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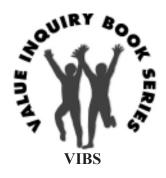
Beyond Metaphysics?

Explorations in Alfred North Whitehead's Late Thought

BEYOND METAPHYSICS?

VIBS

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CONTEMPORARY WHITEHEAD STUDIES

Philosophy today is in a state of transition. The old philosophical divisions appear increasingly worn and dowdy to new generations of students who find themselves confronted with a complex, uncertain, and often-dangerous world. Though it still maintains its disciplinary dominance, the Anglo-American tradition has abandoned the philosophical projects—such as positivism, ordinary language analysis, or the linguistic turn—that once provided a coherent programmatic center. Similarly, the deconstructionist and poststructuralist projects on the Continent take many new faces moving beyond their initial iterations. It is in this fertile, if shifting, context that a revival of Whitehead scholarship is taking place, facilitated through the multifaceted work of the scholars of the *Whitehead Research Project* and its *Contemporary Whitehead Studies* series.

The Whitehead Research Project (WRP) is dedicated to the research of, and scholarship on, the texts, philosophy and life of Alfred North Whitehead (see whiteheadresearch.org). It explores and analyzes the relevance of Whitehead's thought in dialogue with contemporary philosophies in order to unfold his philosophy of organism and its consequences for our time and in relation to emerging philosophical thought. Of particular interest is the investigation into the emergence of Whitehead's philosophy in the context of British and American pragmatism, its complicated relation to Continental philosophy and the analytic tradition, the relevance of his thought in the discourse of postmodern paradigms of deconstruction and poststructuralism, and its creative impulse for developing process philosophies. Additionally, following Whitehead's own inclination to reach beyond European modes of thought, WRP seeks to extend its horizon of research by fostering similar conversations with strains of Indian and East Asian thought, thereby exhibiting *de facto* mutual influence—e.g., with the Kyoto School of Buddhist philosophy.

In encouraging a fresh and bold approach towards the ever-expanding possibility suggested by Whitehead's written material, both published and unpublished, WRP is committed to the continuing adventures of his ideas across disciplines. In doing so, the mission of WRP follows Whitehead's impulse to understand the distinct endeavor of philosophy "*to conceive the infinite variety of specific instances which rest unrealized in the womb of nature*" (PR 17) and "*to maintain an active novelty of fundamental ideas illuminating the social system*" (MT 174). In its broader aim to understand and further civilization, philosophy "*is seeking, amid the dim recesses of [our] ape like consciousness and beyond the reach of dictionary language, for the premises implicit in all reasoning.*" This endeavor is "*dangerous, easily perverted. So is all Adventure; but Adventure belongs to the essence of civilization*" (AI 295).

Seeking to embody the adventure and promise of Whitehead's work, *Contemporary Whitehead Studies* (CWS) is an interdisciplinary book series that publishes manuscripts from scholars with contemporary and innovative approaches to Whitehead studies (see whiteheadresearch.org/research/cws). CWS focuses on Whitehead's philosophy and Whitehead's text (as a whole) by giving special focus to projects that:

- explore the connections between Whitehead and *contemporary Continental philosophy*, especially sources, like Heidegger, or contemporary streams like poststructuralism,
- reconnect Whitehead to *pragmatism*, *analytical philosophy* and *philosophy of language*, as a matter of source and recourse for an understanding of the tradition out of which Whitehead formulated his philosophic concepts or as a matter of engagement in areas that have excluded Whitehead,
- explore *creative East/West dialogues* facilitated by Whitehead's work,
- explore the *interconnections of the mathematician with the philosopher* and the contemporary importance of these parts of Whitehead's work for the dialogue between sciences and humanities,
- *reconnect Whitehead to the wider field of philosophy, the humanities, the sciences and academic research* with Whitehead's pluralistic impulses in the context of a pluralistic world,
- address *Whitehead's philosophy in the midst of contemporary problems* facing humanity, such as climate change, war and peace, race, and the future development of civilization.

By publishing innovative and adventurous approaches to Whitehead's philosophy that engage with the problems, promise, and ideas of the twenty-first century, *Contemporary Whitehead Studies* creates a vital and dynamic space for scholarly engagement.

Roland Faber   Brian G. Henning
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PREFACE

In the spring of 1998 I took a course called "Advance Process Thought" taught by Professor David Ray Griffin. Some of the students in that course (myself included) saw us as carriers of the process flame. Whitehead had given us a wonderful and encompassing system, but there remained, we were aware, some inconsistencies. As self-appointed carriers of this flame, a group of us saw it as our call to clear these up.[1] As with any graduate course, we wrote papers. What was unusual about Griffin's courses was that we read each other's works and discussed them as part of the class. This presented an opportunity to see how those of us intent upon improving Whitehead's system went about it.

Looking at the strengths and weaknesses of these papers also revealed just how hard it is to clear these issues up. Tweak one technicality and it has unintended consequences someplace else. Trying to improve Whitehead's system taught us respect for the complexity of Whitehead's work. As more and more attempts fell short of their intended goal, including some of our professor's attempts, I started to reflect on the progression of Whitehead's works. If *Process and Reality* was to be seen as the pinnacle of Whitehead's metaphysics, then why (since he himself recognized several of its inconsistencies and limitations) didn't he, in his later works, seek to rethink and resolve these issues within the context of his "system" as my classmates and I were trying to do?

Instead of defining his system in a more and more precise manner (more simple-minded), Whitehead seemed to go the other way (towards muddle-headedness).[2] While *Adventures of Ideas* picked up and refined a few notions from *Process and Reality*,[3] much of the work looked at more general philosophical and historical notions. Additionally, to a great extent, it did not seek strict conformity to the scheme developed in PR, but chose more general—often Platonic—terms.

Why did Whitehead not choose to pick up the process flame in the same way that we did? Why was he content to stop refining a great but slightly flawed system and work instead in generalities, popularizations, and applications? Was he simply getting tired in his old age (Whitehead as sixty eight when PR was published and seventy seven when MT came out), or was he getting closer to what he had been intending to do all along? How did Whitehead see the more general *Modes of Thought*? I began to wonder if it represented a more accurate (if less detailed) metaphysical scheme than did *Process and Reality?* Was *Process and Reality* too specific in speculative detail for its own good? Did Whitehead come to this realization? Was there a trade off being made between precision and accuracy? Which book (PR or MT) represents Whitehead's most mature attempt at a systematic metaphysics?

When Roland Faber came to teach at Claremont I raised this question with him. He seemed to like the question and some years later spearheaded the effort to organize the Whitehead Research Project's second international conference around this issue.[4] The conference was a great success. This volume is the fruit of that conference.

1. Complexities of System, Life, and Novelty

In the opening pages of *Process and Reality*, Whitehead issues a call for the renewal of speculative philosophy. At the time that Whitehead called for such a renewal, speculative philosophy (or metaphysics as it is often called) was traditionally conceived to be an attempt to develop a closed system of apodictic truths. What Whitehead sought to do was revive the topic, but do so in a way that did not seek closure. In addition, Whitehead did not intent to create a system that was in any way final. Vincent Colapietro opens part one with this reminder.

Colapietro argues that Whitehead's call for a renewal of speculative philosophy is a project that can never be completed once and for all, but something that requires ongoing renewal. While *Process and Reality* is typically seen as the peak of Whitehead's systematic metaphysics, Colapietro argues that Whitehead's late work (his work subsequent to PR) is, in fact, an integral part of an ongoing renewal of speculative philosophy—a project characterized by humility rather than finality.

Christoph Kann continues by giving us a clearer notion of what speculative philosophy is for Whitehead (including examining Whitehead's criteria by which such schemes were to be judged). Kann too wonders whether Whitehead's renewal of speculation is completed with PR or whether it takes the form of an ongoing renewal.

Dennis Soelch also looks at Whitehead's work in speculative metaphysics. He notes that critics often distinguish between Whitehead's metaphysics (in which case they focus on PR) from his philosophy of culture and history (in which case they draw from SMW and AI). Soelch argues that such a division misses an interrelatedness present in all these works. History, he argues, isn't a separate endeavor from metaphysics; it is an integral part of the historical methodology of Whitehead's speculative project.

Deena Lin notices a paradox in Whitehead's approach to metaphysics (the paradox being that Whitehead again and again attempts what he knows he can never complete). For Lin, this paradox is also central as she attempts to understand how Whitehead's life came to influence his philosophy. Just as he was always reinventing his system (while realizing its ultimate inadequacy) so too was he always reinventing himself.

My own chapter takes a broad look at Whitehead's system building (or as I call it, systematic "play"). I argue that Whitehead isn't so much intent on

building one perfect system as he is with playing with various systems to see what each has to offer. Throughout all the play, there is however, a noticeable movement away from abstract systems and towards both more concrete systems and towards more concrete experience.

Roland Faber observes an interesting paradox in Whitehead's speculative endeavor: Whitehead both goes to great lengths to develop a systematic scheme (or schemes) and simultaneously warns us to mistrust such schemes due to their oversimplification of reality. While many would try to resolve such a paradox by arguing for one side over the other, Faber argues that Whitehead chose to preserve this paradox as a series of deconstructions of his own metaphysical claims. Far from showing the futility of metaphysics, such a deconstruction moves one "beyond metaphysics" in the sense that a metaphysical scheme can never be the final word.

2. Depths of Nature, Order, and Organicity

The articles in the second part of our volume focus on the organicity of nature and probe the status of what are generally called "laws of nature" or "natural laws." It is argued that these are better seen as habits than imposed laws. Additionally, we read arguments that Whitehead's views on the source of the order observed in nature changed subsequent to *Process and Reality*. Robert Valenza makes such an observation.

Valenza takes us back to Whitehead's surprising mathematics of objects and *their* relations. He points to a major shift that occurs between *Universal Algebra* and *Process and Reality*. Valenza then argues that Whitehead later changed from having a metaphysics that relied upon near static eternal objects (in *Process and Reality*) as a way of accounting for the persistence of the ordinary things of our experience, to a later metaphysics that dispensed with eternal objects in favor of a "reciprocity" between actuality and form in which both are understood organically.

Jeremy Dunham tracks Whitehead's various attempts to depict a theory of nature's laws. He notes that Whitehead gives one theory in SMW, follows up on it in PR, and then returns to the project in AI. Dunham argues that Whitehead's continual return to this question demonstrates the point that systematic thinking is never complete and must be addressed anew to new and broader areas of inquiry. As Dunham describes it, Whitehead's procedure generates a working hypothesis then brings it to a wider area of concern whereupon a new working hypothesis must be formulated. This process continues, each time developing a more inclusive theory of nature. Each new formulation doesn't supersede the previous ones, but adds to them.

Joachim Klose, drawing in part on Plato's *Timaios* in which Plato distinguishes between the physical world and the eternal world, argues that some such bifurcation between things and abstractions is needed whenever one at-

tempts to describe something. He looks at this issue with several areas of application in mind: the status of natural laws, an understanding of time, a possible interpretation of quantum physics, and the modern wave theory of an atom.

Helmut Maaßen reflects upon Whitehead's discussion of novelty and contingency. He notes that, perhaps ironically, Whitehead's treatment of novelty and contingency remains unchanged from *Process and Reality* up through his later writings.

Regine Kather traces Whitehead's concept of nature from his book by that same name (CN) through its development in *Process and Reality* up to its refinement in *Nature and Life*. What emerges from Whitehead's later work is a concept of nature that is tied to concrete lived experience.

3. Evocations of Value, Beauty, and Concern

The articles in this final part indicate a move on Whitehead's part away from his conception of God as described in *Process and Reality* to something more akin to aesthetics that each of them describes in somewhat different terms.

Brian Henning observes that in *Adventures of Ideas* Whitehead comes to a new found awareness that beauty is the one self-justifying aim of the universe. Henning argues that process thought (particularly process ethics) becomes more adequate when it re-centers itself around beauty.

Stascha Rohmer describes the emphasis on understanding in *Modes of Thought* as a hermeneutical turn in Whitehead's philosophy in line with thinkers like Dilthey, Orgega y Gasset, Heidegger and Gadamer. Additionally, Rohmer sees in the late Whitehead a contrast between his newly arrived at "pragmatic aesthetics" and his earlier axiomatic thinking.

Michael Halewood distinguishes between virtue and value. While virtue relates to the content of how one should live, Halewood argues that Whitehead is concerned with describing what values are—that is, what their status is in the world. Halewood traces Whitehead's development of a metaphysics of value while showing how value is integral to all aspects of existence and individuality.

Steven Shaviro looks at two closely related concepts in the late Whitehead: enjoyment and concern. He argues that for Whitehead, while enjoyment occupies the present, it is transformed into concern in so far as the present anticipates the relevant future. Furthermore, he observes that while aesthetics and enjoyment played a role in PR, there is a shift in tone that takes place subsequently in which aesthetic issues take on a more central role.

Jude Jones's contribution grows out of her recent experience teaching a service learning course on "Sustainability and Process" in which Whitehead's *Modes of Thought* played a key theoretical role. Service, according to Jones,

proves an apt model to describe what she refers to as the provocative and instigative activities of creative process.

Isabella Palin draws attention to what she refers to as the problem of "refreshment" as it appears in the final part of *Process and Reality.* In PR, Whitehead gives a metaphysical solution to this problem (i.e. the Consequent Nature of God). In his later works, Palin argues that Whitehead derived a social solution that stands in contrast to this earlier metaphysical solution.

It has been a privilege to work with both those who attended the conference and those who contributed to this book. Together we have fleshed out an intuition from more angles and perspectives than would otherwise have been possible. It is my hope that their contributions as present in this volume will rekindle interest in reading Whitehead's late work for the novel perspective and solutions that it has to offer.

Clinton Combs
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NOTES

1. This is in no way a unique call for this group of students. Many issues of *Process Studies* have one or more articles about clearing up some inconsistency or another in Whitehead's metaphysics.
2. Whitehead famously referred to Bertrand Russell as "simple minded" and to himself as "muddle headed" (Charles Hartshorne, *Insights and Oversights of Great Thinkers: An Evaluation of Western Philosophy.* New York: SUNY, 1983, p. 255).
3. A few of these include: non sensuous perception (AI 180), personality (AI 186), as well as a refined account of the mind and body (AI 205 6).
4. The Conference took place in December of 2008 at the Claremont Graduate University in Claremont, California. For more information see:
   http://whiteheadresearch.org/occasions/conferences/beyond_metaphysics/

ACKNOWLEDGMENTS

LIST OF ABBREVIATIONS

AE	The Aims of Education (1929)
AI	Adventures of Ideas (1933)
CN	The Concept of Nature (1920)
ESP	Essays in Science and Philosophy (1947)
FR	The Function of Reason (1929)
Imm	"Immortality" (1941)
IM	Introduction to Mathematics (1911)
MG	Mathematics and the Good (1951)
MT	Modes of Thought (1938)
NL	Nature and Life (1934)
PM	Principia Mathematica (1910-13)
PNK	An Enquiry Concerning the Principles of Natural Knowledge (1919)
PR	Process and Reality: An Essay in Cosmology (1929)
R	The Principle of Relativity (1922)
RM	Religion in the Making (1926)
S	Symbolism: Its Meaning and Effect (1927)
SMW	Science and the Modern World (1925)
UA	Universal Algebra (1898)

These abbreviations refer to works by Whitehead and not to any particular published edition. While there are several editions that share a common pagination, there are some whose pagination differs between publishers. To find a specific reference consult the relevant Works Cited list (at the end of the volume) for the chapter in which the reference appears.

Introduction

WHITEHEAD'S OTHER COPERNICAN TURN

Roland Faber and Brian G. Henning

1. Another Copernican Turn

Whitehead's philosophical heritage is traditionally understood in two ways, first as an endeavor to formulate a "metaphysics" and, second, his 1927 lectures for the renowned Scottish Gifford series, published as *Process and Reality,* are normally taken to be the definitive center and canonical formulation of this metaphysics. While the first claim *is* contested today by contemporary philosophy—maybe metaphysics is nothing but a fancy theory of everything that is either outdated by novel philosophical modes or overcome by physics—the second, we suggest, *must* be contested in light of Whitehead's "later" monographs and essays.

As long as the hermeneutical key to Whitehead's oeuvre remains dogmatically fixated on both, a certain understanding of metaphysics as essentialized from *Process and Reality* and the auxiliary function of the "later" works, any discussion of their *creative impetus* beyond themselves will be dwarfed, neglected, or even denied. Instead of the inevitable "creative advance" that lies at the heart of Whitehead's philosophical claims, we will have created what Whitehead called "a neat little system of thought, which thereby oversimplifies its expression of the world" (RM 50)—and, we suggest, of Whitehead's work as well. Instead, this volume questions both of these presuppositions and opens a discourse on the creative indeterminacy of philosophy in Whitehead and Whitehead's philosophy alike that invites its reader to question any such sedimentation.

In not following the common trail (with only a few visionary exceptions) of fixation on a canonical reductionism and a scholastic self-reassurance of a fixed identity of what Whitehead's work means and where this "essence" is to be found, we also refuse simply to accept Whitehead's own work as ending in a series of afterthoughts on both metaphysics and the Gifford Lectures. Instead of pitying Whitehead's "later" works as simplifications, popularizations, or at best as helpful applications and more or less interesting elaborations of themes already introduced earlier, especially between *Science and the Modern World* (1925) and *Process and Reality* (1929), we propose that it would *also* be possible and meaningful to break with the dominance of metaphysical fixation and a *Process and Reality*-centric perspective; that it is precisely this double-baggage of heritage that has obscured,

underestimated, or even distorted not only the creative program of White-head's thought, but also its textual complexity.

In other words, we think that as long as the Whiteheadian universe is observed from a traditional metaphysics and *Process and Reality*-centric perspective, with both taken as the zenith of Whitehead's work and (for some) of philosophy in general, we will miss two exceptional opportunities: on the one hand, to read Whitehead's philosophy against the background of its own contemporary alternatives (e.g., Heidegger, Marxist philosophy, critical theory and timely instantiations of deconstructionist and constructionist companions); and on the other hand, to discover the ingenuity, difference, and originality of the later works with regard to Whitehead's own opus.

Hence, this volume offers a sort of Copernican turn in Whiteheadian scholarship—methodologically and conceptually—by inviting its contributors to observe the Whiteheadian universe from the genuine perspective of Whitehead's "later" works. The aim of this methodological and conceptual preference of the later works is, however, not to invalidate earlier approaches to Whitehead's thought or approaches to Whitehead's work from "earlier" perspectives—e.g., his works before his Harvard period—nor is our implicit inference that the "later" works are *more* authoritative. However, the volume does invite its readers to consider whether, if one *in fact* goes beyond *Process and Reality*, does one find genuine departures from earlier "positions" and, even more importantly, also move *beyond* metaphysics?

Over against the contention that *Process and Reality* is the single, definitive statement of Whitehead's metaphysics with the later as applications of the system developed in *Process and Reality,* the landscape of alternatives explored by the contributors to this book is at least threefold: that Whitehead developed with regards to perspective (not just application), but not with regard to his methodology (as formulated in *Process and Reality* and *Function of Reason*); that Whitehead's metaphysical project only comes fully into view in the later works; and that Whitehead moves beyond metaphysics: into an aesthetics of becoming, a profound philosophical ecology, or a diversified account of the divine, with regard to a theory of civilization. Just as the first space based images of our planet forever changed humanity's understanding of its place in the universe, by shifting the center of perception and understanding of Whitehead's thought to the later works, we might discover many new venues with regard to all of Whitehead's "cosmological" themes: science and philosophy, the status of the divine, the relevance of relativity, the quest for truth and beauty.

2. Reconceiving the Metaphysical Adventure

What is the status of Whitehead's metaphysical claim? In keeping with the framework developed by his primary biographer, Victor Lowe, Whitehead's

works are traditionally divided into three periods, corresponding roughly to his time in Cambridge (1884-1910), London (1910-1924), and Harvard (1924-1947). According to such an account, the "late works" would seem to include all the works written after his arrival in America. Although one could think that such an account has more to do with geography than with the trajectory of his thought, there is a logical coherence to Lowe's divisions. It was with the shift from his position as English mathematician to that of an American philosopher that he also, and rapidly, shifted thought from space-time-relativity in *The Principle of Relativity* (1922) to a metaphysical account of the refuted development of a mechanistic and materialistic account of physics. Whitehead understood that if he wanted to understand the cultural and philosophical effects of the new physics, relativity theory and quantum mechanics, he needed to address its underlying metaphysical limitations. And, thus, he shifted to a first metaphysical synthesis in *Science and the Modern World*.

This characterization of the late, that is, the American, work of Whitehead has, however, led to the perception that this "metaphysical period" has itself three phases: an early synthesis, a mature position, and a series of popularizing distributions of his thought. In refuting such a perspective, we also contest the thesis that his 1929 magnum opus *Process and Reality* is, indeed, the "end" (aim) of his work thus leaving his "late" thought, especially *Adventures of Ideas* (1933) and *Modes of Thought* (1938), in the shadow of a virtually indiscernible repetition of its earlier paradigm.

Whitehead himself left a rare clue as to how he viewed the relationship between his own works in the preface to *Adventures of Ideas*. While *Science and the Modern World*, *Process and Reality*, and *Adventures of Ideas* "can be read separately," he notes that they also "supplement each other's omissions or compressions" (AI vii). Some interpreters see this admission as a hint towards an as explicit justification for taking the later works as more than applications of the system developed in *Process and Reality,* while others understand such an admission as a manifestation of Whitehead's characteristic insistence on the incompleteness and fallibility of speculative philosophy as such.

