

SCIENCE, PROCESS PHILOSOPHY AND THE IMAGE OF MAN
THE METAPHYSICAL FOUNDATIONS FOR A CRITICAL SOCIAL SCIENCE

Arran Emrys Gare B.A.

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VOLUME I.

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any University.

Arran Emrys Gare

ABSTRACT

The central aim of this thesis is to confront the world-view of positivistic materialism with its nihilistic implications and to develop an alternative world-view based on process philosophy in terms of which science and ethics can be reconciled. The thesis begins with an account of the rise of positivism and materialism to the dominant position in the culture of Western civilization and shows what effect this has had on the image of man and consequently on ethical views. After having shown the basic weaknesses of this world-view the positivist account of science is criticised and an alternative epistemology is developed in which the aim of disciplined inquiry is seen to be understanding. It is argued on the basis of this epistemology that science and metaphysics are indissociable and that the materialist conception of being is open to challenge from a different ontology. Having reviewed the various conceptions of being which have been developed in the past, a version of process philosophy is outlined and it is argued that this promises to be far more effective than materialism as a foundation for the natural sciences. In particular it is shown how in terms of process philosophy it is possible to conceive of living organisms as having emerged from inanimate being and this provides the basis for the development of a conception of humanity as an emergent form of life. The human order is then seen as a process of becoming within nature with its own unique dynamics, irreducible to any other processes, involving both intentional and unintentional processes. It is then shown how on the basis of this conception of humanity it is possible to develop an ethical theory and a critical social science and in this way to transcend the disjunction between science and ethics.

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In order to speak, then, of man's being we must first elaborate a non-Euclidean concept of being, as others have elaborated a non-Euclidean geometry. The time has come for the seed sown by Heraclitus to bring forth its mighty harvest.

Jose Ortega y Gasset
HISTORY AS A SYSTEM

PREFACE

The central aim of this thesis is to confront the world-view of positivistic materialism with its nihilistic implications and to develop an alternative world-view based on process philosophy in the tradition of Heraclitus, Bergson and Whitehead in terms of which the dignity of humanity can be justified and ethics and science reconciled. While the positivists hold that science is concerned with laws by which predictions can be made and argue for an absolute disjunction between facts and values, I will argue that science is concerned with developing analogies to facilitate understanding and that understanding is implicitly evaluative. While materialists hold that the world consists of nothing but configurations of matter governed by immutable laws, I will argue that the universe is a process of creative becoming, continually giving rise to new self-ordering patterns of activity, each of which makes its own unique contribution to the becoming of the universe as a whole. While the positivistic materialists see nature as having no significance other than as something to be subjugated for human ends and then project an image of man as a law-governed entity responding mechanically to stimuli for whom all ends are without rational foundation, I will argue for a conception of humans as participants in the process of becoming of nature who are able to understand their own and nature's intrinsic significance and on the basis of this understanding to make rational choices about ultimate ends.

In modern society the ultimate arbiter in matters of belief is science, and the authority of positivism and materialism derives from their

identification with science. While positivism and materialism are not identical they support each other to form a total world-view. They both imply that everything should be ultimately explained in terms of the universal laws of physics, and while materialism supports positivism by implying that all anyone can know is the product of the effects of the environment on the brain, positivism supports materialism by ruling out the validity of metaphysics and thus condemning any attempt to develop an alternative conception of being. It is extremely difficult to question this world-view or to develop an alternative since to begin any such enterprise one must make assumptions which have already been rejected as invalid. To overcome this problem I will justify my assumptions by the system of thought developed from them. In this way the coherence of this system of thought will be demonstrated.

I will begin the thesis with an account of the rise of materialism and positivism to dominant positions in the culture of Western civilization, concentrating in particular on the development of the scientific image of man and the nihilistic implications of this. In this account it will be assumed that humans are beings who struggle to orient themselves in the world, and that it is possible for there to be rational progress in this struggle, and that individuals attempting to advance in understanding must first acknowledge the authority of their cultural heritage, taking this as their point of departure. Since this conception of humans is incompatible with the image of man implied by positivistic materialism, the invalidity of this world-view will be presupposed from the beginning. I will then

try to show the incoherency and problems of the positivistic materialist world-view and indicate ways of tackling these problems.

