# Book Reviews

## Matter, Experience, and Metaphysics

Alfred North Whitehead (1861–1947) started his intellectual career in England as a mathematician and a teacher of mathematics. His encounter with Einstein's relativity theory stimulated him to produce a series of writings on the foundations of physics culminating, with his book *The Principle of Relativity* (1922), in the proposal of an alternative to Einstein's relativistic law of gravitation (an alternative, incidentally, which remains, to date, empirically indistinguishable from Einstein's law). In 1924, after his retirement from teaching in England, Whitehead came to the United States to teach philosophy at Harvard University.

During the remainder of his life he was engaged in developing a highly detailed and comprehensive metaphysical system, which he called "the philosophy of organism." The works of Whitehead's last period are extremely difficult to understand: a profusion of newly coined terms must be mastered, traditional philosophical terms are frequently introduced with radically new meanings, clear-cut arguments are rare, and the style seems to alternate disquietingly between the abstract rigor of a mathematical treatise and the metaphysical splendors of poetry. But although often obscure Whitehead is never an obscurantist; and even his obscurity must be judged in the light of his audacious goal: "a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted." Perhaps the majority of thinkers today will reject this goal in favor of the piecemeal and slowly cumulative methods supposedly characteristic of the sciences, but if there is any value at all in systematic metaphysics—in the tradition of Aristotle and Descartes and Leibniz—then Whitehead's philosophy of organism will take its place as one of the great examples of this species of intellectual effort.

According to Whitehead himself, there are two criteria which must be used in evaluating any metaphysical system. First, one must ask about the inner coherence of its categoreal scheme. Second, one must ask about the adequacy of the categoreal scheme, that is, about its ability to account successfully for the varied data presented by science, art, history, politics, and religion. By an application of the first criterion, for example, Whitehead rejects as incoherent all philosophies that introduce two or more irreducible kinds of "reality" (such as mind and matter, the living and the nonliving, God and creature). By an application of the second criterion, on the other hand, Whitehead rejects as obviously inadequate to the pervasively conative and valuational character of human experience any monistic philosophy whose ultimate category is a species of "vacuous actuality," that is, actuality *totally* devoid of appetites and feelings of *some* kind. In the philosophy of organism the ultimate category is "experience," or better, "an experience" (Whitehead's terms are "event" or "actual occasion"). An experience is constituted by a purposeful selection of past data (each of which was once an experience in its own right) now unified into a more or less novel whole (in its turn to serve as a datum for future experiences).

J. M. Burgers' **Experience and Conceptual Activity: A Philosophical Essay Based upon the Writings of A. N. Whitehead** (M.I.T. Press, Cambridge, Mass., 1966. 287 pp. $7.50) is an attempt to confront the categoreal scheme of the philosophy of organism with some of the fundamental results of modern physics and biology. Burgers begins with three brief chapters summarizing some of the key doctrines of the philosophy of organism. His account is clear and accurate, though it may be hard going for anyone unfamiliar with Whitehead's writings (especially *Process and Reality*). The remainder of the book deals with matter (characterized as "everything that is reproduced during long periods") and life (characterized by its "coordination of extensive spontaneity"), and, most important, with the relation between them. Stressing the fundamentally statistical character of the laws governing the behavior of matter (quantum theory, statistical thermodynamics), Burgers goes on to suggest that the spontaneity characteristic of living organisms arises as a natural amplification of that fundamental conative and valuational process ("conceptual activity") assumed to be present in a rudimentary form in all matter. Specifically, Burgers asks us to entertain the possibility "that the basic form of conceptual activity must be found in influencing choices between situations which are considered as equally probable on the basis of quantum laws" (p. 172). Thus Burgers follows Whitehead in speculating that the behavior of matter at the quantum level may be slightly influenced, inside living organisms, by a nonphysical, or conceptual, activity. One source of evidence for the existence of such activity would be the discovery "that the amount of errors normally occurring in anorganic crystals is too large for the protein molecules which must serve in a living structure" (p. 173).

As this last example illustrates, the great merit of Burgers' book is that he often manages to juxtapose in highly suggestive ways recent scientific advances and highly abstract considerations deriving from the philosophy of organism. (Whitehead succeeds in doing this only intermittently: besides writing several decades prior to the biological revolution, he seems to have been largely ignorant of the contemporary quantum revolution in physics.) What is needed now is a detailed implementation of the program which Burgers has sketched out. Perhaps we may yet succeed in "the construction of a unified picture in which our knowledge concerning the physical behavior of matter is tied together with the evaluations and emotions that form the other side of our mind" (p. 204).

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