Whitehead's "metaphysical claim" is quite diverse and not without development in his own work. It finds its early conceptual instantiations in *Concept of Nature* (1920) in his metaphysic-*critical* stance that "we remove the metaphysics and start afresh on an unprejudiced survey of nature" (CN 25) so "that we can think about nature without thinking about thought" (CN 3), but leaves open the endeavor to find in "metaphysics the synthesis of the knower and the known" (CN 28) and in "values of nature … the key to the metaphysical synthesis of existence (CN 5). It ventures in *Process and Reality* into the famous methodological and seemingly rationalist formulations of "speculative philosophy" as "the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted" (PR 3). But it also shows already complexities of self-

deconstruction of any rationalism, e.g., in *Function of Reason* (1929), when Whitehead insists that the "essence of Reason in its lowliest forms is its judgments upon flashes of novelty" so that in embalmment of any static system of general ideas that would represent a "stabilized life there is no room for Reason" (FR 20).

In fact, as Whitehead's reflection on the philosophical method and metaphysical conceptualization in his late work demonstrates, he not only doubts the possibility of "that final adjustment of well-defined generalities which constitute a complete metaphysics" instead of a rationalist-constructivist "speculation" on generalities, but instead seeks as the true "topics for philosophic research the always "undiscovered limitations" in our production "of partial systems of limited generality." Conceptually, such deconstructionist endeavor is accompanied with a new constructivist pluralism, in which "the discordance of system with system" (AI 145) becomes a creative imperative that "limits the business of Logic," which "is not the analysis of generalities but their mingling." Whitehead envisions a "discovery of new generalities" as lifting thought "into views [of] new possibilities of combination" (AI 235)— open-ended, creative, indeterminate.

In an important sense, Whitehead's metaphysical adventure has always embodied the effort to move philosophical thought "beyond" metaphysics as it was traditionally conceived—its idealistic legitimation and its empirical refutation. Like many of his contemporaries and their philosophical offspring, with Heidegger Whitehead repudiates metaphysics precisely as the sterile attempt to develop closed systems of apodictic truths. Yet, in conflict with the dominant trajectory of analytic Anglo-American thought and some modes of deconstructive postmodernism on the Continent, Whitehead did not thereby abandon metaphysics, recognizing as delusory the notion that one could entirely avoid all presuppositions concerning the structure and meaning of reality, its experience, and conceptualization. In this way, at least, Whitehead's thought was always beyond metaphysics, not in the sense of abandoning it, but in fundamentally reconceiving of it as an open-ended and fallible effort to formulate (*per impossible*) a universal account of experience.

3. Contemporary Manifold

Whitehead's Copernican turn with regard to metaphysics, we suggest, is not identical with, but related to, the Copernican revolution that is attributed to Whitehead's reversal of Kant and his own famous Copernican revolution of thought, especially in the *Critique of Pure Reason*. Kant's turn was meant to initiate an awakening from a "dogmatic slumber" that is largely identified today with the conceptual grip of metaphysics. While, with Kant, metaphysical thinking is, on its own terms, formulating the real reality of the world, it is, in fact, only a fantasy of the mind in constructing reality out of the sense

perceptions of a chaotic world appropriated by its own measures, its transcendental categories. After Kant, the transcendent reality of metaphysics, that is, its empirical meaninglessness, is nothing but a "transcendental illusion" of the human mind that cannot avoid such essentializations and reduplications of empirical reality in a metaphysical realm of abstract ides, substances, and entities. Whitehead's own Copernican revolution of Kant, however, intends to revert Kant's "metaphysical claim" or the claim of metaphysical illusion by reverting his idealistic presupposition of what Derrida calls a "metaphysics of presence" that still works through his transcendental categories insofar as they begin with the mere representation of the sensual world in our constructive mind and, hence, the still Cartesian dualistic doublet of empirical and transcendent world, namely, in the form of the transcendental subject, the isolated mind in its apperception of presupposed identity.

Whitehead calls this Copernican turn, from Kantian representation and dualism to physical influx and emergent mental construction, his "critique of pure feeling" (PR 113). Neither is it fixated on the isolated subject of construction that leaves the world in its abyss of the mere phenomenon, nor is it opposing deconstruction to construction. Rather, since it follows Kant's *critique* (the epistemological turn) as an analysis of experience as "constructive functioning" (PR 156) it reverts its dualistic presupposition, the bifurcation of constructive subjectivity and inert reality, into a concrescing movement of the world into emergent, but fleeting syntheses *of* world before any rational grasp or categoreal fixation. Since the epistemological isolation of the subject is relieved from its self-indulgent apriori origin, the world is relieved of its mere function to mirror the mind. Epistemology flows back into ontology, cosmology, and physics and metaphysics becomes the expression of the analysis of the construction that is the event of the experience of the world itself. Whitehead's Copernican turn is *metaphysical* insofar as it does not accept the dualistic isolation of any "reality" from the flow of experience—that which in the *pure feeling* of world is the *event* of its happening of its metaphysical structure.

Whitehead's "metaphysical" turn, on this Kantian background, is resonant with Nietzsche's and Heidegger's *critique* of metaphysics instead of pre-Kantian rationalistic or idealistic suppression of the reality of the world as pure becoming (of which being is only a regress into fixation) or of the difference of being as event from the beings as substances. Against both it is led by Whitehead's ontological principle for which there is no "reason" except in the event of experience. Hence, any metaphysical structure is that of a world of becoming of events of experience and the analysis of the experience of events and as events of world; it is not prefigured but experienced. And it is ontological insofar as it discovers the difference of Being as Event (Heidegger's ontological difference) only in the event of becomings; it's being is the immanent creativeness of the events themselves (cf. PR 7).

While Whitehead's metaphysical turn is opting for an aesthetics of the non-duality of mind and matter, subjectivity and objectivity, epistemology and ontology, being and becoming, it has in fact overturned the binary structures that, for Derrida, have been the mark of metaphysics—and all metaphysics is one of self-presence of the controlling binary top over the marginal bottom: mind over matter, subject over object, epistemology over ontology, Being over becoming. In fact, in a Derridian light, it becomes obvious why Whitehead did not understand Kant's Copernican turn as a turn at all, namely, because it still reduplicates the controlling self-presence of the (transcendental) subject substituting the primacy of substances over events; hence its epistemological preference is still based on a Cartesian *metaphysical* decision. Like Derrida's *différance*, Whitehead's method of metaphysical non-dualism instigates in fact also an overcoming of any Spinozist substantialism and monism in favor of a pluralism that, together with his new (radical) empiricism has led Deleuze to proclaim himself in the wake of Whitehead's new, open, indeterminate and creativity arousing metaphysical approach.

In fact, in the contemporary landscape of deconstructive dismissal of metaphysics on the lines of Derrida—and still following Heidegger—and the renewed interest in its potency in Deleuze, we find Whitehead's claim to perform a new, a different kind of metaphysics intriguing. And we face at least four directions of such a "metaphysical encounter." While the post-Heideggerian existentialist and phenomenological approach has led to a severe and unrevised critique of metaphysics in general by employing a universal hermeneutics that revises metaphysical "truth" with interpretation (Vattimo), the phenomenon (Marion), and the suppressed Real (Lacan), its more exclusively language-oriented siblings dismiss it on Nietzsche's account of the laws of power as repressive signification of binarisms (Derrida) and the all-pervasive play of power (Foucault).

Over against such deconstructive approaches, however, a resistant constructive revival of metaphysics has taken place; more hidden at first and in the midst of the ocean of the diffusion of the rationalist remainders of the Kantian divide of Critique and Dogmatism. They might be associated with reinvigorated interests in science (Michel Serres), mysticism (Bataille), and the disappearance of the world (Baudrillard); they are rigorously non-foundational and pluralistic in nature and passionate about this world—over against any transcendent realm of metaphysical entities, alternative realities, or heavenly projections. And insofar as they have become interested in Whitehead again, they have Deleuze as link: his insinuation of immanence and difference, singularity and event, pluralism and empiricism, being *poststructuralist* in nature, became exploited in its *constructivist* implications—the self-construction of the world from events.

This kind of new objective realism within a poststructuralist constructivism as it related to Whitehead, for instance, through the work of Isabelle Stengers and Bruno Latour, is still surrounded by alternative concepts of con-

structivism: the new mathematical constructions of philosophical ontology in Alan Badiou, non-foundationalist and pluralist but outspokenly non-demonstrationist (especially anti-Deleuzian) and objectivist (truth-oriented), but also by an older rationalist constructivism, not unfamiliar in Whiteheadian circles, that opposed deconstruction with construction and interpretation with truth as if "reality" has become a conspirer again and as if constructivism can still be set *against* Kant's Critique and Copernican turn. It is neighbored by undeconstructed pre-Kantian modes of metaphysics that, be they empiricist or rationalist, still seek to fulfill the Cartesian project of a *fundamentum incon cussum* or, at least, of an Enlightened rationality that follows the anthropocentric humanism of self-sustainance in an insecure world. With Kant's *First Critique*, they ask as its core question: What is it to be human?

The new modes of deconstructionist and constructivist metaphysics, however, ask a different question: How can we understand a world that allows for novelty to happen (Deleuze), of a world that in thoroughgoing "solidarity" is bound together without human exception, sublimation, or aim? It is a fundamentally *ecological* world, in which metaphysics today—surprisingly or not—asks Whitehead's questions again: How, in an immanent field of experience, is the event of the world *meaningful?* How, aesthetically, as the question of discordant harmony that saves us from "Anaesthesia" (AI 294) and, politically, as "world-loyalty" (RM 60), can we today be "critical and yet constructive" such that a metaphysics "of adventure, of speculation, of search for new ideas" can "maintain an active novelty of fundamental ideas illuminating the social system"? (MT 174)

4. Cosmology Again

Metaphysics is a strange animal: Classically concerned with reality, substances, universals, and eternity, criticized as idealistic, denounced as foundational, and uncovered as socially stabilizing, reverted to interpretation, process, singularities, and novelty, mutating in its methods and conceptuality—it is still alive, that is, producing new forms of questions vital to cultural, social, and ecological challenges of our time. At its best, it is not only interpreting or cutting through the illusions of the obvious, but also visionary of a future of humanity to come within a world to be defined by it. Even through and after the grand criticisms of Kant, Nietzsche, and Heidegger (and their followers), it retains a guerilla-presence in its denunciations, reversions, and revivals. Maybe metaphysics is one of Kant's "transcendental illusions" that we cannot flee as we cannot escape Foucault's power-structures underlying our discourses?

Maybe, however, metaphysics could also be what Whitehead calls an "imaginative leap" (PR 4)—not of a illusionary character, a "phantasy," but of an "imaginative generalization," "imaginative interpretation," "imaginative

rationalization," or "imaginative construction" (PR 4-5), a "speculation," that does not repeat the hidden truth of (ultimate) reality, but *creatively generates* reality, truth, and the universal in the event of its happening and by instigating an event of a future that is not precedented and resembled by any pre-given structure of the past just to be discovered. Maybe the best metaphysics can do is "*to promote the art of life*" (FR 4). Maybe this is Whitehead's "other" Copernican revolution: that the importance of Whitehead's metaphysical claim in the context of the contemporary philosophical landscape may well be that it highlights an environmental imperative based on a radically aesthetic impulse that is not about survival per se but about the good life—not just of humanity, but in resonance with the whole cosmos.

The more traditional, *Process and Reality*-centric account of Whitehead's late thought rightly recognizes that his philosophy of organism seeks to turn much of the Western philosophical tradition on its head, seeing as primary not the static maintenance of being, but the creative process of becoming. Yet, we might argue that the full significance of the philosophy of organism only comes into view from the perspective of the later works. Since the *nature* of reality as the dynamic process of becoming, as it is explored in exquisite depth in *Process and Reality*, cannot really be understood without also seeking to understand the very "*meaning* of actuality" (MT 111, italics added), which is the central focus in Whitehead's later works, we find that the "later" do not represent mere applications of a metaphysical "scheme," but rather initiate the very process by which it can be recognized. Its *insights* only come fully to the fore in the later works when its *importance* is explored. Only there do we learn that the repudiation of "vacuous actuality" (PR 29) that is so central to earlier accounts of Whitehead's philosophy of organism is fundamentally an *aesthetic* and *ethical* protest and creative impulse for novelty. It is here, in these late works, that we learn the *significance* of Whitehead's metaphysical claim that the true "base of reality" is the "sense of 'worth', … of existence for its own sake, of existence which is its own justification, of existence with its own character" (MT 109).

Perhaps another way to view the overall development of Whitehead's thought and, hence, his Copernican turn "beyond" metaphysics—if it is not its use as limit—is to understand it as a process of increasing universality that is accompanied by equally increasing relativity. While the early works, methodologically and conceptually, begin with mathematical studies in universalized geometry (of space-time) and symbolic language as well as the relationship of logical and mathematical language and physical epistemology in the light of relativity theory, the Harvard works blend the pan-physical with the metaphysical perspective. The question of space-time events becomes one of their inner character and value, as well as the mutual process of becoming-subject (mentality) and becoming-object (physicality), of a nexus of intersecting and nested societies and environments of cosmological magnitude in

which humanity is integrated, and thereby deprived of its self-constructed privileged status and appropriately relativized.

The late works, however, in having gone to the limits of universality and relativity now relativize, in their own turn, this universality itself as the *event* of becoming. As metaphysical universality now becomes integrated and relativized into this environmental process, these late works besides and after *Process and Reality*—especially *Symbolism*, *Function of Reason*, *Adventures of Ideas*, and *Modes of Thought* (with some of the late articles and lectures)—address this environmental relativity of metaphysics as cultural symbolization, art of life, the generation of civilization, and thought as modes of life. Metaphysics becomes a human activity that addresses the environmental relativity of humanity, its future with the cosmos, and a harmony that issues in perpetual recreation of novelty, not for the sake of novelty, but for the sake of an increasingly civilized life that recognizes, nurtures, and develops the care for the world in its multiplicity of environmental intertwining.

Indeed, over against any rationalist imperialism of metaphysical generality of precedented "reality," Whitehead envisioned its *limits*: not just of language or the capacities of mind to perceive such generalities, but by a cosmos that is a *creative process of the unprecedented*. This "cosmology" is not just a negative limit that hinders metaphysics to ever be completed (to find the generalities for all "cosmic epochs"), but it is *productive* by the positive impulse to seek novelty beyond all definitions of structured reality of any cosmos. Maybe it is precisely philosophy as "cosmology"—as limitation and productive procedure—that is "beyond" metaphysics? And maybe it is precisely in the "late" works that Whitehead addresses this two-folded limit of metaphysics as social and ecological recourse of a future of the *common* "cosmos"—as an aesthetics of cultural development for which metaphysics plays its role as limit beyond which we have to venture as matter of an "ecological civilization"? One of the most challenging passages to this effect can be found in Whitehead's *Symbolism* (1927):

> Thus mankind by means of its elaborate system of symbolic transference can achieve miracles of sensitiveness to a distant environment, and to a problematic future. But it pays the penalty, by reason of the dangerous fact that each symbolic transference may involve an arbitrary imputation of unsuitable characters. It is not true, that the mere workings of nature in any particular organism are in all respects favorable either to the existence of that organism, or to its happiness, or to the progress of the society in which the organism finds itself. The melancholy experience of men makes this warning a platitude. No elaborate community of elaborate organisms could exist unless its systems of symbolism were in general successful. Codes, rules of behaviour, canons of art, are attempts to

impose systematic action which on the whole will promote favourable symbolic interconnections. (S 87-88)

If metaphysics appears as immanent, such as a "cosmology" that has become a general *cultural symbolization* of such an endeavor of novelty and connectivity, it will indeed promote, critique, and envision the structures that initiate and always renew the "good life" in society and environment.

It is the first step in sociological wisdom, to recognize that the major advances in civilization are processes which all but wreck the societies in which they occur: — like unto an arrow in the hand of a child. The art of free society consists first in the maintenance of the symbolic code; and secondly in fearlessness of revision, to secure that the code serves those purposes which satisfy an enlightened reason. Those societies which cannot combine reverence to their symbols with freedom of revision, must ultimately decay either from anarchy, or from the slow atrophy of a life stifled by useless shadows. (S 88)

Viewed through the lens of the later works, then, the deep aesthetic and ethical roots of Whitehead's philosophy become apparent in such a way that they constitute, so at least we suggest, not only the *significance* of his earlier metaphysical claim, but reveals its true *intention*: *the initiation of a creative life within the cosmic nexus*. Indeed, in this light, the expansive and insightful discussions of beauty and value that permeate his final books, *Adventures of Ideas* and *Modes of Thought*, and essays, "Immortality" and "Mathematics and the Good" (1941), are seen not as applications or afterthoughts, but as both the non-foundational reason and motivation of his earlier attempts at metaphysical system building—not as closed system, but as perpetual construction of satisfying human and cosmic harmonies. Thus, we think, Whitehead's later works are not peripheral applications that can be bracketed. Rather, as an attempt to understand the art and adventure of life, they seek to depict the aesthetic wellspring from which it emerges and the beacon toward which it is lured.

Part One

COMPLEXITIES OF SYSTEM,
LIFE, AND NOVELTY

One

TOWARD A METAPHYSICS OF EXPRESSION

Vincent Colapietro

> Philosophy can never hope finally to formulate these metaphysical first principles [or ultimate generalities]. Weakness of insight and deficiencies of language stand in the way inexorably. Words and phrases must be stretched towards a generality foreign to their ordinary usage; and however such elements of language be stabilized as technicalities, they remain metaphors mutely appealing for an imaginative leap. (PR 4)

1. The Renewal of Speculative Philosophy

The renewal of speculative philosophy is a recovery of not only philosophical perspective but also intellectual humility. Can such perspective ever be recovered without the retrieval of such humility, without the surprisingly rare ability to perceive what we encounter, and quite apart from our presumptions to know (i.e., our *knowingness*)? It is, accordingly, the opposite of what it might appear to be. Its audacity is as much as anything *in* its humility. There is paradoxically, in the bold experiments defining speculative philosophy, at least an implicit recovery of humility as an intellectual virtue.[1] In *Process and Reality,* Whitehead underscores both facets of such philosophy: "Speculative boldness must be balanced by complete humility before logic, also before fact." He immediately adds: "It is a disease of philosophy when it is neither bold nor humble, but merely a reflection of the temperamental presuppositions of exceptional personalities" (PR 17). The critics of speculative philosophy tend to fixate on what they take to be the reckless boldness and, indeed, intellectual irresponsibility of those who engage in this manner of theorizing. That is, they tend to miss what a speculative philosopher such as Whitehead stresses—the abiding need for intellectual humility.

Indeed, the radical doubts that some might have about speculative philosophy likely conceal a theoretical arrogance rather than intellectual humility. The denunciation of our predecessors, not so much their particular doctrines as their animating impulse and overarching ambition, might seem to be the measured judgment of a healthy skepticism. It is, however, anything but this. Such wholesale dismissal is, however, an arrogant judgment of an uncritical skepticism, one unwilling or unable to check its own inhumane presumption. Such skepticism is insufficiently skeptical about its own motives and

legitimacy (Peirce 1992, 1, 235). A healthy, orienting skepticism is always more cautious and specific about the force and scope of its doubts.

The renewal of speculative philosophy cannot only be programmatic. It must also be exemplary: it must prove its possibility by exemplifying its power, in a more or less realized expression of its theoretical applicability (PR 3, 6). In other words, it must prove its possibility by *realizing* its objectives by actualizing itself in however imperfect or incomplete a form. Put yet otherwise, it must be an example of what it aspires to achieve: if the will is not to exceed the deed, it must be the act (or deed) itself. The prolegomena to any future speculation must be more than a catalog of likely pitfalls. It must be the methodologically self-critical exercise of our capacity for speculative thought. But *why* exercise this contested capacity, especially when other pressing intellectual tasks abound, *why* (to state the matter even more polemically) indulge our theoretical fancy?

C. S. Peirce goes so far as to suggest that "metaphysics is the Paris of the intellect: no sooner do the most scrupulously severe reasoners find their feet on this ground than they give the loosest reins of license to their logic" (Peirce 1979, 182). But he also insists: "Whether we have an antimetaphysical metaphysics or a pro-metaphysical metaphysics, a metaphysics we are sure to have. And the less pains we take with it the more crudely metaphysical it will be" (Peirce 1992, 108). Wonder conspires with the exigency for an orientation toward the world to propel us toward framing some vision of the cosmos, however crude and unacknowledged. The most important question confronting the human mind here is, accordingly, not *why* should we exercise our speculative imagination, but *how* we should do so.[2] Like the pragmatists, Whitehead sets out from and returns to the world as an arena of action, a sphere whose contours, constitution, and components are disclosed through the ongoing struggles of situated actors (or implicated agents) to realize various purposes.[3] The exercise of our agency compels us to frame some account of the spheres of our engagements and endeavors. Thus, the task and renewal of speculative thought is inescapable.

Moreover, such renewal needs itself to be renewed. My *philosophical thesis* is just this. More precisely, it is not only that such renewal needs itself to be renewed but also that this renewal involves a historically motivated return to the phenomenological basis of our most basic notions. My *hermeneu tic thesis* is that we can observe in Whitehead's later thought (at least, in some important respects) a more methodologically self-conscious renewal of his speculative project.[4] He is aware that this task can never be accomplished, once and for all; it must be taken up anew, now and again. In concert with other articles in this volume (e.g., Christoph Kann and especially Stascha Rohmer), then, I want to highlight how works by Whitehead written after *Process and Reality* (1929)—not least of all, *Modes of Thought* (1938) and, to a lesser extent, *The Function of Reason* (1929)—are best interpreted as integral parts of his *ongoing* renewal of speculative philosophy. Such a re-

newal involves giving more or less systematic expression to the ordinarily dumb certitudes of our conscious experience. One of the most salient features "of the primary mode of conscious experience is its fusion of a large generality with an insistent particularity" (MT 4). This generality is intimately connected to the intelligibility of such experience, while this particularity is bound up with our sense of the irreducible uniqueness and incomparable singularity of what is concretely encountered in experience. The task of assemblage demands turning, time and again, to the fusion of such generality and particularity, thereby renewing our efforts to do justice to the disclosures of our experience.

