

526ARDTE060

Rejects, reverse side of some pages in 52600D0E060, handwritten notes related to 'Dimensions of Meaning.' These pages all have 'MiT' at the top, along with various page numbers. They are transcribed here in the order of the page numbers, which are given in parentheses at the beginning of the transcription of each page.

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While the *Posterior Analytics*, I believe, is to be regarded as the first and most brilliant of all treatises on method, it suffered from three limitations. In the first place, it presupposed not the general theory of inference but the particular theory of syllogistic inference and, while this may have been necessitated by the temper of the times, it resulted in embedding demonstrative science too firmly in ordinary language and grammatical relationships. In the second place, when Aristotle assigned induction and discovery as the source of knowledge of first principles, he did not ask whether principles are known in any other manner; but clearly enough there are principles presupposed by the very process of induction and discovery

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Thirdly, a grasp of necessary connexion is not the only result of the process. For one may grasp a connexion that is not necessary but only possible. It may never seem to be necessary. It may for a while seem to be necessary and later turn out to be merely possible, as has been the case with the parallel postulate, with Newtonian mechanics, and with the iron laws of nineteenth-century economics. Finally, the connexion that is grasped may hold, not between things, but between names and things; and then, what is understood, is not the scientific object but only the meaning of the words employed in talking about the scientific object.

Fourthly, besides the principles derived from sense perception, there are other principles that are, so to speak, native to the mind. It is not at the end of a process of induction and discovery that one first employs the principles of identity, non-contradiction, excluded middle, and sufficient reason. For such principles are already supposed by the process. Moreover, they are transcendental; they apply equally to everything, while principles reached by induction and discovery are limited to a determine genus or even species of objects. Finally, transcendental

principles are extremely difficult to formulate accurately and, while they can be and are applied endlessly, still from them as such there is little to be deduced.

Is, then, demonstrative science the only and only type of science? Our fourth remark suggests the possibility of a transcendental method for the investigation of transcendental terms and principles; to this topic we shall return when we consider different philosophic techniques. Our third remark indicates that there is a grasp of possibility that yields, not the necessary principles of demonstrative science, but the

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But, according to Sir David Ross, it was only by courtesy that he extended the name 'science' to any discipline other than mathematics. Certainly, he insisted on the contingency of terrestrial process and, as his works testify, he was far more concerned to adapt [methods to sub –] method to subject matter than to impose on any and all subjects his demonstrative mold.

~~Are we saying, then, that demonstrative science in the sense determined by the *Posterior Analytics* does not exist?~~

~~Finally, does demonstrative science exist at all? I do not believe that there is any point to debating the matter. If it exists, it will be evident that it exists~~

Finally, does demonstrative science exist at all? I do not believe that there is any point in debating the matter. Demonstrative science can take care of itself. If it exists, it will be evident that it exists, and it will be impossible to evade the fact. There is, however, a connected matter of considerable importance. As long as demonstrative science was the one and only carefully formulated ideal of science, it was natural enough to conceive it as science properly so called and to conceive, alongside it, a series of weaker forms which, by analogy, were named sciences. The ordinary result of this procedure was twofold. First, since demonstrative science at least is rare, it was equally rare for anyone really to know fully and exactly what the name meant; and it was still rarer for anyone to know in what precise ways and manners the weaker forms were analogous to science properly so called. Secondly, neither empirical method nor transcendental method are instances of demonstrative science; to attempt to conceive them on the analogy of demonstrative science is simply an attempt to misconceive them;

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Finally, there seems to point in discussing the question whether any demonstrative science exists. Demonstrative science can take care of itself and, where it exists, it exists evidently. What seems plain is the fact that demonstrative science is not the only kind of science. It was first in the field. It led to the viewpoint that demonstrative science was science properly so called, that if there is any science, properly so called, there must exist demonstrative science, and that any methodical discipline that does not satisfy the requirements of demonstrative science has to be conceived as a weaker form of it, as an approximation to it, as analogous to it. However inevitable such a view may have been in the past, it is no longer tolerable. Empirical science and transcendental philosophy have their own natures and their own methods; their methods can be accurately formulated and their natures can be known in and for themselves; they are what they are whether or not demonstrative science is conceived or exists. To attempt to conceive them on the analogy of demonstrative science not merely is enormously complex and endlessly confusing but also a blunder; one does not conceive or know by analogy what one can conceive and know in and for itself.

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each has its own proper nature, and each can be known properly ; it is true that our human minds can conceive God and the angels only by analogy; but there is just no reason on earth why empirical method and transcendental method should be conceived and known in this obscure and imperfect manner. Let us turn, then, to our second notion of science

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Secondly, the basic difference between demonstrative science and empirical science lies in the models they employ in making their additions to logical operations.

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automatically ruled out of consideration. There remain only hypotheses that can be verified and, with regard to them, the procedure is manifest. One works out all their implications; one lists appropriate observations and devises appropriate experiments; one makes the observations and performs the experiments to confront the hypothesis with the facts.

The autonomy, then, of empirical science arises from the nature of the case. It is not the consequent but the antecedent of any ethical claim or juridical concession. It is an intrinsic property of empirical method. As the practice of empirical method involves the rejection of the view that all sciences are demonstrative, so also it involves the rejection of an organization of the sciences that is appropriate if and only if all sciences are demonstrative. And by that very fact it raises the question of a new organization.

For if empirical method reveals how to settle questions that can be settled by an appeal to sensible data, it does not reveal that there are no other questions, or that the other questions cannot be answered methodically, or that the two sets of questions and answers are unrelated. There remains, then, the question of a new organization of sciences, and that question cannot be resolved by empirical method. For empirical method is relevant only when questions can be settled by an appeal to sensible data, and the question of the organization of the sciences is not among them.

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### Two Apprehensions of Man

A man may be apprehended as an instance of human nature or, again, he may be apprehended through an account of his life. From the first viewpoint, he does not differ from other men. From the second, the differences can be enormous and almost inexhaustible. Aristotle and a moron, Aquinas and a drunk, Einstein and a lunatic are all instances of human nature, and human nature is always the

same. Still, Aristotle was not a moron, Aquinas was not a drunk, Einstein was not a lunatic. To compare morons, drunks, and lunatics is to become involved in the recesses and complexities of individual and social psychology. To compare Aristotle, Aquinas, and Einstein, one has to begin from a comparison of Greek, mediaeval, and modern culture.

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and science, his philosophies and religions, his political, social, and economic arrangements; all these, *as types*, are defined, compared, evaluated, illustrated