these aspects would appear to be sufficiently clear, it may still be useful to stress the following three points.

(I) To say that mathematics is non-investigative does not entirely preclude dependence on experience. The mathematician has to get from somewhere his elementary notions or concepts—those which he subsequently uses to construct more elaborate and refined concepts. If these initial concepts are not innate or *a priori*, they must be experiential in origin. But the experience from which they originate is common experience, and the mathematician needs relatively little even of that. The existence of mathematical prodigies would suggest that mathematicians do not need more than the common experience enjoyed by the young.

(2) Though mathematics may depend on common experience for the origin of some of its primitive notions (certainly not for all its concepts), it does not resort to common experience in order to put any of its theories or conclusions to the test. Professor Popper's line of demarcation—between disciplines whose statements can and disciplines whose statements *cannot* be falsified by appeal to experience—perfectly separates science and history, on the one hand, from mathematics, on the other.

(3) To say that experience, even common experience, plays a relatively insignificant role in mathematics does not preclude the importance of imagination, whereby the mathematician contemplates or manipulates one or another kind of symbolic representation of the abstract objects with which he is concerned. If the contemplation of mathematical symbols were to be regarded as observation on the mathematician's part, it would still be observation by the mind's eye, not the body's eye. Stated another way, the mathematician does not observe anything that he does not himself

imaginatively construct for that purpose; and common experience is enough for all his imaginative constructions.[7]

[7] With regard to the three points mentioned above, and also with regard to the non-investigative character of mathematics, see John von Neumann, "The Mathematician," in Works of the Mind, ed. by Robert B. Heywood, Chicago, 1947, especially pp. 190-196.

I referred a moment ago to the abstract objects with which the mathematician is concerned. That the objects of mathematics are of this type—or, to use Hume's phraseology, that its objects are *not* matters of fact or real existence—will be understood by anyone who asks himself what kind of objects mathematicians can possibly ask questions about if their procedure is non-investigative and if the answers they give cannot be tested by appeal to experience.

We need not here be concerned with the problem—the important philosophical problem—of the mode of existence possessed by the objects of mathematical inquiry. For our present purposes, it does not matter whether the conceptualist or realist position offers the correct view of the way in which numbers and geometrical figures exist. The only point that needs to be made here is the negative one that the objects of mathematics are not mutable, sensible, physical existents.

The negative statement just made does not preclude mathematics from being applicable to the world of mutable, sensible, physical existents. Physical measurements or other forms of special experience give us observed quantities, relations, orders, or sets, capable of fitting into mathematical formulae by serving as constants substitutable for the variables in terms of which mathematical formulae are constructed. Whether all of pure mathematics is thus applicable is not the question here. It may or may not be. The essential point is that the pure mathematician would not desist from his inquiries because he could not foresee the applications that might be made of the formulations he was trying to establish.

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We finally come to the problem of putting philosophy into the picture. Where does it stand among the major types of inquiry? The answer depends, as I pointed out earlier, on our employment of two divisions instead of relying on the Humean dichotomy alone.

Let us take first the division of modes of inquiry into the investigative and the non-investigative, the principle of this division being rooted in the distinction between special and common experience.

As we have seen, history and science stand on the investigative side of the line and mathematics on the non-investigative side. *Philosophy stands with mathematics*. Like mathematics, it has no need for the data of special experience to originate its basic notions or concepts. Like mathematics, it does not appeal to special experience to test its theories or to falsify positions taken or conclusions reached. To this extent, philosophy, like mathematics, is armchair thinking, for which the common experience of mankind suffices (though, as I shall point out subsequently, the philosopher needs the common experience of a mature human being, as the mathematician does not).[8]

[8] What I have said so far about philosophy applies to it without regard to the distinction between first-order and second-order questions.