2. Modes of Thought: A Paradigm of Renewal

In particular, I want to highlight the methodological self-consciousness expressed or articulated in *Modes of Thought* (cf. Kann)*,* taking this self-consciousness to be itself an expression of an awareness of an irreducibly vague background forever eluding an adequately systematic articulation (cf. Charles Taylor). This methodological self-awareness gives voice to *a sense of importance*—the importance of a vast, vague, unmeasured and indeed immeasurable context in which we are enveloped and implicated. No matter how adequate is any experiment in speculative philosophy, thus any *essay* in systematic expression, especially when judged against the stultifying influence of inherited schemes, inadequacy is inescapable. Hence, in giving voice to the irreducibly vague notion of importance (and doing so at the very outset of his renewed effort to ground his speculative venture in philosophical assemblage), Whitehead is, in effect, bearing witness to the vast, vague, and largely incomprehensible context providing the background against which meaningful utterances and (among these) the most precise formulations stand out.[5] He moves decisively toward what James called "the re-instatement of the vague to its proper place" (James 1890/1981, 246; see Gavin 1992), but at the same time Whitehead appears to have pulled back from the full force of the implications of his own later insights. To adapt the language of his philosophy of education for describing the development of his philosophy, we might say that the culminating stage of generalization must always be a return to the inaugurating stage of romance. As such, we at this stage must be attentive to the dangers of the intervening phase of precision, as these emerge and insinuate themselves in the culminating phase.

Indeed, if we take *Modes of Thought* seriously—thus, if we read this work not as a summation of prior achievements but as a renewal of speculative adventure—the stage of generalization in Whitehead's development is nothing less than one of romance. Moreover, he is in this and other later works attentive to the dangers of adhering too narrowly to ideals of clarity and precision. But, when celebrating in the Epilogue to MT the kinship of

philosophy to poetry, Whitehead concludes by aligning philosophy with "mathematical pattern" (174) rather than what might be called *phenomenological evocation.* This might constitute a failure of his, however slight, to follow out the implications of his own thought.

Indeed, the kinship of philosophy to poetry might be even deeper than Whitehead suggests. While the main difference between poetic and philosophic utterance is other than where he locates it ("Poetry allies itself to metre, philosophy to mathematical pattern" [MT 174]), both forms of utterance are, first and foremost, *evocative.* Their function is to call us to what has called to the speaker or writer for acknowledgment and expression. In a more expansive treatment of Whitehead's later thought, then, I would aim to show, at the very least: (1) what Whitehead identifies as philosophical assemblage is primarily a phenomenological evocation designed to counteract the systematic occlusions of alternative systems or categoreal schemes; (2) a less hesitant reinstatement of the vague than that encountered in Whitehead's later writings is one of the most important trajectories of these writings themselves (while driving in this direction, they stop short of what Whitehead's own insights require); and (3) a more developed theory of symbolism than anything found anywhere in his works is needed for doing justice to the evocative function of philosophical discourse, especially in its recurrent phase of philosophical assemblage but also in the systematic articulation of the implications of what is arguably *the* defining operation of speculative philosophy—*descriptive gene ralization* (PR 10). What I have to say here should hence be heard as a preliminary study of this more expansive treatment.

Allow me thus to return to my substantive (as distinct from my hermeneutic) thesis, though stated somewhat differently. The renewal of speculative thought hence enjoins us to return, time and again, to the disclosures of what we cannot help identifying as primary experience.[6] The return to such experience is, at once, a vital movement *within* speculative philosophy and an irrepressible impulse *beyond* any historical realization of the speculative drive. In a sense, it might even be an uncontrollable impulse beyond speculative philosophy or, more radically, articulate thought itself (cf. MT 174). In philosophy no less than poetry, the limits of expression—at least, a sense of approaching or confronting such limits—might be reached from within the categoreal schemes or other expressive ventures generated by a sustained effort in the direction of luminous expression. Our most adequate articulations are perhaps always accompanied by the Jamesian sense of "ever not quite" (or "ever not yet").

For honest inquirers, this sense is never inert. It is always propulsive, for it propels them back to "the rough ground" of their everyday experience and shared practices (Wittgenstein 1953, #107; cf. PR). Whereas in the later Wittgenstein the movement back to the rough ground appears to mark a break with speculative thought, in the later Whitehead it clearly signals a renewal of the *project* of such thought. In particular, phenomena of communication or

expression are especially relevant here. They need to be recovered in their full force and deeper implications, if speculative thought is to be recovered. In *Adventures of Ideas,* Whitehead is rather explicit about this. Plato's Receptacle is, upon his interpretation, "the doctrine of the immanence of Law, derived from the mutual immanence of actualities." Whitehead immediately adds: "It is Plato's doctrine of the medium of intercommunication" (AI 134). He continues, "The modern cosmologies are all detailed variations of the great types [originally formulated in the classical epoch]. … They revolve round the diverse notions of Law, the diverse notions of the communication between [or among] individuals, and the diverse notions of the mediating basis in virtue of which such communication is attained" (135).

The notions of communication here are already speculative ones, but they are, as such, derived from the primordial experience of communicative agents. Such experience occurs not only between agents but also relates to whatever they encounter in experience (including what they encounter *as* factors caught up in processes of intercommunication [cf. James]—e.g., the bird fleeing at the likely sound of a predator). Our experience of things is that they communicate their presence and import to us, though not necessarily in a clearly audible or immediately intelligible manner.

The history of cosmological speculation serves the cause of speculative thought, not least of all by making available to us in explicit form the pivotal conceptions around which such theoretical adventures inevitably revolve. But the derivative status of these pivotal notions also comes into sharp focus by means of historical narrative, for any searching account of these influential conceptions must encompass their derivation from not only antecedent conceptualizations within this or that specialized discourse, but also from the primordial experience of situated actors implicated in shared practices and, therein, entangled in historical affairs.[7] In any event, methodological self-consciousness, as exemplified by Whitehead, encompasses historical self-consciousness.

Of all the innumerable topics on which we might focus in our efforts to assemble the requisite materials for a cosmology rooted in well placed concreteness, those systematically denied or disfigured by the dominant habits of philosophical thought to the demonstrable disadvantage of those entombed in these intellectual habits are the ones that we most need to evoke. The force of their evocations needs to resound in our discourses about the cosmos and our status in the universe. The extent to which the philosopher (like the poet) is primarily responding—often simply by way of acknowledgment—to the call of the world,[8] the specific ways in which some of the more salient features of the experiential world call for recognition needs as much as anything else to be highlighted here. The acute sensitivity of the poet, nowhere more observable than in the radical receptivity of the poetic temperament to the call of the world as much as to the sounds of language (cf. Ponge), has a counterpart in

the nuanced receptivity of the speculative philosopher, at least in the White-headean sense.

The renewal of speculative thought confronts anyone committed to this project with both questions regarding the "materials" to be assembled and ones regarding the *form* in which these materials are to be articulated. The work of systematic articulation cannot, however, be separated from that of philosophical assemblage, just as the work of such assemblage is inherently (thus, inescapably) critical. Such articulation gathers within itself the energies of assemblage and proves its value by formulating, as integral parts of its systematic elaboration, descriptive generalizations having nothing less than evocative power (the power to call our attention to otherwise overlooked dimensions of our world). In brief, systematic elaboration is a continuation of philosophical assemblage: it fails to attain *its* objective if it fails to bring before us the experiential world in a more luminous light than rival schemes can do. In addition, the assemblage of materials is of a piece with the critic of abstractions (such assemblage being integral to such critique): it is, indeed, arguably the principal means by which specific examples of the fallacy of misplaced concreteness are exposed as such. The dialectic of phenomenological assemblage and systematic articulation is, accordingly, a defining feature of speculative philosophy in the Whiteheadean sense. Hence, it deserves additional attention.

"System is," Whitehead insists, "*important*. It is necessary for the handling, for the utilization, and for the criticism of the thoughts that throng our experience" (MT 2; emphasis added).[9] Speculative thought must assume systematic *form*. That is, it requires an intricately detailed and coherently elaborated form. The very importance of intelligibility, as disclosed in the various modes of human experience,[10] drives toward systematic expression of a self-expansive character, this *drive toward such expression* being possibly revelatory (or disclosive) of what reality, at bottom, *is*.[11] In assuming systematic form, speculative thought is able to discharge its critical function.[12] Whatever its kinship to poetry, such thought must go beyond intimation and allusion.

Whitehead is, however, equally insistent that, "before the work of systematization commences, there is *a previous task*—a very necessary task if we are to avoid the narrowness inherent in all finite systems" (MT 2; emphasis added)—i.e., in all historical realizations of the speculative impulse, including Whitehead's own monumental achievement. He identifies this task as *assemblage*. Assemblage is primary, systematization derivative and, hence, in a sense, secondary.[13] Indeed, we seem warranted in claiming that the *importance* of assemblage is primary, that of system derivative and secondary. But the primary stage of systematic philosophy is one to which philosophical inquirers must return, time and again: it is "unending." All that can ever be achieved in our experiments in assemblage is "emphasis on a few large-scale notions, etc." (MT 2). Such emphasis amounts to nothing less than the identification of what is important for *any* philosopher to take into account. This

task is a historically situated and (to no slight degree) motivated undertaking, for everything needs to be taken into account.[14] What most needs to be taken into account is, accordingly, what has been unduly overlooked or stressed by the dominant currents of contemporary thought, especially as these bear the debilitating influence of past thought. Being alive *in* the present practically means being alive *to* the present, especially to its inevitably inchoate and largely unacknowledged impulses.

The example of William James is, consequently, worthy of being recalled here. For, he is Whitehead's own exemplar of a philosopher attuned to what is historically (but not merely contemporaneously) important. The *importance* of James for Whitehead is as much as anything else James's keen sense of importance for the systematic articulation of that sense. While James's mind was, in Whitehead's judgment, "adequately based on the learning of the past," Whitehead stresses, "the essence of his greatness was his marvelous sensitivity *to* the ideas of the present" (MT 3; emphasis added). The example of James here is very pertinent since, in Whitehead's judgment, James "systematized; but *above all* he assembled" (emphasis added). Indeed, a deep and abiding suspicion animated the work of James, including his own recurrent efforts to cast his painstaking assemblages into systematic form. Whitehead captures this when he notes, James's "intellectual life was one [protracted] protest against the dismissal [or disfiguration] of experience in *the interest of system"* (ibid.; emphasis added). The interest of system is legitimate and indeed inescapable, especially when it is strenuously denounced, but it is, in the end, subordinate to other intellectual interests, especially when such interests are explicitly identified and (insofar as this is possible) harmoniously integrated in an ongoing effort to civilize experience. Even the most sensitive, multifaceted attempts to civilize human experience can themselves never escape degenerating into a debilitating inheritance.

The James to whom Whitehead was so strongly drawn is a thinker whom Whitehead in his later thought both follows and somewhat betrays. On the one hand, Whitehead turns back, with the cultivated naiveté (Dewey 1937/1987, 1) of the trained artist, to the phenomenological bases of his elaborately detailed formulations but, on the other, his drive toward system and precision marks a break with James.

For, in this phase of his development, we can hear Whitehead's evocation of not only the primordial experiences in which our theoretical abstractions must be rooted, but also the *irreducibly vague* background against which all precise claims assume their arresting forms and fulfill their defining functions. But, we also see Whitehead drawing back to some degree from the implications of his own thought. He nonetheless offers, at the very least, suggestions worthy of being carried farther than he does.

While Whitehead in *Adventures of Ideas* calls our attention to phenomena of communication, he, in *Modes of Thought,* focuses on expression. Expression provides, in my judgment, a better basis for a heuristically fruitful

descriptive generalization (PR 10; cf. Kann), though the two sets of phenomena are not ultimately separable.

If we begin to develop the implications of Whitehead's assertions about expression, we are prompted to acknowledge that we are not the only expressive beings in the universe. Whether or not we are the only consciously communicative beings, we are certainly *not* the only diffusely and intelligibly expressive ones. [15] Expression does not necessarily trace its origin to the higher forms of conscious mentality, as do obviously certain forms of responsible utterance or conscientious communication. It is better approached, if only initially, in terms of functionality as opposed to intentionality: Whatever fulfills the function of expression *is* expressive, regardless of whether or not it is describable in terms of what are ordinarily taken to be *intentional* predicates. Indeed, expression is so pervasive and manifest, in such diverse contexts and myriad forms, that we seem justified in taking expression to be characteristic of nothing less than being (cf. John E. Smith). To be is *either* to possess the capacity to press outward, at the very least leaving some discernible or intelligible trace of having been (for however brief a duration), *or* actually to press outward in such a way is to make a difference of largely indeterminable significance, at least in the immediate present. In brief, being is bound up with expression, so much so that expression, at least in an informal sense, constitutes nothing less than a category.

To the charge that such a claim is anthropomorphic, I am disposed to respond by insisting that all reflection attempting to go beyond the commonplace must inevitably be metaphorical in form. In addition, I am inclined to insist nothing *a priori* or nothing in the nature of such reflection precludes the power or appropriateness of metaphors drawn from the sphere of human activity or experience. Indeed, even reflection that is simply committed to doing justice to the commonplace—that is, aiming at enabling us to see what stares us in the face (cf. Wittgenstein)—must have recourse to metaphor. [16]

Expression presupposes importance (MT 20). Moreover, importance is intertwined with actuality or what might be more aptly called factuality. An unprejudiced account of the empirical world demands recognition of matters of importance no less than matters of fact. In our very assemblage of the matters to be integrated into a system, some of the more salient connections between matters of importance and those of fact are already part of our description. While the identification of what is meant by a matter of fact or, more simply, a fact cannot take the form of a definition (cf. MT 6-8), such identification must, in a single stroke, *mark off* from all other basic notions (or phenomena) this one and *gather together* this one with that from which it is primarily differentiated. Thus, the identification of what is meant by a matter of fact entails a differentiation from a matter of importance wherein the intimate connection—arguably the underlying equivalence—of importance and factuality is brought into sharpest focus. Matters of fact *are*, at bottom, matters of importance, though in certain phases of cultural development the equivalence

becomes not only obscured but also denied—denied in such a way that the one is taken to exist in isolation from the other. The tyrannical reign of factuality has unleashed ruthless assaults on importance, assaults cumulatively resulting in the trivialization of the very category (or notion) of importance. Importance has paradoxically ceased to be important. Factuality devoid of significance is alone, from the perspective being considered, judged to be significant. Here as elsewhere, any mode of thought unable to accord a place for what it instantiates or exemplifies is fatally flawed in that it is categorically neglectful (as a scheme of categories it leaves out of account what it itself exemplifies).

In presupposing the basic notion of importance, a highly generalized conception of expression also presupposes the dialectical interplay between matters of importance and those of fact. At an even more basic methodological level, the phenomenological task of assemblage and identification is, in Whitehead's project, a prolegomena to the inescapable task of systematic expression. Too many expositions of Whitehead, however, obscure the methodological or heuristic lessons to be learned from his example, perhaps even more than his explicit methodological pronouncements or his precisely formulated technical conclusions. Hence, my aim here has been to exhibit more fully than is typically done Whitehead's exemplarity, especially in reference to the work of philosophy, as one that is adequately envisioned and properly animated.

There is nothing idiosyncratic in this endeavor, for it drives in the direction of highlighting some of the most basic emphases in Whitehead's carefully articulated undertakings, not least of all his arresting characterization of philosophical discourse as a critique of abstractions. Whitehead never denies the value and indeed indispensability of abstraction, though the inherent dangers of this ineluctable drive (the drive to frame abstractions but also to elaborate more or less abstractly their implications and intersections) are always near the very center of his concern. The attainment or recovery of concreteness is always the result of a critique—a critique of abstractions. The philosophical critique of abstractions encompasses a metaphysical critique of those abstractions on which the theoretical imagination has fixated, elevating them to the status of nothing less than the paradigms of concreteness. Philosophy cannot help but be the critique of abstractions (though it might be more than such a critique). In order to carry out this critique in a conscientious, thoroughgoing, and systematic manner, this critique must extend to those designata that especially the most influential philosophers have identified as the exemplars of concreteness.

What presses outward toward whatever envelopes it, in such a way as to call forth a series of responses, is, in effect, an affirmation of importance. Whether or not it is an instance of self-enjoyment, it is quite plausibly an assertion of self-importance or, at least, an exercise of self-insistence. The importance of any finite actuality in its apparent insularity is, however, negligi-

ble. But, the importance of the isolated unit is, in most (if not all) respects, illusory. The expanding range of possible expressions is, however, anything but illusory. It is indicative of the emerging possibilities of creative intelligence, thus expressive creativity. The growth of these possibilities is itself indicative of a more rudimentary and pervasive tendency in a truly creative cosmos (one in which disruptive novelty and irrepressible creativity are among its defining features. For Whitehead, at least, the monism of importance needs to be squared with the pluralism of expression.

3. Conclusion: Creative Intelligence and Expressive Creativity

As I just noted, expression presupposes importance. In turn, intelligence and the work of understanding presuppose the *growth of expression* into reflexive and recursive as well as ever more expansive and encompassing forms. Among other things, this means an explicit and detailed account of expression itself (such as we find in Whitehead's writings). That is, intelligence is more or less bound to provide such an account. Given the growth and, hence, transformations of intelligence—inseparably connected to this, and given the emergence and consolidation of novel forms of expression, human and otherwise—we are also bound continually to revise this account. For Whitehead, at least, intelligence becomes in the case of humans "the organ of reaction to novel situations" and also "the organ introducing the requisite novelty of reaction" (MT 25).

Intelligence might be conceived as the offspring of importance and expression, grown to a degree of maturity beyond anything previously attained. So conceived, intelligence is to be measured not so much in terms of the consolidation (far less the systematization or formalization) of its actual achievements as by its drive toward as yet unarticulated possibilities.[17]

The theoretical deployment of intelligence is no less adapted for adventure than the practical use of this capacity. Each form of intelligence is, at bottom, nothing less than a capacity to respond to the call of a dramatic situation in which human ingenuity might make a decisive difference—if only by assembling a series of reminders (cf. Wittgenstein 1953, #127) by whose light we might inhabit the earth less violently and engage each other more humanely (cf. AI). The dramatic situation into which theoretical reason is thrown, time and again, frequently concerns the pressing need to give eloquent voice to the dumb certainties of everyday life, in opposition to the brilliant feats of explaining *away* such certainties by one or another influential tradition or thinker. While the consciousness of the drama into which theoretical reason is ineluctably thrown depends upon a historical narrative (or narrative understanding) of our actual situation, the response to this situation involves, more often than not, attending with artistic sensitivity to the pervasive features of our experiential world (it is, in other words, closer to lyrical consciousness

than narrative understanding). The renewal of speculative thought is rooted in the certainties of primordial experience, while such experience flows from the diverse forms of our situated agency. The systematic articulation of such certainties proves its worth above all by fulfilling the evocative function of poetic utterance or something intimately akin to such utterance (cf. Colapietro 2004). This function is inextricably linked to attuning us more finely and fully to the world, above all else, as an arena of action. But *action* here should not be taken in any narrow sense. Indeed, it encompasses those modes of comportment responsive to experiences of awe, wonder, or reverence as much as those "practical" exertions to transform the physical world.

As much as anything else, this function attunes us to the intimations of intelligibility gracing the surface no less than inscribed within the depths of nature, as the natural world is disclosed in and through the experience of living beings (especially reflexively and articulately intelligent ones). These intimations suggest meaning is more pervasive and primordial than its conscious apprehension by our linguistic consciousness. "The meaning of life is," Whitehead suggested, "in doubt" (MT 148). Of even greater importance, the life of meaning is in danger. Is it possible to clarify the meaning of life without at the same time affirming the life of meaning, the adventure of ideas? In turn, is it possible to affirm the life of meaning without granting a central place to expressive drives precisely as basic notions? Along with Peirce, James, Dewey, Langer and others in his adopted country, Whitehead imagined that the clarification of the one (the meaning of life) required an affirmation of the other (the life of meaning). Moreover, Whitehead along with such allied thinkers located this life, more than anywhere else, in the ongoing exchanges of intersecting agencies. That is, exchanges destined to reconfigure the fields of expression in which such agencies encounter, challenge, undermine, sustain, and facilitate one another. The life of meaning is, in short, nowhere more vibrantly present than in the interplay of expression. Whatever else they are, what we encounter in experience are media of expression, not least of all self-expression.[18] Finally, the adventure of ideas is as much a rediscovery of the commonplace as it is a venture into the utterly unknown. A. N. Whitehead's later thought, especially as put forth in *Modes of Thought,* discloses nothing less than this. It is not merely a summation of prior achievements, but truly a renewal of speculative thought in an evocative form, one emphatically conceived by him to be akin to poetic utterance.

NOTES

1. In a lecture delivered in 1935 to graduate students at Harvard and Radcliffe, later included as the Epilogue to *Modes of Thought*, Whitehead recalled: The assemblage of William James, Josiah Royce, George Santayana, and George Herbert Palmer "is a group of men individually great. But as a group they are greater still. It is a group of adventure, of speculation, of search for new ideas. To be a

philosopher is to make some humble approach to the main characteristics of this group of men" (MT 174). As boldly speculative as each one of these philoso phers, he was also humble before the disclosures of reality in and through expe rience.

2. In "The Nonspeculative Basis of Metaphysics," Edward Pols argues: "Theory especially scientific theory is of immense importance in human affairs: there are, after all, so many things that we can know only indirectly. But if it should be the case, as I think it is, that all indirect knowledge whether philosophic or scientific is both based upon and enframed by direct knowledge, then it must surely be the philosopher's chief function to work towards deepening our direct knowledge." I however take the task of assemblage to aim at just this. It is, moreover, one thing to identify as "philosophy's chief task" the deepening of our awareness of basic notions and the primordial experiences in which they are root, quite another to take this to be philosophy's *sole* task.

