

Philosophy and the Sciences



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THE PROBLEM of the relations of philosophy with the sciences has come up in various forms ever since Plato. But it has been the center of philosophical attention only since the 17th century. It was the desire of both Bacon and Descartes to reform the methods of philosophy with rules and precepts which, according to them, had contributed to the progress of the natural and mathematical sciences.¹ The currents of scientific inspiration, as much empiricist as rationalist, subsequently spread all over Europe and found their logical outcome in Comtian positivism. But Kant reacted by restricting the study of the phenomenal world to the sciences, and left to philosophy the study of the transcendental conditions of experience as well as the examination of the ideas of pure reason. This placed the relations of philosophy and the sciences in a new perspective.

These two perspectives of Comte and Kant are found in contemporary

philosophy. They are essentially: the unitary outlook represented by logical empiricism and the movement toward a unified science, and the pluralist outlook which limits philosophy to the study of man, his liberty, existence and values.

The first outlook cannot but curtail the role of philosophy by making it a very particular science of nature while still not intruding upon the domain of the mathematical and natural sciences. It is limited to linguistic analysis, to the logical study of structures and establishing criteria of meaning which permit the rejection of metaphysical statements as devoid of cognitive meaning.² But as J. Ruytinx clearly points out, this can be done only with the aid of dogmatic formulas that themselves make up the metaphysics proper to logical empiricism.³ These formulas consist of linguistic directives which are neither empirical nor analytical but are far from arbitrary for they express a cer-

tain concept of knowledge that finds its inspiration in a scientific model.

The non-positivistic conceptions of philosophy, whatever their inspiration, are essentially pluralist in regard to its relations with the sciences. As M. Gueroult, the outstanding theorist of philosophic thought notes, they work from the undeniable fact that in philosophy "unlike the positive sciences, there is no truth considered definitely acquired at any particular moment, revoking for all philosophers everything contrary to contemporary philosophy. There is no truth considered as subsisting outside time. There is not even a process of acquiring truth which develops through time an ever-growing science whose regular progress can be seen through all revolutionary crises. Actually, the history of philosophy gives a picture of a succession of reciprocating excommunications, each one lacking the power to make its tenets triumph as eternal truth, universally valid and definitively acquired."⁴ The conclusion that follows from this statement for M. Gueroult is that the great philosophies are like imperishable monuments. Each author works with architectonic principles proper to himself in freely setting up a philosophical reality different from the common reality which the sciences study.⁵

This is analogous to the conclusion reached by the American logician, Henry W. Johnstone, Jr., who has made a specialty of the study of philosophical disputation.⁶ For him philosophy constitutes a discipline radically different from the sciences. The latter all treat questions of fact; they state true or false propositions.⁷ In philosophical disputation on the contrary, where all the facts have been brought out and theoretically are considered known by both sides, no one fact can decide between the disputants by its force alone. Their position

however should not be compared to that of mathematicians who construct two formal systems that include differing axioms. There is no reason why the same geometry cannot successively develop a Euclidean and non-Euclidean system. The philosopher, on the other hand, takes his positions before problems arising from the simultaneous affirmation of seemingly incompatible propositions. And he wants to resolve the incompatibility in a way of his own, which will not be that of his interlocutor. His solution will lead him to develop a system based on an ontological commitment. And it cannot be attacked by intuitions reflecting different ontological commitments without begging the question.⁸

In the view of H. Johnstone as well as that of M. Gueroult, all philosophy would express a position-taking, an ontological commitment, that is, a philosophically-elaborated conception of a reality from which each system would draw its axiological consequences. In effect, by this ontological position-taking the philosopher could give value to what he considers real compared with mere appearances. But the result is that this judgment on reality made by the philosopher, far from being axiologically neutral, is itself a value-judgment.

Those who oppose the pluralist concept of philosophy say that the various metaphysics that have succeeded one another in history have been opposed while none was able to win out completely because they depend on non-scientific techniques of proof. And methods which establish unanimity among men of science would quite well bring about analogous results in philosophy.