Let us turn now to the Humean division of types of disciplines into the synthetic and the analytic, or the empirical and the formal—that is, into disciplines whose conclusions *can* and disciplines whose conclusions *cannot* be tested by appeal to experience. Here again history and science stand together on the synthetic or empirical side of the line, and mathematics lies on the other side; but now *philosophy stands with history and science*. We come then at last to an insight that is most critical for an understanding of how philosophy can be a distinct branch of knowledge with a method of its own. It consists in seeing that, while philosophy stands with mathematics on the non-investigative side of the first dichotomy, it stands with history and science on the empirical side of the second, or Humean, dichotomy.

The disposition of philosophy just made applies to it only on the plane of its first-order questions. So far as philosophy moves on the plane of second-order questions (semantical, syntactical, or logical), it belongs with mathematics on the formal or analytic side of the picture.[9]

[9] This should not be construed to mean that mathematics itself is a second-order discipline, at least not in the sense in which we have defined the objects of second-order inquiries as the knowledge, conceptual stuff, and language to be found in first-order inquiries.

On the plane of its first-order questions (questions about that which is or happens in the world), the objects of philosophical inquiry are like the objects of science in two respects: they are, to use Hume's language once more, "matters of fact or real existence," not abstract entities, such as are the objects of mathematics; and they are, with one exception to be noted later, general objects, not particulars, such as are the objects of history.

On the plane of its first-order questions, the objects of philosophical inquiry are matters of fact or real existence. Asking questions about this type of object, philosophy, like science, strives for answers that can be tested by appeal to experience; but if, nevertheless, philosophy, like mathematics, is a non-investigative mode of inquiry, then to what sort of experience can philosophy appeal in order to test its theories or conclusions? It appeals to *the common experience of mankind.* The answer defines the method of philosophy, distinguishing it in type from history and science, on the one hand, and from mathematics, on the other: *from mathematics*, by virtue of testing its theories or conclusions by appeal to experience; *from history and science*, by virtue of the fact that the experience to which it appeals is the common experience of mankind, not the special experience obtained by investigation.

The reader will recall my reference to Professor Popper's line of demarcation between science and philosophy, with which I took issue.[10] Popper's line divides disciplines that can falsify their theories or conclusions by appeal to experience from disciplines that cannot. But Popper does not distinguish between common and special experience; when he speaks of testing and falsifying conjectures by experience, he has in mind only the special experience obtained by investigation. Hence, he places science on one side of his line of demarcation and philosophy on the other. The picture is altered remarkably by introducing the distinction between common and special experience; for then, if we draw a line between disciplines that can and disciplines that cannot test their theories or conclusions by experience, philosophy stands with science on one side of the line, as against mathematics on the other; but if we draw a line between disciplines that employ and disciplines that do not employ the special experience obtained by investigation in order to test their theories, then philosophy stands with mathematics on one side of the line, as against science on the other. By combining these, we get a threefold division, separating science, whose conclusions can be tested by special experience; philosophy, whose conclusions can be tested by common experience; and mathematics, whose conclusions cannot be tested by experience, special or common.

[10] See Chapter 2, pp. 33-36.