3. "Whatever is found in 'practice' must lie," Whitehead insists, "within the scope of the metaphysical description. When the description fails to include the 'prac tice,' the metaphysics is inadequate and requires revisions. There can be no ap peal to practice to supplement metaphysics, so long as we remain content with our metaphysical doctrines. Metaphysics is nothing but the description of the generalities which apply to all the details of practice" (PR 13). Later in this opening chapter to what is his most monumental achievement, he writes of phi losophy: "Its ultimate appeal is to the general consciousness of what in practice we experience. Whatever thread of presupposition characterizes social expres sion throughout the various epochs of rational society must find its place in phi losophic theory" (PR 17).

4. This certainly might seem odd to suggest, since the opening chapter of PR is so detailed and developed in comparison to the more or less scattered methodologi cal pronouncements to be gathered from MT. Indeed, these pronouncements *are* far less developed and integrated than those encountered in PR. Even so, the in dispensable work of philosophical assemblage is accorded in MT a much more prominent place than it is in earlier works.

5. In *Science and the Modern World,* Whitehead calls attention to the efforts of the Romantic poet William Wordsworth to evoke a sense of the world at odds with the emerging consensus among influential thinkers in his own time: Wordsworth "alleges against science its absorption in abstractions. His consistent theme is that important facts of nature elude the scientific method. It is important there fore to ask, what Wordsworth found in nature that failed to receive expression in science." Whitehead is quite explicit about his motive for pressing this question: "I ask this … in the interest of science itself." Indeed, he is concerned to issue in this work "a protest against the idea that the abstractions of science are irreform able and unalterable" (SMW 83). Even so, the voice of poetry deeply informs this protest, for the protest of such poets as Wordsworth, Coleridge and Shelley animates and directs Whitehead's conception of philosophy as a critique of ab stractions (see, e.g., SMW 18, 87, 142). Even if he contends that scientific intel ligence is not inherently condemned to commit the fallacy of misplaced con creteness, his own efforts to reform and alter the dominant form of scientific ideology ("scientific materialism" [SMW 17]) owed much to the impassioned

protests of the Romantic poets against science as such. As a critique of abstrac
tions, philosophy "completes" them by directly comparing them "with more
concrete intuitions of the universe, and thereby promoting the formation of more
complete schemes of thought" (SMW 87). In this task, the philosophy is aided
by the poet (for "the testimony of great poets is [here] of great importance").
The testimony of the poets expresses (to use Whitehead's own word) "deep in
tuitions of mankind penetrating into what is universal in concrete fact" (SMW
87). This is nowhere more important than in evoking a sense of the whole in
which we are enveloped, by which we are sustained, though about which our
thought and expression must always be in great measure vague and indirect.
Wordsworth in particular expressed, in Whitehead's judgment, a sense of nature
as being the field of enduring permanences carrying within themselves a mes
sage of tremendous significance" (SMW 87). For this philosopher, this poet
"dwells on that mysterious presence of surrounding things, which imposes itself
on any separate element that we set up as an individual for its own sake." That
is, Wordsworth for Whitehead "always grasps the whole of nature as involved in
the tonality of the particular instance" (SMW 83).

6. In philosophy no less than in poetry, "there is reference to form beyond the direct
   meanings of words" (MT 174). The function of such reference is, however, to
   evoke "direct insight into depths as yet unspoken" or unexpressed. Near the
   conclusion of the last chapter (or lecture) of MT, as distinct from its Epilogue,
   Whitehead asserts: In these lectures I have not entered upon systematic meta
   physical cosmology. The object of the lectures is to indicate [to point out] those
   elements in our experience in terms of which such a cosmology should be con
   structed" (MT 168). That is, the entire work might be read primarily as a contri
   bution to philosophical assemblage and (if I am correct) to the phenomenologi
   cal evocation so central to (indeed, constitutive of) philosophical assemblage.

7. In *How Philosophy Uses Its Past,* John Herman Randall, Jr., offers important in
   sights regarding these matters, insights both supporting and completing those of
   Whitehead. For example, he contends, "metaphysical criticism" is "that funda
   mental kind of criticism which appeals from some intellectual formulation to
   experience as actually lived or enjoyed [or *had*] 'directly' or 'immediately.' In
   such metaphysical criticism, the philosopher criticizes some formulated scheme
   of understanding, some 'abstraction' from the encountered world, some distinc
   tion that has grown into a 'dualism,' by appealing to a fuller and richer 'expe
   rience'   to the world actually encountered in all the varied ways in which men
   [and women] do encounter it in their various human enterprises" (Randall 1963,
   37 38). Randall stresses that, "the appeal to 'experience' is never the first step in
   philosophizing. In any concrete enterprise of experience, the concept of 'expe
   rience' is not the starting point, not a 'datum,' but an instrument of criticism"
   (Ibid. 42). The starting point is rather "some codified experience of nature al
   ready won, some understanding already achieved of nature." In the process of
   making this critical appeal to experience, theorists "acquire an enlarged and
   deepened conception of experience itself" (Ibid. 43).

8. Whether or not the call of the world is best interpreted as a *provocation*, as White
   head suggests in *Adventures of Ideas*, is, however, another question. My own in
   clination is to argue that the language of provocation is more misleading than il

luminating in evoking what is involved here. Indeed, my preference is for the language of evocation, rather than that of provocation.

9. The *importance* of system is an example of what Whitehead is exploring in the opening chapter of *Modes of Thought.* But the importance of systematic expres sion is itself rooted in a more or less dumb (or inarticulate) sense of importance, thus a guiding sense of salience and relevance.

10. "The chequered history of religion and morality is the main reason for the wide spread desire to put them aside in favour of the more stable generalities of science. Unfortunately for this smug endeavor to view the universe as the incar nation of the commonplace, the impact of aesthetic, religious and moral notions is inescapable. They are the disrupting and the energizing forces of civilization. They force mankind upwards and downwards" (MT 19; cf. PR).

11. Throughout this paper, I will be connecting the ultimate notion of importance to the equally basic notion of expression. This is simply an initial instance of this deliberate emphasis.

12. "Systematization is the criticism of generality, etc." (MT 3).

13. "Philosophy can exclude nothing. Thus it should never start from systematization. Its primary stage can be termed *assemblage*" (MT 2).

14. "Philosophy can exclude nothing" (MT 2). But, this makes selection and emphasis themselves all the more important (see, e.g., MT 18 19).

15. "Expression is the diffusion, in the environment, of something initially entertained in the experience of the expressor. No conscious discrimination is necessarily involved; only the impulse to diffuse. The impulse is one of the simplest charac teristics of animal nature. It is the most fundamental evidence of our presupposi tion of the world without" (MT 21).

16. In the opening chapter of *Modes of Thought,* the one devoted to "Importance," Whitehead calls attention to "a permanent difficulty of philosophic discussion" "namely, that words must be stretched beyond their common meanings in the marketplace" (MT 12; cf. PR).

17. The "final unity of animal intelligence," allegedly exemplified in human beings, is "the organ of reaction to novel situations, and is the organ introducing the requi site novelty of reaction" (MT 25).

18. Perhaps Whitehead's pansychism might be altered, with the emphasis falling on self expression rather than self enjoyment. Such a metaphor might be more apt than the one on which he and his most loyal disciples insist.

Two

RENEWING SPECULATION: THE SYSTEMATIC AIM OF WHITEHEAD'S PHILOSOPHIC COSMOLOGY

Christoph Kann

1. Introduction

In the preface to his magnum opus PR, Whitehead lists nine "prevalent habits of thought" that he wants to reject in so far as their influence on philosophy is concerned. The first, and the one I will focus on here, is "[t]he distrust of speculative philosophy" (PR xiii). This distrust—partly a non-rational and vague doubt or suspicion and partly a serious and firmly founded sceptical position that could be reasonably argued for—coincides with the well-known feature of both modern science and philosophy that criticizes speculation and disputes its cognitive relevance. While the distrust of speculation, as Whitehead sees it, is related to theories that transcend the limits of experience and primarily concentrates on metaphysical conceptions, it is not restricted to the positivistic and analytical traditions of the 20th century alone, but characterizes modern philosophy in general and can be seen, for example, in Descartes, Hume, and Kant.[1]

What is Whitehead's way of dealing with this distrust of speculative philosophy Instead of simply refuting the above-mentioned criticism, he intends to offer a convincing alternative to the enterprise in question. Whitehead presents his own project in PR under the despised notion of speculation and gives a renewed exposition of what speculative philosophy might be, in a version that could be resistant against the common critical approach. This new exposition of speculation and its execution in PR can be divided into three closely connected aspects of one and the same aim: First, by putting forward his own theory, he seeks to continue the tradition of speculative philosophy. Second, by pointing out the distaste that many critics have for it, he seeks to renew speculative philosophy. Third, by sorting these matters out, he seeks to reflect upon speculative philosophy. I will try to shed some light on all three of these aspects concentrating, however, mainly on the third—Whitehead's reflections upon speculative philosophy. These reflections again imply different aspects: How does Whitehead describe the epistemic source, the main project, the nature, and the method of speculative philosophy? And to what extent does the project of renewing speculation coincide with the project of a

philosophical cosmology? In treating these aspects, I will use the notions of speculative philosophy and of metaphysics in the same manner, since, on the one hand, Whitehead argues for "a sound metaphysics" (PR 84), while, on the other hand, his intentions reach far beyond a metaphysical conception of the traditional type. Yet it is not so much the content of Whitehead's cosmology that I am interested in here, but the way in which he bases metaphysics on his systematic or methodological framework established in PR and FR. A connected issue will be the question of how his later works, especially AI and MT, are related to his systematic aim outlined in PR. Since those later works reveal a significantly lower standard of systematic elaboration, I will have to ask whether Whitehead's renewal of speculation is finished with PR, or whether we are confronted with some mode of ongoing renewal.

2. Reason as the source of systematic speculation

In FR Whitehead contrasts two functions of reason as follows: The first function defines reason as one of the operations constituting living organisms in general, which means that it is a factor within the totality of life processes determined by purposes or final causes (FR 9 et seq.). In analogy to the sphere of organic life Whitehead describes the entire cosmos as coherently determined by "some lowly, diffused form of the operations of Reason" (FR 26). These activities make up the progressive tendency of the universe and function as a counter-agent against the also universally effective tendency of a slow decay of physical nature (FR 29, 31). The other function of reason is an activity of theoretical insight, which is independent from organic and physiological processes and stands apart from the sphere of the general processes in nature. In this latter mode "Reason is the operation of theoretical realization. In theoretical realization the Universe, or at least factors in it, are understood in their character of exemplifying a theoretical system" (FR 9). The two functions are distinguished by Whitehead as practical or pragmatic reason on the one hand and theoretical or speculative reason on the other. These functions or aspects of reason are identified by Whitehead with the reason of Ulysses and with the reason of Plato, namely reason as seeking an immediate method of action and reason as seeking a complete understanding of reality. The deficiencies of pragmatic reason and the importance of speculative reason as the instance of a complete understanding can be recognized in the disasters that have been produced by the narrowness of men confining themselves to a good methodology: "Ulysses has no use for Plato, and the bones of his companions are strewn on many a reef and many an isle" (FR 12).

3. Cosmology as the project of speculative reason

According to Whitehead, one of the main tasks of speculative reason is to produce cosmological schemes. In PR xii he declares his intentions "to state a condensed scheme of cosmological ideas" and "to elaborate an adequate cosmology". Here we have to explain the notions of cosmology and of scheme, because both notions have a special terminological meaning and also carry a certain programmatic importance It is particularly an analysis of the notion of cosmology that is essential, if we want to understand Whitehead's epistemological position and reconstruct the systematic aim in PR, subtitled "An Essay in Cosmology". With regard to his cosmological scheme, Whitehead formulates certain criteria that are of special relevance for my present purposes, because he does not only apply these criteria to his own conception, but also uses them as a checklist for the evaluation of central positions in the history of philosophy. In this respect Whitehead's *systematic aim* tends to coincide with a certain kind of *historical aim*.

The term "cosmology" as a notion for a branch of philosophy was established by Christian Wolff, who divided metaphysics into a *metaphysica gene ralis* or *ontologia* on the one hand and into *metaphysicae speciales*, i. e. (rational) theology, psychology and cosmology, on the other. The subject of a cosmology specified in this way is primarily the explanation of the world as a natural system of physical substances. It integrates metaphysical and ontological approaches reaching back to the beginnings of pre-Socratic thought. From a systematic point of view this cosmology overarches empirical conceptions—e. g. in the field of astronomy and mere speculative conceptions independent from observation. These empirical and non-empirical approaches were already conceptually distinguished by Wolff (as *cosmologia experi mentalis* and *cosmologia rationalis/scientifica*), although, nevertheless, he integrated both of them into the unifying discipline of cosmology. Later, they became more clearly separated. Scientific research has discovered instrumental resources and a more specialized range of problems and questions, and thus modified modern cosmology to the status of a discipline within the field of natural science.

Neither traditional cosmology in Wolff's sense of the word nor cosmology as a modern discipline among the natural sciences can serve as a convenient classification of Whitehead's project of a philosophical cosmology. With regard to the traditional division, his approach is by no means restricted to cosmology as a *metaphysica specialis* but rather overlaps with both the area of the other *metaphysicae speciales* and with *cosmologia generalis*. What is of particular relevance for Whitehead's cosmology, however, is not the complete generality of metaphysics, but rather the present cosmic epoch or stage of reality as exemplifying the most general metaphysical characters (PR 90, 441). Certain affinities to cosmology as a modern scientific discipline are also

quite obvious. Especially in PR and SMW an association with scientific matters and notions is intended, and in FR hypotheses concerning the origin and development of the material universe are implied. But as a speculative system with the aim of universal applicability Whitehead's project reaches far beyond the principally restricted and abstracting perspectives of the natural sciences. These circumstances make it difficult to describe his notion of cosmology in terms of well-known and established scientific classifications. Moreover, Whitehead's use of the term "cosmology" is obviously not uniform throughout and therefore requires further differentiation.

A. Whitehead's notion of philosophical cosmology

I distinguish between three different uses of the term "cosmology" in PR as follows: Firstly, Whitehead uses "cosmology" as a rough equivalent of "view of the world" or "view of life". In this very broad sense of the word, "cosmology" refers to conceptions based on science, e. g. the view of the world typified by Copernicus and Vesalius (SMW 1), but also to basic views of early or pre-scientific epochs. The religious cosmologies of antiquity (AI 104), the dramatic cosmology of the Greeks (SMW 9 et seq.), all kinds of elementary outlook inspired by—or inspiring—religion, aesthetics, ethics, science, or other cultural activities (AI 11 et seq., 103) fall under the heading of "cosmology." A cosmology in the sense of a common outlook is—according to Whitehead—determined by an epoch's dominating interests, within which science can occur among other forms of cultural activity. The dominance of the modern sciences "during the past three centuries" (that means from the 17th until the 19th century) is criticized as a restriction at the expense of other perspectives (SMW xxi). Whitehead comments upon the scientific emphasis of modern times as a cosmological provincialism, from which he derives a compensatory task for philosophy.

Secondly, what he seems to denote by "cosmology" is a scientific scheme differing from others by a higher degree of generalization. This claim is presented in the way that "there should be one cosmology presiding over many sciences" (FR 87), that "the cosmological scheme should present the genus, for which the special schemes of the sciences are the species" (FR 76), and that cosmology and the sciences should be "mutually critics of each other" (FR 77). This exposition of "cosmology" comes close to the notion of a *paradigm* established by Thomas Kuhn in the sense of a theoretical framework within which scientific theories can be tested, evaluated, and even revised thus resulting into scientific revolutions.[2]

Thirdly, a cosmology, according to Whitehead, is a scientific or philosophical scheme such as the one he himself has worked out in PR. In this sense, a cosmology can either be a scientific conception—an example he frequently mentions is Newton's cosmology (of the *Scholium*) (AI 156 et seq., MT 145

et seq., PR xiv, 93)—or a philosophical conception—Whitehead's main examples for this are Plato's *Timaios* (PR xiv, 93), Descartes' cosmology (MT 145), or so called *monistic* or *monadic* cosmologies (PR 19, 27). A cosmology in this third sense of the word can neither be identified with a general outlook in the first sense nor with a general scientific scheme in the second sense. Nevertheless, the third notion of cosmology overlaps with essential components of the two other notions or implies them. This can be demonstrated from Whitehead's explanation and exemplification of "cosmology" in the third sense, and also from the execution of his own system. The third meaning of the term "cosmology" seems to be the most important for Whitehead. It presents cosmology as a scientific or philosophical or metaphysical conception combining the systematic character of a discipline with the universality of perspective that is typical of a pre-scientific outlook. It combines universality with systematization. This broad and unspecific use of "cosmology" is not a peculiarity of Whitehead. A quite similar understanding of this term has been adopted by Karl Popper in the English preface to his *Logic of Scientific Discovery*, which reads as follows: "I . . . believe that there is at least one philosophical problem in which all thinking men are interested. It is the problem of cosmology: *the problem of understanding the world—including ourselves, and our knowledge, as part of the world*. All science is cosmology, I believe, and for me the interest of philosophy, no less than of science, lies solely in the contributions which it has made to it" (Popper 1959, 15; cf. 19).

Whitehead's characterization of cosmology as a philosophical or scientific conception is closely connected with his description of philosophy in general As one of the functions of philosophy he mentions its role as a "critic of cosmologies," further described as the function to "harmonise, refashion, and justify" different intentions or views concerning the nature of things—views such as science, aesthetics, ethics, and religion (SMW xxi). Furthermore, Whitehead postulates that philosophy has to emphasize the complete range of facts that are exemplified in the world in "shaping our cosmological scheme" (ibid.). Accordingly, we can distinguish a twofold task of philosophy with regard to cosmology, namely a critical and an innovative or productive one. "Cosmology", we are told, "is the critic of all speculation inferior to itself in generality" (FR 86). Hereby Whitehead stresses the critical task. In contrast to that, the innovative task of cosmology is "to frame a scheme of the general character of the present stage of the universe" (FR 76). Nevertheless, both tasks coincide in a cosmological conception of the kind that Whitehead has in mind. The task of framing such a general cosmological scheme, taken together with the task of a critical reflection on other views of the world, and then combined with the universal perspective and with the systematic aim of a science, leads to the basic and well-known description of cosmology given in the preface to PR: "Also, it must be one of the motives of a complete cosmology to construct a system of ideas which brings the aesthetic, moral, and religious interests into relation with those concepts of the world which have their

origin in natural science" (PR xii).[3] The unification of scientific and cultural aspects to the extent of linking together all relevant ideas of the civilized universe remains a constant issue in Whitehead's later writings and is repeated as a provisional result with regard to his doctrine of the comprehensive relatedness of the world in MT. Here he summarizes his "survey of the observational data in terms of which our philosophic cosmology must be founded" as follows: "[W]e have brought together the conclusions of physical science, and those habitual persuasions dominating the sociological functionings of mankind. These persuasions also guide the humanism of literature, of art, and of religion" (MT 165).

Whitehead's admittedly rather vague explanation of the task of cosmology, according to which disparate cultural interests should be (as quoted) brought into relation or brought together, contains more than just one aspect. Cosmology is supposed to produce a general scheme for the interpretation of the world, but it is also meant to provide an opportunity to reflect on the different approaches to this world and answer questions such as: How is the world experienced and comprehended by science, religion, arts, and literature? In that way a cosmology does not only represent an instrument for the interpretation of our experience but also a hermeneutics of the single approaches to the world that have to be synthesized by the cosmology.

B. Cosmology and the philosophical tradition

Though the programmatic description of what he calls a complete cosmology might at first sight be understood as the claim to a quite new type of theory, Whitehead integrates his project into a historical development reaching back to the early beginnings of science and philosophy. The basis for this is the assumption of a constant reservoir of problems that all modern cosmological conceptions have in common with their classical models: "They revolve round the diverse notions of Law, the diverse notions of the communication between real individuals, the diverse notions of the mediating basis in virtue of which such communication is attained" (AI 135).

In this sense Whitehead regards two cosmological conceptions as being classical and most influential, namely Plato's *Timaios* and the cosmology of the 17th century exemplified by Newton. They represent the background against which he works out his own conception, which is at the same time committed to insights of later traditions. "In attempting an enterprise of the same kind, it is wise to follow the clue that perhaps the true solution consists in a fusion of the two previous schemes, with modifications demanded by self-consistency and the advance of knowledge" (PR xiv). This emphasizes the importance Whitehead attaches to the central historical presuppositions and his confidence in a synthesis of historical presuppositions as the most adequate method: "The cosmology explained in these lectures has been

framed in accordance with this reliance on the positive value of the philosophical tradition" (PR xiv). The philosophical and scientific traditions are valued primarily as a reservoir of ideas covering positions that have to be integrated or else criticized and rejected by a new cosmology. Any cosmology must be capable of interpreting its predecessors and of expressing their explanatory limitations (AI 131). In their historical interdependence cosmological conceptions reveal a continuity that protects them from arbitrariness and supports their mutual relevance and their capability of illuminating one another.[4] Every endeavor to develop a new cosmology in Whiteheadian lines requires a comparison with the preceding conceptions. The relevance of a new cosmology is documented by this comparison because it has to establish itself as a critical instance for them. Accordingly, the cosmologies of Plato and Newton, which assume a special historical relevance for Whitehead, function as a coordinating framework for his own conception.

