

Whitehead as a Neglected Figure of Twentieth-Century Philosophy

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The world of academic philosophy knows Whitehead as a brilliant but eccentric figure, outside the intellectual mainstream, whose ideas are not often taken seriously. Any worthwhile assessment of Whitehead's intellectual contributions must have something to say about this state of affairs. But first we should note that the characterization is not altogether true anymore.

The unexpected developments in physical theory that launched the twentieth century, because they challenged so much of our "default" metaphysics, invited philosophical exploration from the start, even if the results were often greeted with skepticism. Like the philosophical ideas of de Broglie, Bohr, or Heisenberg (and like the more daring ideas of Pauli and Wigner), Whitehead's ideas emerged in this early period of skeptically received speculative ferment. Unlike most of his contemporaries, however, what Whitehead championed was a full reconciliation of physics with common sense (Weekes 2003, 347–365).¹ Despite his profound knowledge of mathematical physics, this deference to naïveté cast him at once as an outsider in an intellectual world defined by the preeminence of modern physics. But the scene has changed. Prominent figures in the hard sciences are now actively promoting the rapprochement with humanistic outlooks that an earlier generation mocked as unscientific.² This is due in part to a growing sense of urgency, but in part as well to growing confidence that theoretical models in physics are close to the level of sophistication required to breach the fortress of the mind and reconcile with naive common sense (Weekes 2003, 366–370). Attempts to harvest the remarkable developments of twentieth-century physics for insight into traditional philosophical problems such as free will or the mind-body problem remain highly controversial, but have clearly taken a quantum leap in respectability since the early 1980s.³ By the same token,

intellectual curiosity about the scientific details of Whitehead's own attempt at such a rapprochement is growing into a recognized area of worthwhile scholarship.⁴ Indeed, compared to Whitehead scholarship of just twenty years ago, the present volume and the WPN series to which it belongs are in a more fortunate position. It is not necessary to work toward creating an audience with interests broader than specialized Whitehead exegesis. Such an audience already exists and continues to grow.⁵

Nevertheless, the historical reasons for Whitehead's marginalization are important because they quickly lead us to his most distinctive ideas. The perception of Whitehead as an anomaly in the twentieth century rests mainly on his attitude toward metaphysics, but also—because differing attitudes toward metaphysics reflect and are reflected in differing attitudes toward the history of philosophy—on his attitude toward the history of philosophy. Early in the twentieth century the vanguard in both continental and Anglo-American philosophy had proclaimed metaphysics to be bankrupt. Much of the animus against metaphysics came from the sense that it was an unchecked form of speculation that could not in principle be subjected to any rigorous constraints or empirical control. It was claimed that the history of philosophy demonstrated the sterility of metaphysical speculation, and Whitehead began work on constructing a grand metaphysical system at a time when it seemed to many that metaphysics had been discredited for good. Recognition of the bankruptcy of metaphysics was often looked upon as the chief mark of the twentieth-century philosopher's intellectual superiority to a tradition in thrall to *a priori* speculation and other kinds of "armchair" system building.

There can be no question that Whitehead thought of metaphysics as a legitimate discipline productive of important knowledge, and while it draws in part on evidence that can never be "clear and distinct," it nevertheless is able to meet well-defined standards of cogency and methodological control. Thus, while he adopted a highly critical position toward the philosophical tradition, he did not think its metaphysical claims were meaningless, as Positivism claimed, but *false* and therefore capable of correction. This explains why he eschewed wholesale dismissal and sought always to learn from the tradition by way of close, systematic interpretation. In particular, Whitehead acknowledged the validity of the problems traditionally at the focus of philosophy—such as the mind-body problem, free will and determinism, the reality of the "external world," the objectivity of knowledge claims, the source of values, the justification for induction—and he presented his own organic philosophy as the outgrowth of a long tradition of engagement with these perennial issues.