But what is the truth of the matter? While it is beyond doubt that in the sciences there is presently a good deal of agreement both in methods and results, of a kind it is useless to look for

in philosophy, we cannot ignore the fact that in all the scientific disciplines there are controversial questions that highlight irreducible divergencies. Nor can we forget that some preoccupations do not come out into the open because they cannot be dealt with by methods and conceptualizations currently in vogue.

Every new theory meets opposition to the extent that it departs from the trodden path and gains acceptance only after many years, if then. It is known how much opposition Lavoisier's ideas met from the adherents of the phlogistic theory. And much more recently in theoretical physics, an area that seems the most rigorous and objective, the thesis of Louis de Broglie concerning his revolutionary theory of light, was unacceptable to his eminent examiners at first and was approved only after long deliberation followed by the favorable decision of Einstein.⁹ Further, we know that when we leave the realm of physics and enter that of biology and the human sciences these divergences grow and multiply. In history, especially in attempted syntheses, we meet theoretical divergencies as important as in philosophy.

Why must we consider an idealized physics as the universally-valid model, as the source of inspiration for all scientific disciplines, and whose methods provide the model to be imitated by them? And what happens when the physics-inspired method is unable to resolve or even to formulate a problem arising in another discipline? Do we have to give up looking for another technique to solve it? Must we put off our research until methods proved in physics can be applied? And while waiting, if a decision must be made and an hypothesis for action constructed, must this be done haphazardly?

Descartes, whose requirements in scientific matters we well know, had

already said that "the demands of life often allow no delay. There is no question that when we cannot come up with true judgments, we must follow the most probable."¹⁰ It is quite true that we have recently been able to formulate some of the variables of decision-making which allow us to use quantitatively-prepared material in predicting by taking into account the risks one is prepared to take and the chances of success in any circumstances. This is very useful when there is question of problems relating to producing or distributing merchandise, and which further presupposes some prior decision as to the overall plan of the undertaking, but recourse to these variable functions is possible only if the subject matter is quantitative or can be made so.

But when it is a matter of problems at the heart of the personal or political life of man, matters relating to freedom and violence, goodness and justice, art and religion, these aspirations and rules of action can seldom be put into a form that permits a quantitative treatment of the data. In that case, do we have to abandon to the irrational everything considered as "life-activities" on the plea that we cannot see how to apply the methods so successful in theoretical and applied physics?

The very existence of philosophy and its time-honored ideal, striving for wisdom, excludes this defeatist approach. For as Pascal said more than three hundred years ago: we are launched. Scepticism in regard to practical reason and the inertia following upon it normally indicate return to the traditional methods and solutions of the milieu in which one lives. Only change demands a justification. Failure to find or even look for one that is satisfactory creates an attitude favoring traditionalism or even conservatism in the field of action. To fail to choose is still to

choose, for inertia signifies continuation of the existing state of affairs.

In bringing up these reflections on formal logic and positive law, we have seen that the clarity of ideas and the univocal character of deductive procedures are bound up both with the limitations of the expressions making sense in that system and with the unavoidability of non-resolvable expressions. These latter are those whose truth or falsity cannot be demonstrated as soon as the level of elementary systems is passed. On the other hand, to insist that a language, even a natural language, must in principle be able to express everything is similar to insisting that a competent judge is only serving justice if he solves all disputes brought to him while staying within the framework of the law actually in force. In both instances there must be a loosening up in the line of one to one relations and formal structures. This will be evident in formulations of language rules and, in the case of the judge, in the choice of motives for judging and in the justifications of decisions.

One can understand the optimism of the rationalist. He relies on the model of divine reason whose ideas are clear and sees, with good reason, the solution of every well-placed problem. He believes that by following the right procedures for good reasoning he will progressively come to resolve all theoretical difficulties. But one whose rationalism follows the methods and procedures that have been successful in the natural sciences knows that such methods and procedures developed in one field of investigation, do not necessarily have universal validity. Nothing can guarantee a priori that what has been successful in one field will succeed in another. Doubtless we must try to extend as widely as possible methods that have proved effectual in a particular field. But only a conception of reality that

guarantees the homogeneity of the objects of our investigation can justify a methodological monism. But such a conception is really a philosophy implying an ontological commitment and inevitably transcends the methodology of every particular science.