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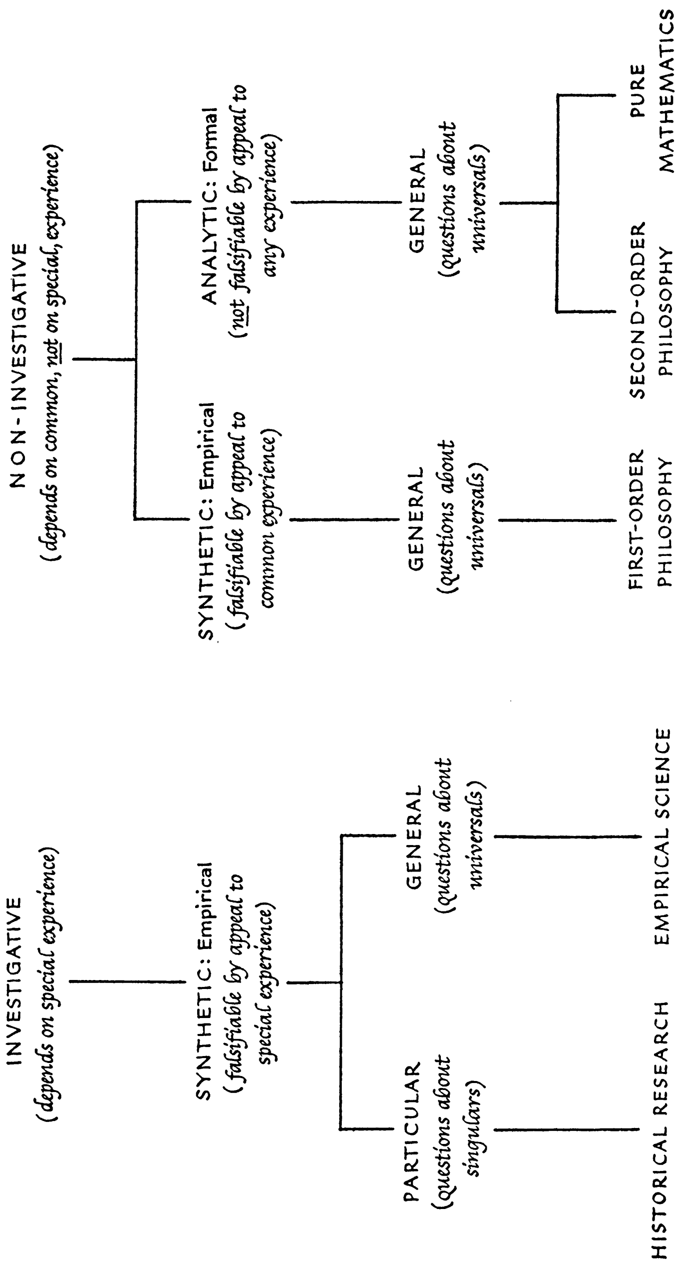
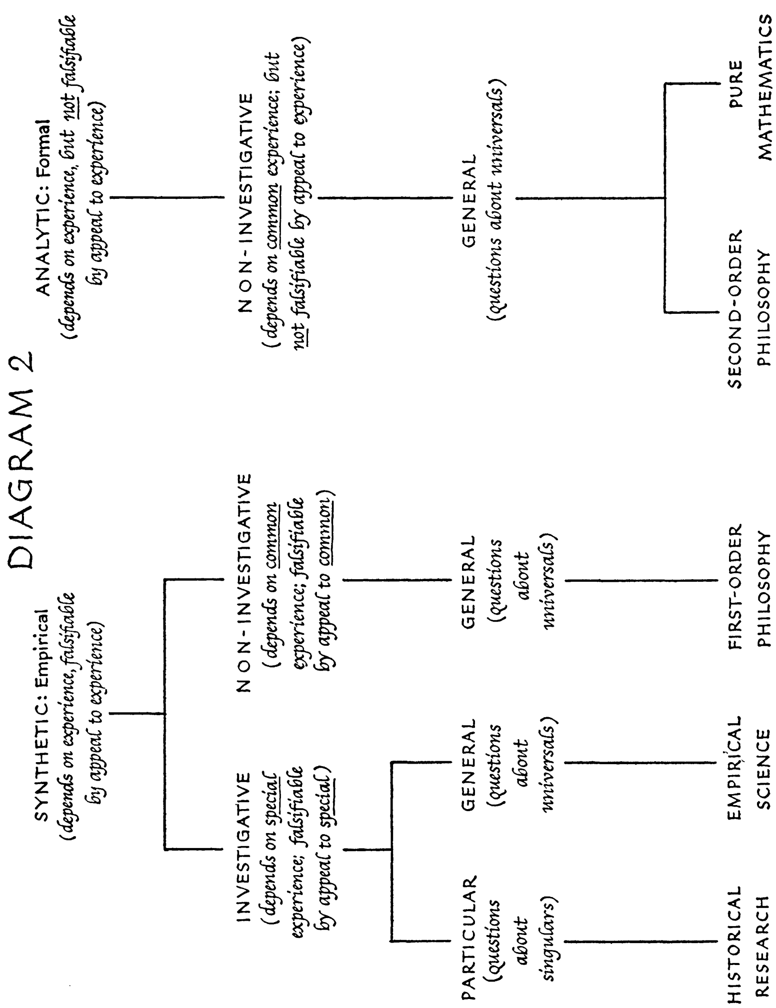
Two diagrams present this picture graphically. Each diagram involves three principles of division. They are (i) investigative versus non-investigative—that is, dependence on special versus dependence on common experience; (ii) empirical and synthetic versus formal and analytic—that is, testable by appeal to experience versus non-testable; and