In my second chapter I will show the inadequacy of the positivist account of scientific knowledge and through an examination of the developments which have taken place in science I will try to justify an epistemological doctrine in which the goal of disciplined inquiry is taken to be understanding rather than the discovery of laws or the accumulation of knowledge. As opposed to the rejection of metaphysics by positivism, this doctrine will be seen to imply that science and metaphysics are mutually dependent. Understanding implies that it is just as important to get an overview of the world as to investigate any particular aspect of it, and that particular studies always presuppose a general conception of the nature of being through which the object of investigation can be understood in relation to the totality. This suggests that materialism is only a particular ontology and not the whole of science, and that as such it is open to challenge through the development of an alternative metaphysics based on a different conception of being.

I will then go on to examine the nature of metaphysics. A successful metaphysical system must fulfil three conditions. It must be all encompassing, providing a total perspective on the world and all that is in it, it must be without implicit assumptions and be able to justify its own first principles, and it must provide a basic conception of being arrived at through the articulation of one or more analogies. It will be argued that the best way to deal with the problem of basic assumptions is to develop the system in a circle beginning with an historical analysis of the problems of one's cultural heritage and concluding with a justification of the assumptions made

in this analysis. This will justify the introduction and the way the thesis will have been developed. To satisfy the first requirement of a successful metaphysical system the circle of such a system must be such as to encompass all aspects of experience and of the world. In opposition to the materialist ontology I will elaborate a form of process philosophy based on an auditory analogy.

Following this I will examine developments in the physical and the biological sciences to show how in the last analysis materialism has proved to be inadequate as a foundation for these, and how process philosophy indicates directions in which the problems within these sciences can be overcome. In relation to the physical sciences I will be particularly concerned to show how process philosophy offers hope for resolving the problems of quantum theory and reconciling quantum theory and relativity theory, while in relation to the biological sciences I will show how in terms of process philosophy, it is possible to conceive of living entities as subjects which act purposefully. This will pave the way for the development of a more adequate conception of humans and their place in nature than it has been possible to develop in terms of positivistic materialism.

The subsequent chapters will be concerned to develop a conception of humans, showing the relationship between individuals and the dynamics of society and the relationship between humanity in

general and the dynamics of the physical and biological world. This will justify and develop the basic conception of humans assumed in the introduction, that is beings, who in association and communication with each other struggle to understand and orient themselves in the world. This conception will also resolve those problems engendered by the positivistic materialist conception of humans such as how the mind is related to the body, how it is possible to be conscious of the external world and of other minds, and how it is possible to be both a complex of chemical and physiological processes and a responsible agent capable of enacting decisions. Also it will be shown how it is possible for there to be a science in which there is a rational progress. This will indicate the harmony between the epistemology emphasising understanding and the ontology of process philosophy the development of which will have been justified by the epistemology.

The conclusion will then be seen to be a return to the starting point, but at a higher level, from which the problems described in the introduction will be seen from a perspective in terms of which they can be resolved. In particular a belief in the intrinsic significance of life and the dignity of man will have been justified and all those views which would in any way reduce the stature of man in the name of science and objectivity will have been dealt with. The conception of man based on process philosophy will be seen to justify a rationalist ethics and indicate an indissociable relationship between ethics and science. With the goal of science being understanding, and assuming the process view of the world,

of life and of humans, science will be seen to be implicitly evaluative showing what goals are worth pursuing and how to pursue them. Since the values implicit in such judgements will be seen to derive from the concept of man and his place in nature assumed by the sciences, and since this concept must be always open to development and revision, values will be brought into the arena of rational disputation. Finally, by developing and justifying the concepts in terms of which people define themselves, their relationships with others, their situation within the world and their ideals and goals, this science must be seen as not just an attempt to understand the world but at the same time as part of the creative activity by which we form ourselves, constitute the society within which we live, and contribute to the process of becoming of nature.