The tendency to see philosophy—and especially metaphysics—in a large-scale historical context is characteristic of Whitehead's thought and

tells us something about his view of philosophy. Besides the more rigorous constraints on philosophical theory to be discussed below, Whitehead thought of the history of philosophy as a kind of experiment in speculative thought subject to the unique control of collective anthropological experience—the experience of societies, civilizations, and cultural traditions. His book *Adventures of Ideas* argues that the jostle of these different forces over the course of time, which empowers some ideas at the expense of others, has definite apophantic value. (Whitehead was an optimist.) This expansive view of verification allowed Whitehead to think of metaphysics as empirical in a way that may not be entirely strange to historians—especially if they harbor Hegelian or even Jungian sympathies—but was impossible to reconcile with the positivism current in Whitehead's time.

However, Whitehead also thought there were other, more rigorous constraints on philosophical theory and a *raison d'être* for metaphysics more compelling than anthropology. We can make sense of this if we look at the idea of disciplinary polyvalence introduced above (chapter 1) in connection with consciousness as an object of study. The problem of interdisciplinary coordination is not unique to the investigation of consciousness and under specialized constraints gives rise to a second-order discipline charged with the very task Whitehead assigns to metaphysics.

All knowledge begins with an approach to experience that involves abstraction, simplification, and elimination of context or detail. As the subsequent refinement and specialization of knowledge progresses, different sciences recover complexity and nuance, but in ways that tend more and more to diverge. As a result, the diversity and aggregate complexity of the world may be understood, but its coherence is not. At best, its unity is viewed from the perspectives of diverse single sciences—a multiplicity of reductions rather than a reduction of multiplicity. Furthermore, questions arise about the relationship between scientific models of the world and prescientific experience, which has multiple dimensions of its own—historical, social, religious, ethical, aesthetic. Science presupposes this everyday, prereflective experience in an obvious way, but the philosophical significance of this fact is far from obvious.

According to Whitehead, bringing the different areas of empirical knowledge back into convergence, both with one another and with the prescientific experience they start from and seek to illuminate, is a task of vital importance to any civilization, failing which it risks a kind of cultural schizophrenia (Weekes 2003, 361–363). Nowhere is such schizophrenia more evident than in the modern (and postmodern) understanding of consciousness and the human individual, where one and the same instance of behavior comes under a multitude of conflicting interpretations, from being an expression of freedom or conscience to being determined in one of many

ways that are themselves not always mutually compatible. To name a few of the latter, the same action will, depending on the context of our own interests, be described as issuing from character, or from habit, or from an uncontrollable emotion, or from the controlled, but unconscious sublimation of that emotion, or from instinct, or chemistry (balance of hormones or neurotransmitters perhaps), or from beliefs (that may or may not be true), or from a commanding religious experience, or from a “simple” law of physics, such as entropy, constraining what happens in the brain. Some of these explanations are mutually consistent; some are not. It is difficult or impossible to reconcile any of them with classical notions of freedom, responsibility, or conscience. And if anyone thinks the old problem of “free will vs. determinism” is dead or irrelevant, she needs to consider the ongoing debates in psychiatry between those who endorse biological models of mental illness and those who endorse psychodynamic models.⁶

Whitehead advanced the unsurprising and obviously dated (but not obsolete) view that the task of coordinating and reconciling different kinds of experience falls to philosophy, and his own philosophy was animated by this task. Its principle objective was the elaboration of what he called a “speculative scheme” of concepts that allowed the evidence from divergent perspectives to be integrated into a coherent picture of the world. One familiar view of philosophy holds that it deals with a different subject matter from the empirical sciences. Another holds that it deals with questions empirical science is not yet able to answer. According to Whitehead, philosophy does not distinguish itself from empirical science by having a special (pre-empirical or possibly nonempirical) subject matter, but only by virtue of its greater inclusiveness and interdisciplinary approach. Indeed, by embracing an empiricism more radical than the narrowly focused empiricism of specialized natural sciences, Whitehead’s approach cannot avoid being interdisciplinary, and this distinguishes it from the sciences it seeks to coordinate.