4. Nature and aim of speculative philosophy

Having given a first impression of cosmology as the main project of speculative philosophy, I will now concentrate on the nature of speculation itself to get a better idea of its cognitive and systematic relevance in PR. Since reflection upon speculative philosophy implies the requirement to know what it is, Whitehead starts by giving a definition and (in this respect he reminds us of a central methodology of medieval philosophy) an analysis of the definition's single parts. When he declares that the first task of his lectures (PR) is to define speculative philosophy and to defend it "as a method productive of important knowledge" (PR 3), he obviously suggests that an adequate definition of speculative philosophy contains the basis for its defense in itself and will thus be helpful to reject any distrust of speculation as a prevalent habit of thought. Whitehead's frequently quoted definition reads as follows:

> Speculative Philosophy is the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted. By this notion of 'interpretation' I mean that everything of which we are conscious, as enjoyed, perceived, willed, or thought, shall have the character of a particular instance of the general scheme Thus the philosophical scheme should be coherent, logical, and, in respect to its interpretation, applicable and adequate. (PR 3; cf. AI 222)

The fact that this definition is repeated almost literally in AI may indicate that Whitehead's later works are based on a quite constant idea of speculative philosophy.

To stress some main notions: Speculative philosophy we are informed, provides a system made up of general ideas, and its task is interpretation of experience "System" in this context means that speculation (first to be described ex negativo) is more than mere contemplation, more than *theoria* in the Platonic sense, more than a viewing of the way things are, more than a list of ideas collected at random. "System" rather involves a certain structure underlying fixed criteria and a composition guided by a certain method. Though Whitehead sometimes uses the notions of a system and a scheme synonymously (as e. g. in our quotation) (cf. also FR 69, 75), "scheme" nevertheless seems to be a notion of special meaning and relevance. As presupposed here, it is a conceptual projection guiding imagination and preceding the working out of a system (or a theory), which in this respect is the actualization or realization of an underlying scheme. The term "idea" is used by Whitehead in a broad sense that covers concepts or notions (the title "AI" is also based on this meaning) and propositions as well. "Interpretation" here just means the relevance of the scheme with regard to experience and can be resolved into the criteria of applicability and adequacy. "Experience" is used in the broadest sense, reaching far beyond consciousness and referring to everything we are able to get into contact with in so far as we are subjects of perceptive processes and communicate with our environment.

A. Criteria of speculative philosophy

In a first step, Whitehead enumerates three criteria for a speculative system: it has to be coherent, logical and necessary (PR 3). Later in the same paragraph he says that the system should be coherent, logical, applicable and adequate.[5] I read this to the effect that the criterion of necessity is to be resolved into two subdividing criteria, applicability and adequacy. Thus, a speculative system in the Whiteheadian sense in fact requires four criteria.[6] I will give a brief explanation of them: The qualification "in respect to its interpretation" is obviously restricted to the third and fourth criterion, and there is no corresponding qualification for the first and second: We may confine ourselves to the requirement that a system has to be coherent and logical in itself, irrespective of its task of interpretation. The claim that the scheme should provide interpretation is, therefore, subdivided by the criteria of applicability and adequacy. But in what sense can these two criteria be subsumed under or unified by the criterion of necessity? Whitehead gives an implicit answer in the following paragraphs. By saying that "[t]he metaphysical first principles can never fail of exemplification" (PR 4), he describes their applicability: The system needs exemplification in any instance of experience. By saying that "the philosophic scheme should be 'necessary,' in the sense of bearing in itself its own warrant of universality throughout all experience" (PR 4), he refers to their adequacy: The system needs exemplification in every instance of experience. The criteri-

on "logical" is used by Whitehead in its "ordinary meaning", that is, mainly consistency or lack of contradiction. Of major interest in this context is the criterion of coherence.

"Coherent" first of all means that

> the fundamental ideas, in terms of which the scheme is developed, presuppose each other so that in isolation they are meaningless. . . . In other words, it is presupposed that no entity can be conceived in complete abstraction from the system of the universe, and that it is the business of speculative philosophy to exhibit this truth. This character is its coherence. (PR 3)

In the latter statement it becomes evident that the concept of coherence is not restricted to its methodological use as a criterion for speculative philosophy implying a "coherence of understanding (MT 51; cf. MT 152). The methodological meaning of coherence rather rests upon an ontological coherence within the sphere described by the scheme. This twofold meaning arises from Whitehead's main metaphysical position. Coherence in its methodological aspect presupposes a coherence or functional unity of all entities in the universe, i. e. the assumption of mutual immanence in Leibniz' sense. This ontological coherence according to which "no entity can be conceived in complete abstraction from the system of the universe" (PR 3) is further explained as the result of a particular entity's process of becoming, defined as "the transformation of incoherence into coherence" (PR 25). This basic feature of process metaphysics can be understood in close affinity to Leibniz's doctrine of the first substances or monads because Leibniz, like Whitehead, regards relations as essential for the constitution of a monad. As every monad is connected with all other monads by means of its perceptions and represents a living, eternal mirror of the universe, a Whiteheadian actual entity is related to all other entities by means of perspective prehensions.

A certain difficulty might be seen at this point. At the stage of the methodological foundation of his system Whitehead names certain criteria for its intention of interpreting experienced reality. But at the same time he makes metaphysical presuppositions—ontological coherence—which, strictly taken, should not be stated before but rather within the system ruled by the criteria. For Whitehead, however, the assumption of ontological coherence is an inevitable pre-systematic condition for any universal interpretation—that is, for cosmology or for metaphysics in general Formulating principles of universal relevance is an essential feature of metaphysics, so that the experienced world as a whole must necessarily be presupposed as conceivable by a unified scheme. Though Whitehead's approach in this regard might seem to reveal circularity,[7] we should nevertheless concede to him the idea of ontological coherence in a pragmatic sense: Only if coherence is presupposed can reality

be understood and can it be referred to by a conceptual scheme. Thus, the possibility of metaphysics or cosmology—i. e. metaphysics in relation to a certain cosmic epoch or characteristic features of this particular world as experienced—principally rests upon the basic assumption of ontological coherence. Accordingly, ontological coherence is not only a legitimate, but a necessary assumption preceding any metaphysical or cosmological scheme, and it is a necessary condition that the scheme answers to this assumption.

B. The method of generalization and revision

After having characterized speculative philosophy with regard to its cognitive instance, its main project and its nature (definition and criteria), I now want to consider its method. How—by means of what procedure—does speculative reason frame a cosmological scheme?

According to Whitehead, the Greek and medieval philosophers were "under the impression that they could easily obtain clear and distinct premises which conformed to experience" (FR 68). Being "comparatively careless in the criticism of premises," they "devoted themselves to the elaboration of deductive systems" (ibid.). During the following history of philosophy, people continued to place much emphasis on the development of such deductive systems. They concentrated on the validity of the deductions, neglecting the question of the certainty of the underlying premises. Whitehead, however, (a) cautions against the assumption that it is easy to formulate propositions that are precise and correspond to experience and (b) points out that the power of deduction as a method of inquiry is easily overestimated:

(a) The use of deduction by philosophy is closely connected with the assumption that philosophy can and should start from self-evidence lying within the premises: "Philosophy has been haunted by the unfortunate notion that its method is dogmatically to indicate premises which are severally clear, distinct, and certain; and to erect upon those premises a deductive system of thought" (PR 8). The most striking example for this aim is probably Descartes with his search for a clear and evident basis for his metaphysics Whitehead, in contrast, maintains, that any kind of evidence (we have to qualify: except ontological coherence) can only be expected in the final stages and not in the initial stages of philosophical inquiry, and the definiteness of results that can be obtained is always tentative, provisional, and approximate (PR 4, 8). (Also Whitehead's own metaphysical conception is committed to this provisional character indicated by the subtitle "An Essay in Cosmology".)

(b) Whitehead repeatedly stresses the fact that deduction is the primary and appropriate method of mathematics but not of philosophy. "[T]he method of philosophy has . . . been vitiated by the example of mathematics. The primary method of mathematics is deduction; the primary method of philosophy is descriptive generalization" (PR 10). But does deduction not have any

function at all within the philosophical method? "Under the influence of mathematics, deduction has been foisted onto philosophy as its standard method, instead of taking its true place as an essential auxiliary mode of verification whereby to test the scope of generalities" (PR 10).

Here we have to examine two things: What is descriptive generalization and how is it connected with the method of deduction that Whitehead regards as an auxiliary instrument only? Whitehead illustrates his peculiar methodological proposal in a well-known metaphorical manner: "The true method of discovery is like the flight of an aeroplane. It starts from the ground of particular observation; it makes a flight in the thin air of imaginative generalization; and it again lands for renewed observation rendered acute by rational interpretation" (PR 5). With the help of this metaphor Whitehead distinguishes three phases of discovery, namely: observation, generalization and renewed observation.[8]

In order to clarify the item of imaginative generalisation we have to remember that, relative to any scheme (and theory as well), there are two sets of facts. The first set of facts determines the construction of the scheme. The second set consists of facts that the author of the scheme did not have in mind or even could not have had in mind right from the start. Nevertheless, they are relevant for the scheme, if it is meant to be universal. Accordingly, in a third step we should attempt to apply the scheme to items that were not taken into account in the construction of the scheme itself. Every item of experience is expected to illustrate the generic features (or at least some of them) expressed by the scheme. We usually judge the value and power of a scheme or a theory by the degree to which it can interpret facts that were unknown, and perhaps unknowable, at the time the theory was constructed. In the case of a theory like Whitehead's speculative system, the mode of procedure is to choose some facts as relevant (because it is simply not possible to know *all* the facts to be interpreted) and to interpret this small range of facts in terms of the system. More facts, which we could not have known in the initial stage of constructing the system, turn up in the course of experience and become objects of interpretation through the system. "We must be systematic", as Whitehead claims, "but we should keep our systems open" (MT 6). Thus, we have to examine these new facts in order to see if they can be systematically expressed within the terms of the system. If Whitehead's view of deduction as an "essential auxiliary mode of verification whereby to test the scope of generalities" (PR 10, as quoted above) makes good sense at all, it has to be identified with the third phase of renewed observation. In that respect, descriptions of new circumstances are assumed as candidates of conclusions inferred from the scheme. The validity of those provisional deductions makes up the verification of the scheme.

The effort to verify the system or scheme by integrating new facts—actually anything we come across—can be called, in Peter Simons' terms, the "integration requirement", which every responsible metaphysician should be

obliged to follow. Simons links this integration requirement and the need to revise the system when encountering stubborn facts to Peter Strawson's concept of revisionary metaphysics in contrast to descriptive metaphysics (Simons 1998, 383 et seq.). Strawson's well-known distinction runs as follows: "Descriptive metaphysics is content to describe the actual structure of our thought about the world, revisionary metaphysics is concerned to produce a better structure" (Strawson 1959, 9). On the basis of this dichotomy, Strawson refers to metaphysicians like Descartes, Leibniz and Berkeley as revisionary, while Aristotle and Kant are subsumed under the descriptive branch. Simons, like others before him,[9] subsumes Whitehead's metaphysics under the revisionary type. This makes good sense, because Whitehead not only rejects the substance-quality-scheme resembling the linguistic pattern of subject and predicate, but also replaces the classical substance ontology by the assumption of elementary process units in order to produce a better structure of thought about the world. Although Whitehead classifies his categoreal scheme as a working hypothesis, which in default of extended application needs to be reformed and then tested again, we must refrain, however, from identifying this procedure with the enterprise of a revisionary metaphysics, as sometimes seems presupposed by Simons and others. Rather, Whitehead's conception of constructing and reconstructing his conceptual scheme is in accordance with both types of metaphysics in Strawson's sense—with revisionary and with descriptive metaphysics alike, or, to put it reversely, even a conception of descriptive metaphysics can be subject to revision and improvement. Thus, Whitehead's conception in fact represents revisionary metaphysics in Strawson's sense, and, beyond that, it represents a hypothetic or provisional conception in the sense of his own peculiar methodology outlined here.

C. Assemblage versus systematization

While PR, as mentioned above, aims at building a speculative system guided by a set of criteria, MT initially clarifies that "[t]here will be no attempt to frame a systematic philosophy" (MT 1). This, however, does not mean hostility to systematization. "System is important", Whitehead states concisely: "It is necessary for the handling, for the utilization, and for the criticism of the thoughts which throng into our experience" (MT 2). Nevertheless, systematization is not the first or initial step in philosophical inquiry; it rather has to start from certain presuppositions. In Whitehead's view, the primary stage of philosophy "can be termed *assemblage*" (MT 2). What does *assemblage* mean?[10] Whitehead introduces this crucial term in a somewhat indirect and vague mode of explanation in the first paragraphs of MT. Accordingly, assemblage, as the counterpart of systematization and specialization, means opposition against the dismissal of comprehensive, profuse experience. It

opens up the possibility for a variety of studies and, transcending the purview of all definite conceptions, it compensates for their restrictions and narrowness. While systematization rests upon a fixed group of primary concepts, assemblage is open to ideas of larger generality. To put it briefly, assemblage is necessary to reclaim the totality of perspectives. Thus, it does not only function as an initial or provisional stage before construing a system, but also remains a guiding procedure that prevents us from overrating systematization: "Systematic philosophy", Whitehead explains, "is a subject of study for specialists. On the other hand, the philosophic process of assemblage should have received some attention from every educated mind, in its escape from its own specialism" (MT 2).[11] Assemblage and systematic elaboration are separate but nevertheless complementary procedures—both of them being the continuation as well as the criticism of each other. Speculative thought, in the stage of assemblage, must assume systematic form if it is intended to become an ingredient of a cosmological scheme. Systematization, on the other hand, must continuously become enriched by further assemblage.

Whitehead praises Plato, Aristotle, Leibniz and William James for their twofold achievement—the one consisting in philosophical assemblage and the other consisting in their contributions to the structure of philosophic system. Though Plato "grasped the importance of mathematical system", he cannot be regarded as a systematic thinker; instead, "his chief fame rests upon the wealth of profound suggestions scattered throughout his dialogues" (MT 2 et seq.). It was Aristotle who made the next step—he "systematized as he assembled. He inherited from Plato, imposing his own systematic structures" (MT 3). The history of philosophy reveals the significant importance of the pre- or non-systematic features of philosophical inquiry through all epochs. The outstanding thinkers of the past, as Whitehead points out, "have not achieved eminence solely by their championship of systems peculiar to themselves"—they "enjoyed insights beyond their own systems" (MT 82). The function of systematization, however, is to clarify insights, to direct attention to aspects of experience that are apt to exemplify special systems. Hume and, again, Plato are Whitehead's examples illustrating the fact, "that system is essential for rational thought" (MT 83). But at the same time they represent the limits of systematization. As Whitehead puts it, they "illustrate that the closed system is the death of living understanding. In their explanations they wander beyond all system" (MT 83). Undoubtedly, Whitehead reminds us of the requirement of systematic thinking, and at the same time of the need to transcend our systematic frameworks.

As far as Whitehead's main works are concerned, PR is more devoted to systematic elaboration, while AI and MT are more devoted to assemblage. The latter, however, is not a secondary mode of philosophy, but has its own relevance and value that lie beyond all systematic aims: "Apart from detail, and apart from system, a philosophic outlook is the very foundation of thought and of life. . . . As we think, we live. This is why the assemblage of

philosophic ideas is more than a specialist study. It moulds our type of civilization" (MT 63). In MT, as Whitehead himself states clearly, he has "not entered upon systematic metaphysical cosmology. The object of the lectures is to indicate those elements in our experience in terms of which such a cosmology should be constructed" (MT 168). Hereby he evidently subsumes his inquiries in MT under the procedure of assemblage. We should not wonder why PR as the earlier work represents a systematic philosophical cosmology, while the later work MT (as well as AI) represents elements of experience providing the basis for that cosmology by means of assemblage. The systematic cosmology and the elements of our experience as the material to be interpreted by the cosmological scheme are complementary procedures of one and the same unifying enterprise, namely the renewal of speculation.

5. Systematic aim as historical aim

Initially I stated that Whitehead's *systematic aim* can also be regarded as a *historical aim*, which should be understood as follows: When Whitehead refers critically to other philosophers—and he does so very often—this criticism usually means that their conceptions fail when checked against the analysed criteria, or that they correspond to them in only a restricted and deficient manner. So his set of criteria represents a standard of comparison for speculative schemes of the past. Almost all historical references in Whitehead's writings are connected with assertion or negation of accordance with one or several of those criteria. The most famous example of an offence against the criterion of coherence is the philosophy of Descartes and its two (or three, if God is included) kinds of substance, corporeal and mental, a distinction that makes up a disconnection of first principles. To Whitehead this means incoherence: "There is, in Descartes' philosophy, no reason why there should not be a one-substance world, only corporeal, or a one-substance world, only mental" (PR 6). The distinction of mental and corporeal substances, which make up the so called 'bifurcation of nature', is, as Whitehead maintains, modified by Spinoza "into greater coherence" (ibid.) by starting with *one* substance, *causa sui*, and considering its essential attributes and its individualized modes, the *affectiones substantiae*. Furthermore, "[t]he merit of Locke's *Essay Concerning Human Understanding* is its adequacy, and not its consistency" (PR 51). Whitehead generally reproaches the cosmologies of the past with being "inadequate, vague, and push special notions beyond the proper limits of their application" (FR 88).

The notion of a speculative scheme with its criteria considered historically does not only represent a checklist of evaluation for the philosophical tradition, but is also itself a product of history. Whitehead traces the idea of such a scheme back to the Greeks and makes the discovery "that the speculative Reason was itself subject to orderly method" (FR 66), a merit that he

recognizes. In FR, however, he does not give any concrete information about a first realization or at least an indication of those criteria that, according to him, make up the "logic of discovery". This "logic of discovery" is explained in more detail in an earlier article on technical education (1917), where Whitehead distinguishes between a "logic of discovery", that he identifies with inductive logic and a "logic of the discovered", that is deduction (AE 51 et seq.). Both items seem to be integrated in one and the same scheme in FR, where the "logic of discovery" is regarded as an enterprise of the Greek.[12]

Looking for a specific identification here, we are most likely to think of Aristotle. Accordingly, Whitehead attributes the strong medieval reliance on Aristotle to the fact that a "coherent scheme of thought" could be reduced from his philosophy. But the (in his terms) "logical coherence" guaranteed by this source could not compensate for the scholastic deficits of "direct observation" as a critical instance for schemes of thought (AI 117).

While Aristotle's philosophy can easily be conceived as a scheme of thought in some accordance with the criteria discussed here, this is much less so in the case of Plato. His philosophy can hardly be regarded as a system guided by underlying criteria, as Whitehead states quite clearly. By saying that "the same philosopher who emphasized the changeless mathematical entities as characteristic components of supreme reality, also elsewhere declared 'life and motion' to belong to the essential character of reality" (MT 82), Whitehead obviously refers to Plato. Accordingly, Plato is "never entirely self-consistent, and rarely explicit and devoid of ambiguity" and is moving in his "fragmentary system like a man dazed by his own penetration" (AI 146 et seq.).

Whitehead praises Plato as the "greatest metaphysician" and at the same time he criticizes him as the "poorest systematic thinker", who "always failed in his attempts at systematization, and always succeeded in displaying depth of metaphysical intuition" (AI 166). This judgement on Plato's systematization is of a general nature but not without qualifications. Whitehead also makes significant remarks on the realization of the particular criteria in Plato:

> [I]n his Seventh Epistle he expressly disclaims the possibility of an adequate philosophic system The moral of his writings is that all points of view, reasonably coherent and in some sense with an application, have something to contribute to our understanding of the universe. (AI 52)

But this does not mean that the criterion of coherence is realized in Plato himself. Attempts at interpretation "providing him [i. e. Plato] with a coherent system" sooner or later find themselves confronted with the fact that Plato "in a series of Dialogues has written up most of the heresies from his own doctrines" (AI 105). The framing of such a coherent system, however, is regarded as the central task of philosophy. Philosophy should start from seven basic

metaphysical elements—called notions by Whitehead—to be found in Plato's late dialogues: "The Ideas, The Physical Elements, The Psyche, The Eros, The Harmony, The Mathematical Relations, The Receptacle." These should be modified and coordinated with the purpose of a "coherent system" not yet realized in Plato (AI 275), but rather emerging in the following tradition characterized as a series of footnotes to Plato.[13]

What remains is to state that Whitehead finds in Plato at least certain slight indications of systematic aims combined with certain criteria. Accordingly, his project provides a contribution to the interpretation of experienced reality, committed to criteria that had already been formulated but not fulfilled. There is no contradiction if Plato (according to Whitehead) contends that an adequate system is impossible to realize, whereas Whitehead lists adequacy as a criterion. A system's adequacy in the Whiteheadian sense is a kind of ideal, gradually realized. The fact that Plato's philosophy represents at best a very early stage of approximation is quite natural and not problematic. The criterion of adequacy is always at the same time a demand and a standard provoking further hypothetical systems.

By tracing the criteria back to Greek thought Whitehead makes clear that his criteria for a speculative scheme or system are not a peculiarity of his own or any other individual methodological feature, as mostly supposed (and often criticized). From Whitehead's point of view, these criteria—maybe just in the form of an unfulfilled requirement—have guided philosophical systematization all along.