That the procedures which have been successful in one field are taken over in other fields by extrapolation and assimilation, that we proceed from the known to the unknown, nothing is more normal. But as soon as we leave the area of established research, hypotheses which we formulate must be controlled and revised according to experience itself. But, and here lies the main difficulty, not all empirical data can be reduced to intersubjective uniformity. If we can obtain satisfactory results in our observations by taking into account the personal equation of each observer, in matters of moral data — the reactions of conscience to certain situations — it is not possible to point out uniform reactions especially on the part of individuals formed in different cultural milieux. We have not yet found the means for taking into account in each one's moral reactions the cultural equation which would permit us to compare these reactions and set them side by side.

Rationalists and positivists would like to separate philosophical constructs from their historical milieu and cultural tradition, considering these as prejudices to be jettisoned. But if we refuse to do this, refuse to deprive philosophy of one of its essential dimensions, pluralism, becomes not an avoidable limitation, but a reality without which we cannot understand the function and place of philosophy. Such a pluralism is respected by simply taking into consideration different cultural factors which after all cannot be suppressed by force in the role of an enlightened tyrant. And, the ideal

of a rational philosophy of their kind, bereft of the assurance established certainties supply in evident or necessary intuitions, consists in presenting to others as persuasive hypothesis a conception of reality available for the approbation of all.

This conception seen as neither the only one possible, as neither self-evident nor necessary, is a human endeavor, free but not arbitrary. In this perspective diverse philosophies cease to be isolated monuments without common measure or contact with each other for they all relate to the fundamental preoccupations of man. Tentative in its solutions for problems that arise in a certain cultural milieu where men have their certitudes and convictions, techniques, needs and aspirations every philosophy is constituted in a system that simultaneously includes a vision of reality, criteria, norms and values.

But if the philosopher admits the perfectability of his task, if he does not come forward as a prophet with neces-

sary and immutable decrees in the name of eternal reason, if he has some degree of humility, he will be open to dialogue, will give reasons, hear out critics and objections. Such a philosophy does not claim a faithful and objectively verifiable image of given reality but rather the working out of a philosophical reality with the help of a system. And it will endeavor to show with the aid of rational argument — argument persuasive to all reasonable and competent men — that its conclusions are a response to questions that men ask, questions which the particular sciences refuse to answer just because they fall within the province of philosophy. Philosophy, as the beneficiary, so to speak, of this residue in the world of the intellect, cannot fall back upon any one procedure from other disciplines without failing its vocation and its mission. To be equal to its task, like the judge forced to judge, it must be free to use all methods and procedures that can give an account of the position it takes before the tribunal made up of those who in its eyes embody reason.

REFERENCES

1. Cf. the recent and quite stimulating work of J. Ruytinx, *Le Problématique philosophique de la unité de la science*. Paris, Les Belles Lettres, 1962, 368 pp.
2. Cf. in this regard the second part of the work of Ruytinx which is devoted entirely to logical empiricism (pp. 189-336).
3. *Op. cit.*, pp. 217-27.
4. M. Geroult, *Inaugural address delivered at the Collège de France*, December 4, 1951, pp. 14-15.
5. *Op. cit.*, pp. 17 ff. Cf. also by the same author "Logique architectonique et structures constitutives des systèmes philosophique" in the *Encyclopédie française*, Vol. XIX.
6. Cf. Henry W. Johnstone, Jr., *Philosophy and Argument*. Pennsylvania State University Press, 1959, 141 pp.
7. *Op. cit.*, p. 22.
8. *Ibid.*, pp. 117-18.
9. On this subject one could profitably consult the remarkable and well-informed work of M. Polanyi, *Personal Knowledge, Towards a Post-Critical Philosophy*. London, Routledge and Kegan Paul, 1962, second edition, pp. 148-9.
10. *Discourse on Method*, Part III.
11. For a better understanding of this philosophical position one could consult with benefit the stimulating article by W. B. Gallie, "Essentially Contested Concepts," *Proceedings of the Aristotelian Society*, Vol. 56 (London 1955-56), reproduced in Max Black (ed.), *The Importance of Language*, Englewood Cliffs, Prentice-Hall, 1962, pp. 121-46.

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