This is not really a view that should provoke hostility from advocates of scientific empiricism. In outline, it’s the same view of philosophy that was advanced by the apostle of Positivism, Auguste Comte (1798–1857): philosophy is simply the final stage in the widening of scientific perspective. And this, in fact, is just how Whitehead came to philosophy in the course of his long career—through a progressive widening of perspective that evolved through stages not unlike those of Comte’s developmental hierarchy of the sciences (i.e., mathematics, physics, chemistry, biology, physiology, philosophy). Trained in pure mathematics and teaching applied mathematics, Whitehead was first focused on logic and projective geometry. Then he became interested in physics and sought systematic ways to apply formal systems to the physical world. He subsequently expanded this program into a philosophy of nature and finally into a metaphysical cosmology with a theological coda. The

move from pure mathematics to physical theory—however formal—meant accommodating empirical constraints. The move to a philosophy of nature meant accommodating the initially neglected nonformal aspects of the physical world. The move to metaphysics meant accommodating what his philosophy of nature had explicitly excluded, “the how [...] and [...] the why of thought and sense awareness.” Instead of a “philosophy of the thing perceived,” the “metaphysics of reality [...] embraces both perceiver and perceived” (CN 28). (We note in passing that this pattern of development reflects Whitehead’s distaste for intellectual parochialism. Piqued no doubt by an inner drive toward generalization, Whitehead’s ever-expanding speculation was facilitated by the wide range of extracurricular readings and interests he kept alive throughout his life—from his student days to the end of his professional career (see, e.g., Lubenow 2001). Whitehead was always mindful of what had still been left out of his expanding professional focus.

For Comte, of course, philosophy as the highest stage of knowledge was really nothing more than a generalization and comparative taxonomy of scientific concepts. By the same token, Comte’s philosophy could hardly be expected to issue in a challenge to scientific orthodoxy, whereas Whitehead’s ultimately does. The reasons for this important difference have to do with the formal constraints Whitehead imposes on philosophy. Whitehead identifies four (PR 3–4). Two are “rational” (consistency and coherence), and two are “empirical” (applicability and adequacy). Coherence and adequacy both have special meanings for Whitehead that play the decisive role in legitimizing what he calls metaphysics. Adequacy means universal applicability; that is, all-inclusiveness of application, and coherence means that all parts of the theory must be biconditional. In the case of consciousness, to take the relevant example, the investigation must draw on *all* perspectives as sources of evidence, both scientific and “prescientific”; it must seek a theory that is not only consistent internally, but also consistent with the evidence proffered by each possible empirical perspective. Furthermore, the resulting “unified” theory must render the differing perspectives conceptually interdependent.⁷

It must be stressed that when Whitehead speaks of a theory’s applicability and adequacy to experience, he has in mind not just the vaguely defined experience of civilizations, but also the well-defined experience of special sciences. A critical element in the empirical controls on metaphysics is thus the ever-growing body of knowledge resulting from empirical research. Philosophical theory must (minimally) be consistent with scientific knowledge and ideally should incorporate it into a “coherent” view of the whole world. This explains the strong strain of “scientism” in Whitehead that makes humanistically minded thinkers wary of him.

However, another critical element in the empirical constraints is the ubiquitous background experience that science presupposes as its context

and starting point in everyday life. This explains the strong phenomenological strain in Whitehead—an approximation to existentialist concerns that makes scientific empiricists wary of him. Whether directly or not, this side of Whitehead's thinking is deeply influenced by Bergson's psychology—his theory of intuition and his phenomenological description of immediate experience—and James' philosophy of radical empiricism.⁸ Modern science is empirical because it looks to the data of sense-perception to control and corroborate its theorizing. But it limits itself to the content of sensory exteroception, objectified at the focus of attentional consciousness, thus neglecting a variety of information sources that are no less "empirical." These include interoception, proprioception, and emotional affect; the manifold forms of tacit knowledge or ineffable pragmatic know-how encoded in social, linguistic, and motor competence; and all the fugitive or vague experiences occupying the fringes of consciousness or crossing the threshold of consciousness only in retrospective analysis. It is absolutely wrong to think that these experiences, because they are "marginal," do not make an indispensable contribution to experience and can be ignored by philosophy.