6. Conclusion

Reflecting on Whitehead's notion of a philosophical cosmology, I pointed out that this project reaches far beyond the restricted perspective of the natural sciences. Rather, in outlining basic features of his systematic aim, we were led to the complementary perspective: Whitehead's project starts from a metaphysical conception (especially from a set of categoreal assumptions) and is then enlarged towards a scheme of interpretation which includes scientific aspects. Aiming at universal applicability, religious, ethical and aesthetical aspects, his philosophical cosmology integrates all dimensions of human experience. These dimensions dominate works like AI and MT, which insofar should be regarded as supplemental material to the metaphysical construction of PR—as applications, clarifying illustrations, possible responses to hypothetical questions, or smaller differentiations modifying a conception essentially outlined in PR (and partially in FR). Exploring the question of whether Whitehead's system is completed with PR, or if instead his metaphysics only comes fully into view in his later works, we—despite the fact that from a Whiteheadian view a metaphysical system at any rate remains hypothetical and can never be complete in a strict sense—emphasize the fact that among

all his writings only PR, though it is subtitled "An Essay in Cosmology," is constructed in a systematic manner. Actually, it is PR, where Whitehead's cosmological scheme is established, while the other works more or less supplement this cosmological scheme. The predominant lines of thought that make up PR keep occurring in MT and AI, and Whitehead himself declares in the preface to MT that he is willing to condense features of early lectures delivered between about 1933 and 1938. Similarly SMW, PR, and AI, according to the preface to the latter, "supplement each other's omissions and compressions" (AI vii). In contrast to PR, AI and MT do not provide us with any new systematic framework and not even with a revised version of the framework offered in PR, but with additional aspects and dimensions of application. PR is mainly devoted to systematization, while AI and MT are mainly devoted to assemblage. Nevertheless, the latter do not reject systematization, but—in an admittedly scattered manner—reflect upon systematization including its efforts and limits. While the later works enlarge the areas of application, they do not enlarge or essentially modify the scope of thought in the sense of the metaphysical framework itself or the systematic aim underlying it. This framework—comparable with a paradigm in Kuhn's sense—is fragmentarily prepared in SMW and other earlier writings and then worked out in PR. According to the framework's character of universal applicability, Whitehead's cosmological scheme reaches far beyond all particular disciplines. At the same time, his systematic aim coincides with his historical aim, which culminates in his well-known footnote-thesis and its historiographic message: Methodological self-consciousness includes historical self-consciousness. With his criteria for a cosmological scheme Whitehead intends to update a systematic framework that has been prepared by Greek thought and that has been realized in an elementary and imperfect way by the subsequent philosophical tradition. As the actual cosmological scheme results from a critical discussion of its predecessors, the actually named criteria are not stated *ad hoc*, but arise from a process of Whitehead's historical reflections on his own position and his own systematic aim.

NOTES

1. For a more detailed comment on this item cf. Gandhi (1972, 389 394).
2. Whitehead also anticipates Kuhn's view that scholars who are working on the basis of certain scientific principles are inclined to adhere to them and to ignore stub born facts for the sake of the established position; cf. SMW 245, PR 6, FR 17 et seq., and AI 159.
3. Some interpretations fail to do justice to Whitehead's cosmological claims, either by assuming that he uses a merely scientific conception of "cosmology" or by re garding his system as comparable or even in competition with modern scientific approaches. Both points of view are obviously shortening Whitehead's compre hensive intention, namely to transcend the level of abstraction of a particular science; cf. Kather (1998, 357 480) and Kann (2001, 86 94).

4. Cf. Rose (2002, 2) who refers to Whitehead's system of metaphysics as "part of a larger ongoing historical project."

5. For a related approach cf. Riffert (2004) who compares Whitehead's methodology with a set of criteria established by Bunge (1973) under the unifying notion of scientific metaphysics.

6. Thus, necessity is not an additional, fifth criterion, as Poser (1986, 123) apparently assumes.

7. For this problem cf. Kasprzik (1988, 30).

8. For a reconstruction of these phases within the overarching context of explanation and interpretation cf. Christian (1962, 4 9).

9. Among the most interesting contributions to this subject are Gandhi (1972, 398 402), Haack (1978), Poser (1986, 115 124), and Lotter (1996, 46 48).

10. Concerning this issue cf. also Vincent Colapietro's chapter in this volume. Cola pietro emphasizes the importance of Whitehead's idea of philosophical assem blage, which in MT is accorded a much more prominent place than in earlier works.

11. Cf. Whitehead's criticism of abstraction and specialisation in AI 146 and PR 7 et seq., or, as a related issue, of professionalism in SMW 244 246.

12. Whitehead's notion of a "logic of discovery" seems to be adopted for the notion of a "logic of inquiry" established by Herstein (2006, 31 36). According to Hers tein, this notion comes close to John Dewey's conception of a "theory of in quiry" that itself could be traced back to Aristotle or even to the "erotetic me thods of philosophy" in Plato.

13. For this famous dictum cf. Kann (2001, especially 25 36, 51 61). Recent research has shown that Whitehead's footnote thesis is obviously obliged to a quite simi lar historiographic perspective in R.W. Emerson; cf. Dennis Sölch's chapter in this volume.

Three

BEYOND METAPHYSICS?—A HISTORIOGRAPHICAL APPROACH TO WHITEHEAD'S SPECULATIVE PHILOSOPHY

Dennis Soelch

1. Introduction

Despite the increased attention to process philosophy in general and to A.N. Whitehead in particular, his works are still far from being part of the academic mainstream. With regard to both content and methodology, his thinking is fruitful and innovative, which may account for the fact that critics usually deal with either his metaphysics or his philosophy of culture and history. However, in Whitehead's case, the sharp distinction between cosmology and cultural or scientific history dissolves under scrutiny, and he himself stresses the intimate relationship of his main works *Science and the Modern World*, *Process and Reality* and *Adventures of Ideas* in the preface to the latter: "Each book can be read separately; but they supplement each other's omissions and compressions" (AI vii). Moreover, he collectively characterizes these three books as "an endeavour to express a way of understanding the nature of things" (AI vii), thereby indicating that his occupation with metaphysics did not come to an end with *Process and Reality*.

Accordingly, my aim is to show how things fall into place when we consider Whitehead's occupation with the past to be an intrinsic and essential element within the general agenda of his speculative philosophy. At the same time, this endeavor may help to stress the interrelatedness of Whitehead's main works, since critics tend to rely on PR alone, whenever they deal with Whitehead's metaphysical program. A closer look, however, will teach us that *Science and the Modern World* and particularly *Adventures of Ideas* are closely related to *Process and Reality* and have a systematic relevance for his cosmology, which merely changes in terms of approach, perspective, and methodology. This interconnectedness of cosmology and history[1] is reflected in Whitehead's "reliance on the positive value of the philosophical tradition" (PR xiv), and he develops his concept of an organic, pluralistic universe by adopting, adapting and reinterpreting the ideas of the authors he explicitly or implicitly refers to.

The constant reflection on its history as a conditioning factor for present research and speculation is a generally acknowledged aspect of philosophy.

The significance we ascribe to the study of authors and dogmas in the history of philosophy and science is underlined by the organization of university courses, by an endless list of annual publications, and by the assumed authority of the classics quoted in almost every essay or lecture. The reconstruction of ideas and movements in a purely chronological fashion certainly is interesting and valuable in itself, but, from a more systematic perspective, it has always been more promising to relate the central teachings in philosophy and science with regard to their respective dependencies and references with the ultimate purpose of being able to overcome restrictions imposed by historical dependency. Accordingly, although Whitehead's well-versed speculative analysis of the manifold interrelations in the development of Western philosophy, science, and religion is certainly one of outstanding genius, the project, as such, can hardly be called exceptional. What is astonishing, however, is the fact that he places the origin of philosophy as a whole in Plato as one single figure within this history.[2] This statement finds its most concise formulation in Whitehead's claim that the "safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato" (PR 39), which has certainly become one of the most widely used and abused phrases about the history of philosophy.

The historiographical approach sheds light on the significance of Whitehead's footnote-thesis and, additionally, discovers in Ralph Waldo Emerson—whose contributions to process philosophy are often neglected—one of the central influences on Whitehead.

2. The Footnote-Thesis

At first glance, Whitehead's statement does not seem to be very inventive. In many instances, it is a welcome bon mot to be used in philosophical histories or introductions to Plato, which is then quickly discarded as not to be taken literally. Roger Scruton stands for a range of authors when he first quotes the footnote-thesis, and then goes on to say that this is obviously an overstatement. "With less exaggeration it could be said that German philosophy since the Enlightenment has been footnotes to Kant" (Scruton 1994, 193). But is the footnote-thesis really an exaggeration?

Whitehead states that it is the "safest general characterization" of Western philosophy, which does not only leave room for a variety of specific characterizations—we would certainly take a different point of view whenever we wanted to discuss the Existentialist tradition or the tradition of phenomenological philosophy—but also the possibility of finding alternative general characterizations. Robert S. Brumbaugh neglects this hypothetical character of the thesis, which accepts a number of possible characterizations with varying degrees of safety, by saying that according to Whitehead, Western philosophy "is" footnotes to Plato (Braumbaugh 1993, 248). Whitehead's more

nuanced view is reflected in Antony Flew's paraphrase that "the whole later development of Western philosophy can be regarded as a series of extended footnotes to Plato" (Flew 1971, 41). Flew still holds that this is, "of course, an exaggeration" (ibid.), although he concedes that it is nevertheless "a good exaggeration from which to begin" (ibid.) since Plato was not only the first to have left a considerable body of writing but also because it is hardly possible to define the word "philosophy" without historic reference to Plato's works. Thus, somewhat accidentally, Flew approximates Whitehead, though it remains unclear why he still considers the footnote-thesis an obvious over-statement.

In the context of the elucidation of his provocative statement, Whitehead himself starts by explaining that the footnote-thesis is not to be understood as a reference to "the systematic scheme of thought which scholars have doubt-fully extracted from his [i.e. Plato's] writings" (PR 39). A footnote may well have the character of a digression, inspired by its text but not necessarily in a strict sense thematically connected. In other words, the footnote-thesis does not regard our philosophical tradition as consisting of explicit reactions to a system that might be distilled out of Plato's works, as Douka Kabitoglou seems to have in mind. For him the thesis refers to "an age-long tradition and controversy" (Kabitoglou 1990, 2). As the different approaches to Plato un-dertaken by the ensuing philosophical tradition would result in a comparison of more or less doubtful extractions, they are not part of Whitehead's discussion.

More recently, Reviel Netz and William Noel have embraced the foot-note-thesis and agree that—despite its "outrageous" (Netz and Noel 2008, 26) appearance—the phrase is "quite sober-minded" (ibid.). Although they are among the few to present the entire statement without misquoting, they seem to have overlooked the fact that Whitehead tries to evade the usual dichotomy of Platonic and non-Platonic approaches to philosophy. If the footnote-thesis was to refer to the fact that all later philosophers, at least indirectly via Aris-totle, tried to refute or refine Plato's arguments, it would necessarily presup-pose the existence of a system of thought, and would thus miss Whitehead's main intention. In their conclusion Netz and Noel unfortunately fall in line with a number of critics who read the thesis as a devaluation of later philo-sophical developments and achievements, "And so, in a real sense, all later Western philosophy is but footnotes to Plato" (ibid.), which is certainly too undifferentiated to come close to the original purpose. However, Netz and Noel demonstrate perfectly that the methodological procedure of tracing a line of thought back to one single thinker also works for "the European scientific tradition" (ibid.) as opposed to the philosophical tradition. Their modified version views the general endeavour of science as "a series of footnotes to Archimedes" (ibid.), whose way of handling mathematical models and apply-ing them to the physical world made him the father of Newton, Huygens, and other great scientists.

The significance of Plato that has led Whitehead to his formulation of the footnote-thesis first of all lies in "the wealth of general ideas" (PR 39) to be found in his writings. The list of those who have found Plato not only a good piece of literature but inspiring and useful for the clarification of their own ideas stretches from Aristotle to the Church Fathers, from Giordano Bruno to modern physicists. His writings constitute a reservoir of ideas through Plato's "personal endowments, his wide opportunities for experience at a great period of civilization, his inheritance of an intellectual tradition not yet stiffened by excessive systematization" (PR 39), but instead of enlarging on the impact of those traditions—we might want to know to what extent Plato is a more suitable candidate for the constitution of philosophy than Heraclitus, Parmenides or Pythagoras—Whitehead goes on to explain the Platonic character of his own system, "Thus in one sense by stating my belief that the train of thought in these lectures is Platonic, I am doing no more than expressing the hope that it falls within the European tradition" (PR 39).

The footnote-thesis does not characterize the philosophical tradition as something to be overcome. By reflecting on his own works with regard to the Platonic tradition, Whitehead first of all implies that there is a consistent development from Plato onwards and second that his own philosophy is not a rupture, but a mode of thought which is a genuine part of that tradition. Of course that is not to say that Whitehead completely agrees with Plato in all points; a footnote may certainly function as a qualification of a thesis, may modify an argument or even direct attention to alternative perspectives and contradicting views. Arthur O. Lovejoy takes up this attitude and wants us to understand his major work *The Great Chain of Being* as an illustration of the footnote-thesis, although he, like Kabitoglou, regards it as referring to a controversy of "two conflicting major strains in Plato and in the Platonic tradition" (Lovejoy 1960, 24). Now it is always easier to judge in retrospect the similarities and dependencies that make us talk of a specific tradition, but what exactly does Whitehead mean when he considers his own philosophy to be Platonic? Isn't that a curious sort of marketing, indicating that one does not claim absolute novelty? Whitehead continues, "I mean that if we had to render Plato's general point of view with the least changes made necessary by the intervening two thousand years of human experience in social organization, in aesthetic attainments, in science, and in religion, we should have to set about the construction of a philosophy of organism" (PR 39).

Besides the reference to a line of tradition, the footnote-thesis very clearly attributes the metaphysical paradigm of organism to Plato. Obviously the description of Plato's writings as a welter of ideas needs to be specified insofar as the idea of being as ultimately process-related, being as becoming, has its origin here. Hence, we can say that the self-reflexive dimension of the footnote-thesis is both historical and systematic.

3. Whitehead's Approach to Tradition

Despite such sporadic remarks as Spinoza having modified Descartes' position "into greater coherence" (PR 6), Whitehead's primary interest, especially in *Process and Reality*, is the connection between individual philosophies and his own. Accordingly, Whitehead's dealing with positions of the European philosophical tradition, especially with "Descartes, Newton, Locke, Hume, Kant" (PR xi), is explicit and his readers are never in doubt about whose concept is being criticized and revised in a particular passage.

A short passage from *The Function of Reason* will suffice here to illustrate the methodological procedure. Stating that the duality of Body and Mind is an obvious aspect of the world, which no philosophical scheme must ignore, Whitehead takes a closer look at what he conceives as the origin of a bifurcation of nature.

> If we follow Descartes and express this duality in terms of the concept of substance, we obtain the notion of bodily substances and of mental substances. The bodily substances have, on this theory, a vacuous existence. They are sheer facts, devoid of all intrinsic values. It is intrinsically impossible to give any reason why they should come into existence, or should endure, or should cease to exist. (FR 29-30)

The criticism targets Descartes' approach by pointing to the lack of coherence between the foundational principles of *res cogitans* and *res extensa*, whose self-sufficiency requires God as a deus ex machina to mend the metaphysical division. His system "makes a virtue of its incoherence" (PR 6). Moreover, the substances' lack of intrinsic relations makes final and efficient causation equally inexplicable. A self-sufficient "vacuous" substance cannot interact with other substances, if only its qualities are able to establish relationships, such as between perceiving subject and perceived object. The main mistake thus lies in an uncritical conversion of body and mind into ontological categories, where they turn out to be inadequate abstractions failing to elucidate our immediate experience. However, it is Descartes' merit to have drawn our attention to the necessity of integrating both body and mind as empirical facts into any metaphysical description. Accordingly, we should ask how it is possible to integrate the dualism into a coherent theory, and what are the ontological categories we should think of instead. In a similar way, Whitehead deals with many other authors he refers to. Considering that in many instances this is not so much a neutral reconstruction of their respective philosophical systems but rather a hypothetical dialogue—Whitehead asking the questions that Hume, Kant or Leibniz *should* have asked—it seems a little exaggerated to speak of an "excessive" (Lowe 1951, 117) piety toward great philosophers.

From what we have seen so far, we might say that Whitehead's use and appreciation of the tradition is threefold: First of all, it serves as a reservoir of important data to be considered in a philosophical cosmology. Thinkers like Descartes obviously say "something that is true" (PR 6), but these "some-things" need to be brought together to realize their limitations, their errors and undue abstractions. Secondly, through contrasting and modification he devel-ops his organic metaphysics ex negativo from "the express authority […] of some supreme master of thought" (PR 39). But as "ultimately nothing rests on authority" (PR 39), these uses merge into the third and most important way of handling tradition, namely, to systematize its ideas, submitting them to scruti-ny and making sure the result is logical and coherent.

This becomes most obvious in Whitehead's dealing with Plato. White-head concedes that Plato construes the universe as a balanced relation be-tween the imperfect and fluxional physical world on the one hand and the static perfection of a heaven of ideas on the other, but the specific value of Plato's work is derived from his basic notions concerning the relationship between science and philosophy. These notions, which are to be found "by reading together the *Theætetus*, the *Sophist*, the *Timæus*, and the fifth and tenth books of the *Laws*; and then by recurrence to his earlier work, the *Symposium*" (AI 187), are the distillate of Plato's contribution to the enterprise of a philosophical cosmology.

Whitehead, somewhat subjectively, distinguishes seven Platonic notions or basic ideas, namely "The Ideas, The Physical Elements, The Psyche, The Eros, The Harmony, The Mathematical Relations, The Receptacle" (AI 188). The static Ideas become efficient by being entertained in the demiurge as the supreme Psyche, whose ordering of the Ideas shapes the character of our world. The apprehension of Ideas is never bare knowledge, but always con-nected with feeling and a striving for perfection, represented by the Eros. In-sofar as the Ideas function as norms and imply a "notion of an excellence" (AI 190), they raise the question of a criterion for perfection, which finds its an-swer in Harmony as the right proportion between the respective constituents. The Greek discovery of Mathematical Relations carries the notion of Harmo-ny even further by abstracting from any given object and representing the relation in the form of quantities. The Physical Elements, which Whitehead does not enlarge on in that context, are the manifold things which have a spa-tial and temporal dimension through being within the Receptacle, the latter imposing "a common relationship on all that happens" (AI 192). Here, as we will see, Whitehead approaches Emerson's reading of Plato by pointing to the significance of one concept that accounts for the interconnectedness—the "community"—of everything that is. In that sense, Plato is the initial figure both for modern science and organic metaphysics, because Φύσις understood as that wherein the Physical Elements have a temporal being foreshadows modern space-time, while "Φύσις" translated as "process" already denotes the idea of a relatedness of events, from which space-time is deduced.

To put it all in a nutshell, Whitehead identifies seven speculative principles in Plato. Thus, Plato must not simply be considered a quarry, but has methodological significance. It is precisely this type of cosmological scheme Whitehead has in mind—a scheme of abstract notions, under which our empirical observations of the world can be subsumed and understood. In Plato, the seven notions do not yet form a system in more than the most rudimentary sense of the word; in fact, Whitehead holds that systematization is entirely alien to Plato. You can almost picture the determined expression on his face when he emphatically insists that "in the works of his prime, he [Plato] is careful, as he says in one of his letters, that he does not give us a 'system' of Platonic philosophy. […] 'Now what, *exactly*, did Plato mean?' He was at pains *never* to mean anything exactly. He gave every side of a question its due" (Price 1977, 306). Of course, there is a certain amount of systematization in Plato, insofar as his texts, his notions and his topics refer to one another, and if that were different his dialogues would at best appear to be mystical, and would at worst be illegible. But his works are far from being consistent and free of contradictions, which accounts for the highly stylized rendering of Plato[3] as the "greatest metaphysician" on the one hand, and as the "poorest systematic thinker" on the other (AI 213).

The Platonic notions represent a framework of ideas that enter as cornerstones into every cosmological scheme.[4] However, in Plato they lack coherence and the systematic linking to a corpus of knowledge provided by the sciences, religion, ethics, and art. While Plato still impresses us with the depth of his questions and the eagerness to give all aspects of a problem its due, metaphysics, in the systematic Whiteheadian sense, was then only in its initial stage of romance. Now, for speculative philosophy, the Platonic notions are as indispensible as the stage of romance is for education. "These notions are as important for us now, as they were then at the dawn of the modern world" (AI 188). Our task, the task of philosophy, is to constantly adapt, elaborate and up-date Plato's notions with regard to scientific, religious and cultural growth, the growth of "experience in social organization, in aesthetic attainments, in science, and in religion" (PR 39).

4. History and Cosmology

To what extend does the Whiteheadian use of the footnote-thesis improve our understanding of the general agenda of his main works? I suggest that historical reflection can be integrated into the general attempt at constructing a comprehensive cosmological scheme, allowing for a more coherent reading of Whitehead's main works. Although the main focus of *Adventures of Ideas* lies on the impact of ideas on civilizations, it does not break with the speculative metaphysical program of *Process and Reality*.

The understanding of history that Whitehead puts forward, namely as a bond between past, present and future—all of them tied together by a common interest in general ideas—already hints at the interrelatedness of metaphysical and historical concepts. The study of history is not solely something for its own sake. As the elucidation of the footnote-thesis indicated, historiographical approaches are to be of systematic value and to provide means of coming to a fuller and more coherent philosophical description of the world. Whenever a generation of philosophers sets itself to developing a cosmology, its specific way of reformulating the Platonic notions is based on and limited by "peculiar circumstances of race and of stage of civilization" (AI 5). In other words, cosmologies and metaphysics are systems of general ideas which—despite their highly general and abstract character—can never be complete adequations of reality. Perception and language influence and to a certain extent determine our general ideas, which "rarely receive any accurate verbal expression" (AI 5). What is demonstrated for the idea of freedom, whose scope and significance found different interpretations among antique Romans, medieval kings and enlightened Europeans, also applies for metaphysical systems composed of ideas.