DIAGRAM 1





(iii) particular versus general objects of inquiry—that is, objects singularly determined in space and time versus objects not thus determined.

Diagram I, using investigative versus non-investigative as the primary principle of division, associates philosophy with mathematics.

Diagram 2, using synthetic versus analytic as the primary principle of division, associates philosophy with science and history. In both diagrams, history stands alone by virtue of being the only discipline that seeks to know the singular, as opposed to the universal. If both diagrams are examined together, the dual character of philosophy will be seen clearly: associated with mathematics on the plane of second-order questions, it is allied with science on the plane of first-order questions.

Since the problem with which we have been mainly concerned centers on philosophy's ability to answer first order questions, let us concentrate on the contrast between science and what I shall henceforth call first-order philosophy. Both have general, not particular, objects of inquiry. Both propound theories or conclusions that belong in the sphere of synthetic statements—statements that can be tested by experience. The crucial difference between them lies in the fact that science is investigative in method and philosophy is non-investigative. Whereas science must resort to the data of special experience in order to form its notions, generate its questions, and test its answers, philosophy needs only the common experience of mankind in order to shape its concepts, raise its questions, and test its answers.

In being non-investigative, like mathematics, philosophy is armchair thinking. In being able to test its formulations by experience, like science, philosophy is an empirical mode of inquiry. It is common experience that enables the philosopher to be empirical without having to get out of his armchair in order to solve his problems.[11]

[11] Those who accept Hume's disjunction are bound to say, as J. O. Urmson does, that philosophy has "to be logical rather than empirical—one cannot carry on empirical studies in an arm-chair" (Philosophical Analysis, Oxford, 1956, p. 127). He is right if "empirical" always and only means investigation and the appeal to special experience.

(6)

I have shown that philosophy can claim to have a method of its own. If it were the case that no first-order discipline could form concepts, raise questions, or test answers except by means of special experience (that is, except by employing the data of investigation), then it would necessarily follow that a non-investigative first-order discipline, having the respectabilty of science and history, is impossible.[12] However, that is not the case; for common experience is available, and common experience can function in its own way, exactly as special experience does in its, to provide a basis for conceptual development, the materials relevant to which questions can be formulated, and the evidence by which answers can be tested. This being so, philosophy can have a distinctive method which enables it to ask first order questions typically its own and which enables it to test the answers it propounds.

[12] To test this hypothesis, let us suppose that there is no such thing as common experience, distinct from the special experience that is obtained by deliberate and methodical investigation. Or let us suppose that, if there is, it cannot function as special experience does in the work of science. We know that philosophers do not undertake empirical investigations. We know that they do not observationally discover new facts. We know that they do not accumulate data. Hence, on either of the suppositions stated above, we would have to conclude that there is no place for philosophy among first-order disciplines. It would have to be bracketed with mathematics as a discipline that cannot give us knowledge of that which is and happens in the world.

Acceptance of this conclusion depends on two things principally: (i) on acceptance of the distinction between special and common experience, on there being such a thing as common experience, and on its being distinct from all the forms of special experience which result from the divers efforts at investigation in which men engage; and (ii) on acceptance of the proposition that common experience can function for first-order philosophy as special experience functions for science—on seeing that common experience can serve the philosopher in ways that are strictly comparable to the ways in which special experience serves the scientist.

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