Honoring (i.e., acknowledging the simultaneous validity of) both of these very different strains of evidence, scientific and phenomenological, is the main thrust of Whitehead's *adequacy* requirement. Since the untutored phenomenology of prescientific experience has its disciplinary counterpart in the humanities and in the human and social sciences, adequacy can be defined in terms of a cross-disciplinary requirement, encompassing both natural and human(istic) disciplines. Integrating both of these strains of evidence into a single, rather than a dualistic worldview (i.e., construing their joint validity as mutual interdependence) is the main thrust of Whitehead's *coherence* requirement. Such an integration poses a vexing challenge all too familiar to the history of philosophy and not inappropriately called "metaphysical." For Whitehead, therefore, it is the combination of adequacy as a uniquely understood empirical constraint and coherence as a uniquely understood rational constraint that legitimizes metaphysics as a discipline focused on a well-defined problematic and subject to well-defined controls (Weekes 2003). Its task is the construction of a model of the world consistent with the specialized knowledge of different disciplines, yet general enough to encompass them all and complex enough to bring them together in a way that is coherent and mutually compatible. Whitehead was not afraid to call this project metaphysics because it aims to understand the nature of things—their complexity and coherence—both individually and as an ordered totality. Whitehead was well aware that this was not a goal that could be definitively satisfied. His constraints are normative criteria for evaluating candidate theories as better or worse and for guiding hypothesis formation. Metaphysics, like science, will never be perfect, but it will always be capable

of improvement. The most strident objection to Whitehead's metaphysics has always been that it is metaphysics, but his was emphatically not a metaphysics set up to challenge empirical sciences. What makes Whitehead's metaphysics a challenge to scientific orthodoxy is not a disdain for empiricism, but his insistence that the empirical evidence be accommodated in a way that satisfies the specialized constraints of adequacy and coherence.

With these two requirements we have pinpointed the commitments most responsible for Whitehead's strong deviations from mainstream thinking in the twentieth century and most likely to set the present volume apart from much of the recent literature on consciousness. There is nothing unusual about requiring consistency, but requiring it across all disciplinary borders, which is what Whitehead means by adequacy, and requiring what he means by coherence lead to a characteristically Whiteheadian kind of philosophical theory. This is evident if we consider the following question: Will all theories of consciousness generated from different disciplinary standpoints, assuming each of them is consistent with the evidence from its own perspective, automatically be mutually consistent? If so, there would be, logically speaking, an effortless way to meet the goal of *consistency*. We could offer as a general theory of consciousness the *set* of theories formed by simply conjoining them all. But this would fail Whitehead's coherence test. It is not enough for the unified theory to consist of several independent theories that are simultaneously true. They must presuppose one another biconditionally as interdependent aspects of a single theory. Clearly, Whitehead's coherence requirement creates a mandate for the sort of higher-order synthesis that only philosophy could provide and goes a long way toward explaining what he means by metaphysics. But even apart from the coherence requirement, we have an interesting problem if mutual consistency of the first-order perspectives is lacking at the outset. Conceptual refinement and reconciliation then become necessary, and Whitehead's concept of philosophy as a cross-disciplinary hermeneutic can be justified even without recourse to his coherence requirement.

Of course, we can easily guarantee the consistency of the whole set simply by disqualifying troublesome perspectives. For example, we could disqualify the deliverances of ordinary consciousness and its explication by the human and social sciences as "folk psychology" that mistakenly takes at face value various subjective illusions (autonomy, free will, etc.), or we could disqualify the findings of objectifying science as "historical constructs" constrained by ideology and social praxis rather than interest-neutral facts. This kind of disqualification was the strategy of the original project of "unified science," which was to be a unification of the sciences under the aegis of classical physics, disregarding data from social sciences and the humanities as epiphenomena. Needless to say, those advocating the disqualified perspectives always

return the favor, thus creating a dispute impossible to adjudicate. We see a standoff of this sort in the early twentieth century between the program of unified science and its various nemeses (Philosophy of Life, Phenomenology, Existentialism). This may explain why debates about consciousness, despite extraordinary advances in empirical research, have yet to advance beyond the philosophical alternatives established in the seventeenth century or the stalemate between them. The early modern doctrine of materialism finds its twentieth-century heir in the philosophical orientation sometimes referred to as *scientism*, which looks to natural science or at least to methods modeled on natural science to generate the only possible knowledge of things, including mind or consciousness. Behaviorism and Cognitive Science are the paradigm examples of this approach to consciousness.