Consequently, Whitehead is fully aware of the fact that the cosmology developed in *Process and Reality* is all but final. From a future perspective it will appear fragmentary and its complex terminology will be considered clumsy and pervaded by undue focus on particular aspects of the world. However, as an *Essay in Cosmology*, it is conscious of those limitations, and one of the chief purposes of the study of the historical adventures of ideas consists in shedding light on our own verbal dependencies by tracing the history of those civilizations that framed our ideas. In that sense, *Adventures of Ideas* is not beyond metaphysics, but sharpens our awareness for historical limitations imposed on our systematic philosophies. This task is not as basal as we might at first be tempted to assume, for Whitehead holds that the profound cosmological outlook in each age is "almost too obvious to need expression, and almost too general to be capable of expression" (AI 14). Like the air we breathe we have never come across any alternative fundamental framework of thought upon which theories, principles or questions can be based.[5] In order to be able to overcome this invisible obstacle Whitehead aims to reconstruct the tacit agreements that underlie the cosmological schemes of previous ages. Basically, *Adventures of Ideas* can thus be regarded as an attempt at elucidating the basic forms of his own thinking by genealogically analyzing those of previous thinkers. The systematic limitations represented by the implicit metaphysical assumptions or ideas need to be overcome by means of a historical analysis. As Michael Hampe remarks, mature philosophical thought is not only systematic, but considers its own systematicity and its principles from outside (cf. Hampe 1998, 165). History provides these outside perspectives.

This is, of course, not to suggest that the object of the historiographical study is restricted to the reconstruction of previous cosmological schemes. It

allows us to catch more than one glimpse of Whitehead's pragmatic and so-cial tendencies. The questions regarding the limitations of metaphysical speculation cannot be answered by pointing to only the intellectual and scien-tific capacities of ages and cultures. The answer must also comprise the social and political dimensions of past epochs. Once we know about the conditions under which previous civilizations developed those cosmologies that meant an expansion of human insight, we can set ourselves to finding of ways of tackling barriers and limitations of thought. A short but succinct example is Whitehead's criticism of the Roman Empire in its time of decay, which cul-minates in the remark that the "Western Empire in all its ramifications was a purely defensive institution, in its sociological functionings and in its external behaviour. . . . In no sense, however, we stretch the metaphor, did it discover a New World" (AI 102). Whether in the interpretation of individual general ideas or in the formulation of cosmological schemes, the interest is clearly in progress and the advance of metaphysical insight. Accordingly, the lesson to be learned from the historical study is twofold: firstly, to disclose the implicit borders of our philosophies and secondly, to preserve us from the decadence and the lacking of effort that are apt to arise from societies that discourage curiosity. Hence, "[i]t is our business—philosophers, students, and practical men—to re-create and reënact a vision of the world" (AI 126).

Adventures of Ideas is neither a project completely separated from spe-culative metaphysics, nor is it simply an application of the cosmology devel-oped in *Process and Reality*. Insofar as a cosmological scheme claims univer-sal applicability and thus needs exemplification in every instance of expe-rience, we are of course justified in thinking that it should shed light on cul-tural history as one experienced phenomenon within the world. It is certainly also true that the criteria of logic, coherence, applicability and adequacy, which lie at the basis of Whitehead's speculative philosophy, are criteria, against which philosophical systems of past epochs are judged, as Christoph Kann has pointed out.[6] But, what is more, historiography performs an essen-tial function within the speculative system by testing its scope and its implica-tions to allow for the "asymptotic approach to a scheme of principles, only definable in terms of the ideal which they should satisfy" (PR 46).

However, this methodological way of dealing with the footnotes of tra-dition tends to conceal that Whitehead, like basically any other well-read phi-losopher, is indebted to and influenced by various thinkers, who are not nec-essarily referred to explicitly. This is not to accuse him of not mentioning all his sources, and there is probably no thinker who could trace all his thoughts back to their origins. It might, however, help to understand the genius of his originality if we could discover who he was inspired by and what exactly he did with the ideas he came across there.

Among the rather obvious influences, there is, of course, the contempo-rary historian, biologist or philosophical colleague who either shapes White-head's views or at least helps him clarify them. This would include his long-

time collaborator and intimate friend Bertrand Russell, whose clarity of thought and expression was undeniably valuable to Whitehead, although the two were never able to agree on ontological matters. It also includes Henry Osborn Taylor, whose extensive study on the Middle Ages *The Medieval Mind* was Whitehead's primary source for the characterization of medieval scholasticism. Published in 1911, the book can still be counted among the most comprehensive classics, but it accounts for the rather one-sided picture of the "too learned" (FR 44) medieval scholar in *The Function of Reason*, which dismisses the ideas of such different thinkers as Anselm of Canterbury, Abelard and Nicolaus of Kues as exceptions which have hardly had any impact on the developments of European thought. For an avid reader with a phenomenal memory like Whitehead the list of contemporary thinkers he concerned himself with is long, ranging from Bergson and Einstein to Keynes, to name only a few.

Those are the examples staring us in the face in their obviousness, since they are the thinkers we come across naturally once in a while, not only when we apply ourselves to understanding Whitehead. But there are also the more subtle echoes of other writers, which allow us to see new facets of his appreciation of the philosophical tradition. We remember that the footnote-thesis is not meant to deny the importance of the philosophical achievements of the past two and a half thousand years, and that Whitehead systematically develops his metaphysics against the background of the European philosophical tradition. Thus, it seems all the more surprising that the footnote-thesis itself—the culmination point of his historical methodology—does not seem to be Whitehead's own invention.

5. Whitehead's Transformation of Emerson

The claim that the philosophical tradition in general can be traced back to Plato as one single figure can indeed already be found in the writings of Ralph Waldo Emerson, who actually seems to have been Whitehead's source in that case. Even Kann's detailed study on the footnote-thesis in the general context of Whitehead's perspective on the history of philosophy leaves aside the fact that the footnote-thesis itself is not Whitehead's own genuine invention.[7] To my knowledge, Simon Blackburn has so far been the only one to find Whitehead alongside Emerson in his estimate of Plato's influence, although he simply uses both authors to stress the general acknowledgement of Plato's lasting impact on philosophy.[8] As far as the interpretation of the footnote-thesis is concerned, however, Blackburn is among those who reject the idea that a footnote may well contain a contradiction to or modification of its reference text.

A man as keen on protecting his privacy as Whitehead rarely gave an insight into the books he had devoured in his youth, but thanks to Lucien Price

we know that Whitehead read "a good deal" (Price 1977, 22) of Emerson when he was younger, and we will have to pay some attention to his rather surprising statement that he did not find him very original. In order to judge the similarity with Emerson's homage to Plato in *Representative Men* it makes sense to look at Emerson's words:

> Among secular books, Plato only is entitled to Omar's fanatical compliment to the Koran, when he said, "Burn the libraries; for their value is in this book. […] A discipline it is in logic, arithmetic, taste, symmetry, poetry, language, rhetoric, ontology, morals or practical wisdom. There was never such a range of speculation. Out of Plato come all things that are still written and debated among men of thought. Great havoc makes he among our originalities." (Emerson 1907a, 41)

The footnote-thesis clearly is an echo of Emerson's words. From a philological point of view, the similarity is underlined by the authors' use of tropes. While Whitehead speaks of *footnotes*, Emerson refers to every book as "a quotation" (Emerson 1907a, 44) in order to express his understanding of the indebtedness of the philosophical tradition to Plato.[9] Surprisingly enough, Whitehead's controversial thesis itself can now be characterized as a footnote, which rephrases Emerson's dictum of Plato being the first among the representative men. But to what extent does the implicit self-reference of the footnote-thesis influence its content?

The fact that the footnote-thesis itself is a footnote actually underlines the idea of a consistent tradition held together by a systematic point of origin. Even footnotes that refer to other footnotes are made possible by the reference text in the first place. But is there a particular reason why Whitehead does not mention Emerson at all? Possibly the idea expressed by Emerson is so obvious and self-evident to him that he does not even think of mentioning his lines. However, Whitehead does not simply rephrase the footnote-thesis, but quite clearly alters it in such a way that it finally becomes the culmination point of his approach to the philosophical tradition, as an analysis of the different statements will show.

Emerson does not refer to any particular one of Plato's books, it is the entire oeuvre he has in mind, which is a discipline in various branches of intellectual pursuit. The list of disciplines does not appear to be more than a barely systematic, rhapsodic enumeration of fields in which Plato was interested and for whose intellectual study he laid the cornerstones. Plato is like a quarry and each generation, each thinker detaches the boulders fitting his time, which certainly reminds us of Whitehead's image of Plato as an "inexhaustible mine of suggestion" (PR 39). But for all the systems philosophers may build with the various boulders, they will never be able to reach his range of speculation.

Here we have come to the precise reason why Plato is the first in the list of the representative men: It is not the chronology, but his power of thinking all those general ideas which man can ever hope to find. "St. Augustine, Copernicus, Newton, Behmen, Swedenborg, Goethe, are likewise his debtors and must say after him" (Emerson 1907a, 42). Theoretically, and this is at the core of Emerson's book, all men are equal in their power to access the realm of ideas and possibilities, so that "there are no common men" (Emerson 1907a, 35). Only few, however, make use of that power and have the ability to express their thoughts as universal truths, and in the greatest of them we no longer see subjective expressions, but all that human thinking can reach. "Plato is philosophy, and philosophy, Plato,—at once the glory and the shame of mankind, since neither Saxon nor Roman have availed to add any idea to his categories" (Emerson 1907a, 42).

Emerson does not give a detailed account of these categories as distinct aspects of a Platonic system and leaves open whether they can be identified with the two "cardinal facts" (Emerson 1907a, 49) of Unity or Identity on the one hand and Variety on the other. It seems reasonable to suppose so, and to regard the perfect balance between these two principles as the merit of Plato's philosophy. In contrast to the natural philosophers before Socrates, he does not take the concrete fact of water, air, fire or mind in order to generalize them, but subsumes all concrete fact under the "dogma" (Emerson 1907a,57)—we might say: the speculative principle—of the good. It is the unity above the ideas—Plato's expression of being—but as the supreme idea it is also the reason for variety, as the material world derives its character from participating in or imitating that unity. All "inventories" (Emerson 1907a, 56), that is all concrete facts, find their place in that scheme, which is at the same time Plato's philosophy, and the most general statement possible, from which all philosophy comes.

Now, for all the praise Plato deserves, he cannot claim to have discovered the absolute truth. For Emerson, there is not a single absolute truth.

> If anything could stand still, it would be crushed and dissipated by the torrent it resisted, and if it were a mind, would be crazed; as insane persons are those who hold fast to one thought and do not flow with the course of nature. (Emerson 1907b, 191)

We cannot even hope to approach a complete scheme of principles with which to cover all reality, because the world is fluxional and eludes any attempt at a final interpretation. Plato is representative since his work is pervaded by the authentic desire to achieve a full understanding of the world and all its aspects. That is speculation, the all-embracing sweep carried by the conviction that things are knowable, because they correspond. Every man can achieve this aim by re-interpreting the broad generality which encompasses

everything from his individual position, but Plato's thinking, being authentically his way of rendering this general view, cannot be exceeded.

This is precisely where we come back to Whitehead, whose belief in the progress of metaphysical speculation accounts for the decisive criticism and modification of Emerson's reading of Plato. It is not only Emerson's somewhat lofty tone that Whitehead avoids by his almost humble remarks that metaphysical categories are "tentative formulations" (PR 8) and "the estimate of success is exaggerated" (PR 7), but also Emerson's view that Plato's main achievement consists in a mystic description of the world, if we understand mysticism as the attempt at achieving and communicating the ultimate oneness of the universe. The good is too broad a category to allow for a productive reading of Plato's works as a cosmological scheme.

Is there a difference between those thinkers who serve as a blueprint for Whitehead's cosmological scheme and thinkers like Emerson, whom he systematizes without dwelling further on them? Naturally, "only a selected group can be explicitly mentioned" (PR 39), but those he opted for were certainly not chosen at random. Whitehead himself does not mention any criteria according to which he chose the "supreme master[s] of thought." A first criterion is obviously the existence of a system with the corresponding terminology, which is a precondition for judging its coherence and logic and which, from Whitehead's point of view, is the only means of proceeding methodologically, in order to be able

> to remedy the difficulty of judging individual propositions, by having recourse to a system of ideas, whose mutual relevance shall lend to each other clarity, and which hang together so that the verification of some reflects upon the verification of the others. Also if the system has the character of suggesting methodologies of which it is explanatory, it gains the character of generating ideas coherent with itself and receiving continuous verification. (FR 69-70)

Emerson, like his German admirer Nietzsche,[10] neither has such a closed system nor a terminology, and in fact it would contradict his attempt at exhibiting the character of a protean world, which is forever changing and transforming itself. Whitehead, on the other hand, searches for the all embracing system of general terms, whose coherence is the precondition for every cosmology: the ontological coherence of the constituents of the universe accounts for the coherence of the fundamental terms, since anything that does not have an inner relationship to all the other components of the world is unknowable.

The second criterion for the selection of reference authors is their integration into a complete schemeof thought that requires an interaction with scientific conceptions and results. This is basically the mode of procedure in *Science and the Modern World*, namely to show the interdependency of metaphysical and scientific theories from the 17th century onwards. The use of the

notion of a cosmology is not always as systematic as we might wish, but in general we can assume that it refers to the systematic development of a holistic view of the world, which Whitehead finds in only a few authors.

In a first conclusion, we can say that Whitehead regards Emerson as being of little originality, because the lack of a systematic method or a taxonomy makes his version of the footnote-thesis seem like a mere bon mot. Whitehead cannot integrate Emerson into his metaphysics as a systematic thinker, but—and that is what the later version of the footnote-thesis makes plain—he structures Emerson's interpretation of Plato's significance, making his thesis more than a footnote and shedding light on the way he deals with those philosophers he does not refer to explicitly.

6. Conclusion

The discussion of the footnote-thesis and its historical origin has led us to a general trait of Whitehead's thinking—the historical approach to systematic speculation. Whitehead's own characterization of *Science and the Modern World, Process and Reality* and *Adventures of Ideas* as a triad of complementary perspectives allows us to see the continuity in his works, despite their individual differences. *Science and the Modern World* analyzes, in retrospect, the interdependencies of cosmologies and scientific theories, *Process and Reality* looks ahead into the future by developing a new and more complete cosmological scheme, while *Adventures of Ideas* finally reconstructs a genealogy of views of the world in order to enable us to understand the historical contingency of *Process and Reality*. A shift of perspectives in Whitehead's late works would thus, if at all, only be detectable after *Adventures of Ideas*.

With regard to the footnote-thesis as one prominent example of historical recourse for an ulterior systematic purpose, Whitehead is clearly indebted to Emerson, whose influence on some process thinkers is often underestimated, although William James, too, deeply appreciated his works.[11] Moreover, the footnote-thesis lies at the basis of speculative philosophy in Whitehead's sense, providing the seven Platonic notions as the framework of every complete view of the world. By regarding his own philosophy as part of the Platonic tradition, he frankly refuses to claim that the cosmological interpretation offered in *Process and Reality* is final. As long as we remain within this tradition, metaphysics can only be work in progress and speculation must remain a process.

NOTES

1. The necessity to consider the past in order to enlarge our knowledge about the nature of things is succinctly underlined in The Function of Reason: "The speculative Reason turns east and west, to the source and to the end, alike hidden below the rim of the world" (FR 65).

2. See Kann 2001, 25.

3. We may indeed doubt whether there can ever be a more or less comprehensive ren dering of Plato that would not be stylized. Whitehead seems to be quite aware of that, but does not question the historical character of Plato himself. See also *The Function of Reason*, where Whitehead speaks of "the life work of Plato" (FR 37).

4. It would be interesting to trace the different shapes and relations the Platonic no tions had in historical metaphysical systems, or how they might relate to White head's own terminology. However, this is a separate project, which would go beyond the scope of this study.

5. See also *Science and the Modern World*: "There will be some fundamental assump tions which adherents of all the variant systems within the epoch unconsciously presuppose. Such assumptions appear so obvious that people do not know what they are assuming because no other way of putting things has ever occurred to them" (SMW 48).

6. See Kann 2001, Fußnoten zu Platon, 112 115.

7. See Kann 2001, especially 25 36.

8. See Blackburn 2007, 3 4.

9. Obviously, the philosophical tradition can neither be understood as footnotes nor as quotations in the proper sense, since that would imply that the ensuing philoso phers themselves regarded their own works as explicitly referring to or quoting from Plato.

10. For a detailed study of the striking similarities in Emerson and Nietzsche see Stack 1992. A succinct analysis of the respective ontological conceptions of the two thinkers is provided by Friedl 1997.

11. See for example Richardson 2007, 153; 433 435.

Four

CITING THE PARADOX:
PROBING THE SYSTEMATIZATION OF
WHITEHEAD AS PHILOSOPHER SUBJECT

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1. Introduction

One way of coping with the philosophical contributions of a thinker over time is to examine how one approaches the discipline of philosophy as such. Indeed, the approach of Alfred North Whitehead in particular is one that embodies a complex relationship between the life he lived and the methodologies he embraced as a scholar of multiple traditions. It is this complex relationship that is my focus here, and yet paradoxically this relationship can only be observed by looking through the glass darkly, for we are always a little blind how one's life experiences correlates with one's work. For this reason, I am careful to point out that the biographical material I have included here is not to be thought of as the fulfillment of who Whitehead was as a man, scholar, or philosopher. In this sense, Whitehead's biography provides us with insight, but this constructed narrative has no origin at its essence that was Whitehead's psyche as such. This is an important precursor to my project, for I am not assuming that there is a vertical horizon where I may observe the ins and outs of the relationship between him and his work as through an all-seeing, all-knowing eye.[1] It is for this reason that his trace cannot be reduced to any sort of absolute presence or *ousia*, rather it must always mark beyond itself—to no origin in itself—but to an infinite well of multiplicity that we point to and define in our own terms as thinkers.[2]

I am not a scholar of Alfred North Whitehead, and yet it is my task to provide an assessment of his philosophical contributions. As an outsider to the Whiteheadian tradition, my reading of his works offers a 'strangeness' to interpretations within the field of process thinkers that I believe remains consistent with Whitehead's approach to philosophy in general. By examining his approach in this way my intention is to provide further insight into Whitehead as a philosopher subject (AI 187). That is, rather than focusing on how the technical aspects of his metaphysic have altered over time, I am incorporating a broader scope of material that could be overlooked by scholars who are deeply immersed in the specifics of his systematic work, for he himself yearned to go beyond prescribed norms within his own tradition, and this faci-

litated his unique contributions within the discipline of philosophy. Indeed, Whitehead strongly believed that philosophy should refute any leanings toward dogmatism, and claimed that this could be achieved by increasing one's exposure to a variety of perspectives (MT 58). In a conversation with Lucien Price on June 28, 1941, Whitehead was reported to have confessed:

> I wish I could convey this sense I have of the infinity of the possibilities that confront humanity—the limitless variations of choice, the possibility of novel and untried combinations, the happy turns of experiment, the endless horizons opening out. (Price 1954, 163)

His open-ended approach to philosophy was self-described as speculative in nature, incorporating theories that required an on-going process of verification with examples made from real life (AI 222). The nature of this speculative approach called for Whitehead to remain true to his conviction that philosophy be a work-in-progress.

My specific task here is to assess whether Whitehead's metaphysic remained consistent from its systematic inception in *Process and Reality* to his later works. To approach this inquiry, I am presupposing that the existential conditions in which he created these works are interwoven with his unique methodology as a thinker. Indeed, Whitehead also affirms that the most that can be said of any one perspective is that it is a pattern arrived at through the harmonization of various aspects of one's environment (SMW 94). In my examination of his approach to philosophy, I specifically have Deleuze in mind, for he defines a life as pure immanence (Cf. Deleuze 2001, 27). That is, if we are to make claims about a correlation between one's influences, interests, and work; no one variable takes precedence over any other. This is not to say that there is a consciousness that is "Alfred," and that his interests have propelled him to think certain thoughts, and come up with specific conclusions. Rather, if seen with this Deleuzean lens, Alfred embodied a life that is "not immanence to life, but the immanent that is in nothing is itself a life. A life is the immanence of immanence, absolute immanence" (Deleuze 2001, 27). In this sense Alfred was an event, in which his experiences were on the same plane of immanence as his philosophical pursuits. And it is this complicated relationship that will provide us with further insight in regard to the correlation between his later works and the system he provides in PR.

In this chapter it is my aim to assess some of the pieces of Whitehead's body of work by addressing his approach to philosophy itself. So, with a Deleuzean outlook on the seamless immanence that was Whitehead as a philosopher subject, I will focus on some key factors that may provide further insight into the transition that took place from PR to the less technical advances he made in AI and MT. First, I will describe the nature of this transition as a necessary paradox, next I will provide some examples from Whitehead's bio-

graphy that may legitimize this turn, and lastly I will hone in on his unique conception of philosophy, which requires a greater openness into the future in order for creativity to breathe life into its speculative claims.

Throughout this analysis I will maintain that the purpose of AI and MT was to act as a means to explore the system he establishes in PR. By embarking on new pathways and a change of focus in his later works, the transition that took place after PR served to further compliment his system. As I will show later on, this shift also exemplified the unique way in which Whitehead approached scholarship throughout his life, for he pursued philosophy like a lion with an unquenchable hunger, and his life was an exemplification of this perpetual hunt for a greater substantiation and revision of his truth-claims. This is not to introduce an essentialist claim that verifies a psyche that was Whitehead, but rather my goal is to expose his philosophical approach as one yearning for adventure. Indeed, similar to deconstructive aims, the fluidity of his system propels toward what is neither present nor given, but what is to come.[3] This is succinctly stated in his use of the following analogy:

> The true method of discovery is like the flight of an aeroplane. It starts from the ground of a particular observation; it makes a flight in the thin air of imaginative generalization; and it again lands for renewed observation rendered acute by rational interpretation. (PR 5)

2. A Paradox

Whitehead's metaphysic has been described as upholding a view of reality that consists of "drops of experience."[4] If we are to compare the pronouncement of his system as provided in PR with his later works, we can think of them as the rippling effect of his systematic drop. This is not to say that these later works are any less metaphysical, rather that the divide that seems to exist between the earlier and later philosophical works is derived from a necessary paradox in his thinking. Observed in this way, that transition thought of as paradox enlightens us so that we may see his later works as a further exploration of his metaphysic in a new field of play.