The early modern doctrine of idealism finds its twentieth-century heir in social or linguistic constructionism, where the world-creating subject of traditional modern philosophy is replaced by the world-creating language or social praxis. This approach, implicit in Phenomenology, becomes explicit and even polemical in post-Structuralism or its American counterpart, the “strong program” in the sociology of knowledge. But it is also the upshot of Wittgenstein’s argument against the possibility of a private language.⁹ We should not forget that the autonomy of language as a social phenomenon, coupled with the dependency of knowledge on language, was the fundamental insight that inspired Anglo-American philosophers of an entire generation to adopt linguistic analysis as the only way to obtain philosophically fundamental knowledge about the world. The difference between idealism and materialism or between their twentieth-century successors is that each disqualifies the evidence the other prizes (Weekes 2003, 358–361).

What Whitehead means by metaphysics is a unified science that encompasses rather than takes sides in this old controversy. This is the reason his empirically committed philosophy grapples with a problem unimaginable to Positivism and ultimately issues in metaphysical proposals challenging to scientific orthodoxy. The divisive question is: Are everyday consciousness, practical reason, and “folk psychology” to be included among perspectives relevant to an “adequate” theory of consciousness? Whitehead’s answer to this question—shared in one way or another by all our contributors—is emphatically *yes*. But unlike other voices in the twentieth century who answer this question affirmatively, Whitehead does not include these perspectives by unilaterally excluding the perspective of natural science. This dual commitment creates the principle conflict motivating Whitehead’s concept of philosophy as a project of interdisciplinary reconciliation.¹⁰ If this is what makes his voice so distinctive in the twentieth century, it is also the reason he is taken as an inspiration by our contributors. They are equally unwilling to reject empirical science as a way to preserve humanistic attitudes—or vice versa.

While this double commitment may pit Whitehead against the scientific establishment of his time, it places him squarely in the philosophical tradition. In this respect, Whitehead is very much a traditionalist. His voice was distinctive because he honored tradition at a time when the convention was to denounce it. Philosophers since Parmenides have recognized experience as the locus of a fundamental contradiction from which philosophy draws its mandate. Originally it took the form of a contradiction between opinion and truth or seeming and being. As it took on modern shape it became the tension between descriptions of the world undertaken in the first person and those proffered in the third person. Since consciousness itself appears to be one of the things in the world, we quickly discover that consciousness *explained* as an object of cognition and consciousness *understood* as a subject of experience and action are perspectives hard to reconcile. We know this problem under many names: Kant's antinomy of freedom and causation, free will and determinism, Schopenhauer's world-knot, the mind-body problem, Chalmers's "hard problem," the tension between final and efficient explanation in Leibniz or Aristotle, etc. Metaphysics is simply the name Whitehead gives to the responsibility we still have to take this problem seriously.

Notes

1. Kant is an obvious comparison to make here. Like Kant, Whitehead wants to make room for (most of) the different ways human beings relate to the world: it's not a matter of one field swallowing the others. But, unlike Kant, Whitehead does not see a solution in sharply differentiating disciplines so as to resolve their conflicts once and for all by establishing mutually exclusive territories of jurisdiction.

2. Davies and Gribbin 1992, Pribam 1996, Prigogine 1997, Prigogine and Stengers 1984.

3. Atmanspacher 1992, Atmanspacher and Fach 2005, Atmanspacher and Dalenoort 1994, Bohm and Nichol 2004, Bohm and Peat 1989, Finkelstein 1996, Lockwood 1989, Malin 2001, Penrose 1994, Penrose and Isham 1986, Polkinghorne 1984 and 1988, Russell et al. 1994, Satinover 2001, Sheldrake 1991, Shimony 1993, Smolin and Kaufman 1997, Stapp 1993, 1999, 2007, Trundle 1994, as well as contributions by Amoroso and Martin, Frohlich and Hyland, Gould, Hiley, Stapp, and Vitiello in (King and Pribam 1995), by Conrad, Hameroff and Penrose, Jibu et al., Nunn et al., Tollaksen, Wolf, and Zohar in (Hameroff, Kasniak, and Scott 1996), by Clarke, Hameroff and Penrose, and Stapp in (Shear 1997), by Beck, Hameroff and Scott, Squires, and Stapp in (Hameroff, Kasniak, and Scott 1998), by Hameroff in (Taddei-Ferretti and Musio 1999), by Beck, Bierman, Globus, Hameroff, Marcer and Mitchell, McGinn, Pitkanen, Pribam, Prigogine, Van Loocke, and Walker in (Van Loocke 2001), by Pribam, Vitiello, Werbos in (Yasue, Jibu and Senta 2001), and by Beck and Eccles, Hameroff and Woolf, and Scott in (Osaka 2003).

4. Atmanspacher 1997, Atmanspacher 1995, Atmanspacher 1996, Brown 2005, Busch 1993, Clarke 1993, Code 1985, Eastman 1997 and 1998, Eastman and Keeton 2003 and 2004, Epperson 2004, Hampe 1990, Kather 1992, Kirk 1993, Kortright 1994, Löbl 1996, Malin 1988, Rust 1987, Saint-Sernin 2000, Stapp 1999, and Stolz 1995.

5. Indeed, it is growing worldwide. Xie and Derfer 2005 testifies to the efflorescence of Whitehead scholarship in China, and the nascent centers in Romania, Bulgaria, Hungary, and Poland testify to the spread of interest in process philosophy to Eastern Europe.

6. For a recent assessment of the controversy that places the clinical issues in their larger philosophical context, see Schechtman 1996.

7. We omit *necessity*, which is not so much a fifth criterion as a way of clarifying the meaning of the other four. Whitehead's reasoning (PR 3-4) appears to be the following: *Adequate* means applicable not just to known facts, but to all possible facts; in other words, adequacy is *a priori* applicability. How can anything be applicable *a priori*? One solution would be the Kantian one. But Whitehead's commitment to empiricism prevents him from taking *a priori* in the Kantian sense of *transcendental* (a condition of possible experience built in to the faculty of experience). An alternative possibility that Whitehead is also *not* interested in would be the case where all still unknown facts were simply logical consequences of the facts already disclosed. Weirdly, this construal of *a priori* would simply eliminate the need for any further experience: whatever had not yet been experienced could, without experience, simply be deduced (a strange possibility that Husserl seems to toy with in his discussion of Manifold Theory in the *Logical Investigations*). Whitehead sees a third alternative: A theory could be applicable *a priori* if it were known to be empirically applicable to *some* facts and all facts were mutually coherent in the *narrow* sense Whitehead defines. A semantic analysis of any one stated fact would then lead, at least in principle, to the universal structure embracing all facts. In other words, if the universe is coherent in Whitehead's sense, then no analysis of *any* fact could be adequate unless it were (already) applicable to *all* facts. Insofar as it applies to still undiscovered facts, this knowledge would be necessary because it would be *a priori* in the traditional Scholastic-Aristotelian sense of knowledge derived from what is prior by nature (the essence or formal cause of the facts), albeit posterior in the order of investigation or inquiry. That there is such an essence to the universe is the postulate of speculative philosophy. *Necessary* describes the applicability of what is prior by nature to what is posterior by nature. Whatever the ultimate status of knowledge of essences may be in Aristotle, for Whitehead it is always hypothetical and a regulative ideal of inquiry. What Whitehead does share with Aristotle is the idea that finding such an essence is a goal and always comes last in the order of inquiry.

8. The publication in 1884 of an article by James entitled "On some Omissions of Introspective Psychology" (incorporated in 1890 into his *Principles of Psychology* as the chapter on "The Stream of Thought") and in 1889 of Bergson's doctoral dissertation, *An Essay on the Immediate Data of Consciousness*, convulsed the world of psychology, which had evolved a formidable science based on the study of discrete mental contents (ideas, representations, *Vorstellungen*) and the laws governing their interconnection. What James and Bergson brought to the world's attention was star-

ting, yet obvious once exhibited: there were no such discrete contents in the mind, except as artifacts of abstraction. What is concrete is the whole of experience in its richly textured unfolding, which James called *the stream of consciousness* and Bergson *duration*. (Husserl's Phenomenology, as originally conceived, was an attempt to deal with this unsettling realization in a scientifically rigorous way—to keep it contained.) We concede that an eminent Whitehead scholar has denied that Bergson or James exercised a significant influence on Whitehead (Lowe 1949), but find this implausible. Whitehead's indebtedness to their discovery can scarcely be denied. It may to *some extent* not be direct, but it is nevertheless very evident in the way he operates with the concepts of *concretion* and *abstraction* and especially *organism*. Whitehead's concept of organism is not that of contemporary biology, but that of Kant's third Critique, familiar to him indirectly from the Romantic tradition he cherished: a system in which all the parts mutually presuppose one another. In such a system, only the whole is concrete. Bergson's insight can be summed up as: *experience* has a unity that is organic in this sense. James' crucial insight can be expressed methodologically: what is *radically empirical* (and therefore methodologically primary) cannot possibly be discrete data; it can only be the whole of experience in which the various parts are not yet abstracted from their mutual relations. By granting this phenomenological application of the Romantic concept of organism to experience and its methodological primacy for philosophy, Whitehead, like Bradley (and possibly to some extent *via* Bradley), is clearly under the influence by Bergson and/or James. We note that Whitehead at one point explicitly acknowledges Bergson's influence in "introduc[ing] into philosophy [. . .] organic conceptions" (SMW 148). By "philosophy" Whitehead obviously intends to include his own, making this statement a direct acknowledgement of his indebtedness to Bergson in this regard. Whitehead's acknowledgments of James are more plentiful and have been collated by Weber (2002 and 2003). On the relation of Bergson, James, and Whitehead, see Auxier 1999, Brougham 1995, Capek 1953, 1964, 1950, Devaux 1961, Hurley 1976, Levi 1964, Stahl 1955.

9. See Bernard Williams' article, "Wittgenstein's Idealism" (1974). Objections to Williams' interpretation of Wittgenstein by Analytic philosophers (e.g., Malcom 1982 and Bolton 1982) misfire to the extent that the critical method defining the later phase of Analytic philosophy—the linguistic analysis of ordinary usage—presupposes the very sort of "idealism" Williams is talking about. For suggestions that language (or the "grammar" of its correct usage) is in some sense "transcendentally ideal" and that linguistic analysis can be a means to synthetic *a priori* knowledge with transcendental purchase, see Vendler (1967, 1–33) and Cavell (1976, 1–72). We are tempted to say the distinction between the later Wittgenstein and "idealism" that Williams' critics are insisting on is *verbal*, but they would score an entirely valid point simply by agreeing.

10. Whitehead's development clearly reflects the dual commitment of his outlook because he grapples with the issues first in staggered phases. He understood his first inquiries as a formal ontology (not a formal logic), which provided a methodical foundation for natural science. When he turned to metaphysics, the concerns of his earlier approach are not obliterated, but absorbed into a wider systematic context that now includes an existential ontology. The epistemological foundation of natural science (establishing in particular the objectivity of physical measurement) remains

intact and appears in PR as the “theory of extension.” It differs from Whitehead’s earlier formal ontology because it is now supplemented by and systematically correlated with the “theory of prehensions,” which provides the foundation and context for the dynamics of subjectivity. The challenge is to make the theory of extension and the theory of prehensions cohere in such a way that they constitute one theory with two mutually interdependent parts.

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