For Whitehead, one must never underestimate the complexity that is the philosophical endeavor (AI 288). Every level of his metaphysical system is confronted by process, for entities are destined to remain static and unchanging without the birth of a new becoming and the continuous after-affects of this on subsequent entities.[5] In order for this principle of becoming to remain, a transition must take place that will always be at play, which will ensure that the "massiveness of order does not degenerate into mere repetition" (PR 339). Keith Robinson describes "the achievement of novelty" in Whitehead's system as infusing order with destruction, and excess with order (Robinson 2005, 135). In this sense the novel plays a displacing role so that the system may

encroach upon greater creativity and provide new applications of his meta-physic (MT 174). This is the displacing paradox that can be observed when comparing PR and his later works, though Whitehead was not the first philo-sopher to embrace paradox. This played a critical role in the philosophy of Søren Kierkegaard, who affirms that:

> one must not think ill of the paradox, for the paradox is the passion of thought, and the thinker without the paradox is like the lover without passion: a mediocre fellow. But the ultimate potentiation of every pas-sion is always to will its own downfall, and so it is also the ultimate pas-sion of the understanding to will the collision, although in one way or another the collision must become its downfall. This, then, is the ulti-mate paradox of thought: to want to discover something that thought it-self cannot think. (Kierkegaard 1985/1844, 37)

Although these words were said under a different set of circumstances, the benefit of embracing paradox (sometimes described in the confronting rela-tionship between the infinite and finite), is prized by Whitehead and will be-gin to appear as we investigate his approach to philosophy. Indeed, it was by constantly involving his propositions with externalities or a "strangeness" within particular frames of reference that fueled his passion for adventure.

This paradox corresponds to Whitehead's philosophy of organism, which Roland Faber describes as incorporating a "deep respect for the chaotic power of life" (Faber 2004, 47). We can observe this in Whitehead's yearning to systematize, while at the same time remaining aware of the impossibility of this systematization. For his systematic endeavor "affirms systematization as organic process (SMW 155) that, at the same time, confirms and deconstructs system (MT 2-3)" (Faber 2004, 47). This ongoing negative move is impera-tive in constructing a system that allows for an ongoing correspondence be-tween the abstract and concrete. It is this practical component that allows Whitehead's metaphysic to say something about life, for it provides an empir-ical basis for his theoretical vision by upholding it as a "reservoir of potential developments" (Faber 2004, 47-48).

For Whitehead it is possible to tap into the infinite potential of our ideas by recognizing that "every occasion of actuality is in its own nature finite" (AI 276). In order to speak of the ongoing process of life in which we are immersed, it is necessary for systems to push beyond, for "there is no totality which is the harmony of all perfections" (AI 276). Though Whitehead's words are in the context of the interrelatedness of all finite entities here, his open approach alerts us to an issue he may have observed: that with systema-tization comes paradox. The paradox of involving the finite concreteness with infinite variation and potential must necessarily be embraced, for the simple recognition of the limitation of one's thoughts has important benefits. It is this

awareness that promotes us toward a revisionist traversing that has the potential to verify conceptual frameworks by incorporating new fields of vision and new modes of systematization. As he describes in PR:

> The chief danger to philosophy is narrowness in the selection of evidence. This narrowness arises from the idiosyncrasies and timidities of particular authors, of particular social groups, of particular schools of thought, of particular epochs in the history of civilization. (PR 337)

Whitehead highly valued the active pursuit of externalities in the creative endeavor. For he maintained that there are no ultimate truth claims, and this calls for an active displacement of conformity (AI 221). He reinforced this notion in his dialogues with Price, where he confesses that novelty "is the living principle in thought, which keeps all alive" (Price 1954, 163).

The paradoxical transition in his thinking is a crucial component to Whitehead's approach to philosophy. One of his greatest concerns was that his philosophy would become dogmatic (AI 223), and he tackled this problem by systematically breathing life into his metaphysic *unsystematically*. I will further elucidate this inhalation and exhalation process in the next section by presenting some aspects of his life that I believe heavily influenced his philosophical methodology. His paradox was not a transition from his metaphysic to something that transcends it, but instead was a necessary change that placed his concepts in new contexts in order to further his systematic discussion. That is, the purpose of this paradox was not to call his metaphysic into question, but rather to address new difficulties that would further complexify his position. It was his systematic aim that his work would remain alive by incorporating new dialogues with empirical reality, and in this way live in a new hybridity that further strengthens its organic root.

3. A Unique Perspective among Many

Whitehead's metaphysic requires that change, growth, and novelty be present as active sites of disturbance throughout his works. In his words,

> In the inescapable flux, there is something that abides; in the overwhelming permanence, there is an element that escapes into flux. Permanence can be snatched only out of flux; and the passing moment can find its adequate intensity only by its submission to permanence. Those who would disjoin the two elements can find no interpretation of patent facts. (PR 338)

As his philosophy of organism must be mediated through abstractions based on empirical reality, his system is most fruitful when it touches upon an in-

creasing number of assemblages made from life (MT 3). This is best represented by the interplay of ideas strewn throughout MT as a whole, and indicative of Whitehead's embracing attitude toward the unknown. This systematic embrace allowed a greater complexity to enter into his cosmology as he grappled with the new challenges of his time. This approach stemmed from the diversity that Whitehead both incorporated, and was exposed to as a scholar of multiple traditions. In this section I will account for some of the early influences that I believe contributed to his approach to philosophy. Though these are just fragments of his life, my claim is that they shine a light on the overall uniqueness of Whitehead as a thinker among multiple fields. The importance of this biographical approach is not to isolate any particular experience as contributing more or less than any other, but if we are to delve deeper into Whitehead's paradoxical move, I believe that some further insight into a greater immanence must be represented.

Whitehead's formative training began in 1875, when he learned Latin and Greek and was exposed to the poetry of Wordsworth and Shelley (Lowe 1985, 6). This cultivation in the classics was significant, for it facilitated an early appreciation of the humanities. Throughout his life, Whitehead continued to hold the humanities in high esteem, and this would be the first contributing aspect to his uniqueness as a mathematician. Although he wouldn't become restless with the sciences until much later, his formative exposure to the classics resulted in a deep appreciation that would remain consistent throughout his professional life.

In PR, for instance, Whitehead praised the benefits of incorporating a poetic sensibility, and it was poetry that served as a means of correcting a purely scientific understanding of the world (Kraus 1979, 26). Poetry provided valuable insights into understanding the human experience for Whitehead, and he believed that this stemmed from its inclusion of emotional as well as physical sensibilities. In fact, "feeling" was of critical importance within Whitehead's system, as he understood this as a real component of a subject's internal constitution (PR 41). It was by placing a greater value on aesthetic judgments that he called "feelings," that he was able to construct a cosmology that extended beyond the atoms, electrons, and gravity of a purely scientific lens. The scientific view was far too narrow and static for Whitehead's purposes, and by understanding the world as composed of feelings rather than particles, he was able to create a metaphysic that was deeply relational and constantly in flux (PR 163).

A problem of critical importance for Whitehead was that modern scholars were unaware of their dogmatic leanings (MT 58). His philosophical task was to "loosen the sediment, disturb it and transform it, [to] re-awaken another formerly imperceptible layer within it" (Robinson 2005, 131). This concern was noted in PR as well as in his later works, and may have been derived from the many discussions he had with his colleagues during his studies at Cambridge. It was in 1884 that he became a member of the Cambridge Con-

versazione Society, though it was more commonly known as "the Apostles." This group was comprised of philosophers, mathematicians, educators, politicians, historians, poets, and theologians (Lowe 1985, 119). Whitehead's official field of study at Cambridge was mathematics, but as an Apostle he was able to discuss ideas that not only stemmed from a variety of disciplines, but they were addressed from a diversity of perspectives as well. It was among this group of peers that he was shown the benefit of rigorously discussing his ideas with a greater variety of scholars. The group complimented his studies by facilitating his background in the classics, along with promoting a greater appreciation of other fields. When recalling this time in Cambridge, Whitehead "has said that he learned as much from conversation as from books" (Lowe 1985, 6). He would continue to value openly discussing his ideas with colleagues, scholars of other fields, and students throughout his life.

Whitehead was a fellow at Trinity College when Einstein's theory of relativity was discovered. With the influx of this theory came the dismantling of walls that had been built by Newtonian physicists, and this finding exposed those scientists who were white-knuckling past theories. For the first time it could be accepted that there is no final description of reality, and this collapse of certitude would affect Whitehead's thinking "for the rest of his days." This promoted Whitehead's awareness as to the dangerous practice of dogmatizing prior 'truths,' and served as the seed of his belief that scientific truths could no longer claim ultimacy over those of any other field (Lowe 1985, 7). Perhaps it was also this breakdown of certitude that facilitated his open-ended metaphysic that called for further revising and exploration of its claims.

Whitehead's major contribution to the field of mathematics was in a work that he co-authored with a former student named Bertrand Russell. *Principia Mathematica* was a long project that lasted for 12 years, and in this work Whitehead played the role of the mathematician while Russell was the philosopher. Collaborative works are never easy, but with Whitehead's appreciation for discourse and Russell's fondness for his teacher, both of them maintained a mutual respect for one another. At the time this work was quite a novel contribution to the fields of logic and mathematics. This was the first exemplification of Whitehead's "synoptic vision," through which he sought to unite his interests in mathematics and philosophy, and would abide throughout his career (Lowe 1985, 304n).

By the beginning of the twentieth century Whitehead had many new interests, and although he enjoyed teaching mathematics at Cambridge, it failed to allow him the freedom to explore them. At London University he was given the opportunity to broaden his scope and delve deeper into his diverse interests. It was in here that he was able to complete his first philosophical papers, which were first published in 1917, and were later included in *The Aims of Education and Other Essays* in 1929. It is not a stretch to classify these works as transdisciplinary, for although his aim was to provide a model of how to arrive at mathematical physics; the solution he provides is through the

use of an epistemological study that included methodologies from logic, psychology, and the physical sciences (Lowe 1990, 92). This incorporation suddenly provided Whitehead's work with a larger audience, for it not only spoke the language of mathematics and logic, but it was also relevant among scientists and philosophers as well. These works marked the beginning of the unique nature of Whitehead's thought, both in the methodological as well as in the scholastic sense.

It was also in London where Whitehead would take a greater interest in the field of education, advocating a new philosophy that observed students as involved in a process of receiving knowledge, rather than as empty receptacles to be filled. He perceived the mind as active and responsive, and it was the responsibility of teachers to assist students in utilizing and testing the ideas they are exposed to (cf. AI 1-2; Lowe 1990, 37). The aim of his philosophy of education was to break down the walls of field-specific thinking. He advocated for school curriculums to be interconnected, so that science, mathematics, history, philosophy, foreign languages, and literature could exist interrelatedly (Lowe 1990, 50). It was his belief that by interconnecting various fields, this would promote the intellectual adventure that education should facilitate. What was crucial for Whitehead was that disciplines needed to remained fresh for students because, as he describes, "knowledge does not keep any better than fish" (AE 98).

As time progressed, Whitehead moved to Harvard where his interests became increasingly more philosophical. Along with his prior work, these new philosophical contributions also continued to reflect the uniqueness that was Whitehead's scholarship. The biographical material I have presented thus far aids us in assessing how he approached the discipline of philosophy, and a common thread throughout these formative years was his yearning to better his work by exposing himself to different ways of thinking. In his later work he states that "The aim of philosophy is sheer disclosure" (MT 49). Because he incorporated a multiplicity of perspectives in his own unique approach to philosophy, and it was this that contributed to the greater complexity that was his position in the field.

The discovery of quantum physics shattered any sense of certitude that Whitehead may have maintained. It was his contention that any proposition claiming absolute truth must necessarily be seen as dangerous, and this would also feed into his speculative approach to metaphysics. In the next section I will show how his later works fulfill a participatory role for his metaphysic, and to state it simply, it is Whitehead's open-ended approach to philosophy that substantiates this view. As I have discussed above, his unique approach was formed through his transdisciplinary field of vision as a thinker. The paradox I've described should not be surprising as we examine his approach to systematic thought, for it is one that calls for a new space to explore his ideas into the future. For Whitehead this task is accomplished by actively developing fresh insight, based on exploring new modalities of thought that is me-

diated by an ever-changing empirical basis. In this way the task of discovery, like the aeroplane analogy he mentions, flies from one frame of relevance to another, and fails to allow for one sphere of observation to be the prime exemplar of his system.

4. A Speculative Endeavor

When composing his Gifford Lectures (which would later become PR), Whitehead wrote in a letter to his son that he was "trying to evolve one way of speaking which applies equally to physics, physiology, and to our aesthetic experiences" (Lowe 1990, 223). He also confesses in this letter that philosophy as he knew it was unable to accomplish this task. So, instead of trying to remain faithful to a philosophical tradition that failed to speak to his interests, Whitehead utilized the ideas of Plato, Aristotle, Descartes, Newton, Locke, and Hume in a way that was uniquely his own. Luis Pedraja describes Whitehead's reading of these thinkers as recognizing the accomplishments and limitations of modernity by moving from "substance-oriented language… to a 'postmodern' understanding of events-in-relation" (Pedraja 2002, 73).

As a precursor to his new methodology, Whitehead states in the beginning of PR that it was not his imperative to repudiate the positions of these philosophers, but instead he was seeking to offer something new to the field (PR 11). As Keith Robinson describes, Whitehead's novel contribution within the metaphysical tradition operates "on the basis of creating alternative becomings and relinkings in thought," so as to escape from "the history of philosophy by creating from it, pushing thinkers toward new becomings and 'immortalizing' their concepts in new ways" (Robinson 2005, 132). And as with any inception of true change within an existing field, Whitehead knew that philosophers would not necessarily be comfortable with the strangeness he was offering from within their particular tradition (Lowe 1990, 222-223). PR served a role all its own among the philosophy of the twentieth century, such that it incorporated "its own elements and its own structure, and must be understood in its own terms" (ibid., 225).

Twelve years after PR was published, Whitehead spoke to his guests at his 80th birthday party about his philosophy. It was here that he described his approach as open-ended, and affirmed that the best philosophy was done in a way that guarded against its own speculative vision (ibid., 262). He was quite candid with his colleagues that night, and described that ideally one should teach philosophy in a room with

> two exhibits—at one end of the room a baby in its cradle, at the other an emeritus philosopher—the future and the past. And in between, the surging present, the confused thoughts of the lecturer and his class. It has for

> its function to exhibit the unrealized possibilities which the past suggests, while living in the turmoil of the present. (ibid.)

This "turmoil" is what confronts the philosopher conceptually as one endeavors to have their ideas speak to the realm of concrete life (MT 80). For Whitehead, philosophy must allow for a disruption to take place so that the present is provided a voice, and the abstract does not inhibit one's ideas so that they become sedimented into a dogmatic mantra. This concern was present in his last book, as he describes the history of philosophy as "a tragic mixture of vibrant disclosure and of deadening closure," where the "certainty of completed knowledge" elides the adventurous nature of the philosophic task (MT 58). It is this dogmatism that he describes as "the antichrist of learning" (MT 58).

There are serious consequences for the philosopher who fails to remain open to change; and by intermingling among varying fields and methodologies, Whitehead was able to sever himself from the dogmatism that plagued his modern predecessors. The importance of Whitehead's unique contribution within the field of philosophy is his paradoxical position within the tradition, for with this inception came an awareness of the limited nature of his claims. Marjorie Suchocki describes Whitehead's model as "imaginative," while still incorporating an awareness of the danger of essentializing its construction (Suchocki 2004, 125). For, although this model may be found adequate in a variety of fields, there will always be a need for further testing.

Whitehead argues for an openness to his (or any) system because of our inability to fully incorporate all that we experience. Indeed, as Suchocki states, "the clarity of our thinking is purchased by the vast background of data that we have rejected, whether consciously or unconsciously" (ibid., 124). It is impossible for Whitehead's model to encompass all of human existence, because our thoughts dismiss much external data while also depending on intuitive perceptions that feed into our conscious lives. Our thoughts represent one point in a larger sphere, and although Whitehead had set his sights on constructing a cosmology, he recognized that the most he could offer was a humble hypothesis.

It is important that we not rely on our abstractions, but still risk them as strategies for intercepting prior dogmas and speaking new truths. The adventure of philosophy involves being confronted by differing views, for creativity ensues out of this interplay of ideas. In her analysis of Whitehead's system, Suchocki confesses that his followers have been accused of institutionalizing his model as a standard to measure the future of process philosophy. This practice must be avoided if Whiteheadians are to uphold his claims, for as she describes,

> We must rather live with the paradox that we cannot be 'true believers' in the system, but 'testing believers' in the system, eager to revise it where we find it inadequate to the data at hand. (ibid.)

Whitehead wanted his system to progress in a way that claimed greater ultimacy by incorporating a greater empirical basis. Catherine Keller also commented on this aim by warning process thinkers to avoid getting "mired in linguistic narcissism. But [instead]… pick up our text and walk" (Keller 2002, 15). Perhaps the greatest threat to his system is not the influx of strange compliments to his concepts, or the displacement of his system by something new stemming from the contributions of the body of process scholars today. Rather, what Whitehead most feared was that his system would die because it was put under glass, thus failing to be kneaded into something new and more relevant to our amorphous present.

In his later works, Plato became Whitehead's primary dialogue partner. It seems that of all philosophers of the past, Plato was a muse to Whitehead later in life, for he was mentioned in almost every discussion he had with Price from 1932 to 1947 (Price 1954, 217). What Whitehead seemed to admire in Plato was his uncanny ability to tackle the big ideas that concern humanity, as well as his unique way of making his philosophy accessible to the average educated Athenian (ibid., 132). Whitehead's affinity to Plato also stemmed from his "depth of metaphysical intuition" (Faber 2004, 49; cf. AI 166). It was this intuition that attributed to Whitehead's paradoxical move, for he maintained that the reason the Platonic dialogues were so successful was because they stayed fresh by corresponding to everyday life.

Undoubtedly, remaining too abstract was a real concern for Whitehead throughout his days. So to move beyond PR required him to continue his philosophy in a way that would enhance his concepts by enacting a greater correlation between his ideas and concrete life. By moving on from PR in this way Whitehead was seeking to avoid the danger of 'perverting' his metaphysics by failing to explore new modes of speculation (AI 295). Process for Whitehead was not only about change, but it was about paradox, for as his system maintains, every prehension or feeling in the world has the potentiality to affect us. Paradox in this sense embodies the confrontation that a system undergoes when attempting to remain open to the infinite potentiality of life. This existential interrelationality enhances our finite possibility, and is incorporated into our lives into the future (MT 54).

When discussing creativity and novelty in PR, he sought to affirm that the present is always related with the past to an ever-evolving future, whereby creativity traverses by enhancing what has come before. An example of this occurs in his work in AI, where he offers us a new engagement with his philosophy by applying his systematic claims within the societal realm. Similar to Plato, Whitehead pursues themes in this work that provide further insight

into the bigger questions of the human condition. Specifically, he conceives of the bigger questions as qualities that further elucidate the characteristics of a civilized society, namely "truth, beauty, adventure, art, [and] peace" (AI 285).

It seems that MT was composed in an effort to strengthen his metaphysic as well, and it was in this work that Whitehead offers yet another exploration of the common experiences of humankind. His purpose in this work is to conduct "a free examination of some ultimate notions as they occur naturally in daily life" (MT 1). It is my contention that this was written so that his metaphysic would gain a wider sphere of relevance, as well as to invoke a larger discussion of his ideas amidst a new pool of readers. In MT he set the technical definitions of PR aside, and opened up his ideas to discourse with life in a new mode. Here Whitehead sought to

> indicate those elements in our experience in terms of which such a cosmology should be constructed. The key notion from which such construction should start is that the energetic activity considered in physics is the emotional intensity entertained in life. (MT 168)

"Life" was to be addressed as it was exemplified in various modes of thinking, hence the title *Modes of Thought*. It was by focusing on the temporality and diversity of these modes that he seemingly allowed a new emancipation of his system to begin. If anything, the consequences of this reader-friendly version of Whitehead's insights, is that it provided a new access point to his system, which had previously been underemphasized by the technicality of PR.

In MT Whitehead provides us with some real insight into his philosophical approach as such. Undoubtedly his approach had its own twists and turns as he grew older and matured as a thinker, but the ideas always originated from the same man or immanent plane that was a life. With MT, he was seeking to enlarge his "understanding of the scope of application of every notion which enters into our current thought" (171). Here he expands his philosophy into new spheres of application, which satisfied his hunger for a greater relevance to his thinking. To expound on this notion, he describes that as a philosopher, no one should remain satisfied with "the concurrence of sensible people, whether they be his colleagues, or even his own previous self" (MT 172). What remained crucial for Whitehead was that his perspective be constantly applied to new and different scenarios, for philosophy can never encompass all of actuality, no matter how large one's wealth of knowledge.

As a philosopher, Whitehead was always seeking to push himself and others beyond clinging to any one way of thinking. Whitehead defines system as "an ever-moving assemblage," where "philosophy is an endless process of assembling [MT 2-3]—deconstructing, reconstructing, delimiting" (Faber

2004, 50). In this sense Whitehead's metaphysic must allow for an infinite possibility of growth, for "there is always a vague beyond, waiting for penetration in respect to its detail" (MT 6). Although this penetration may create a feeling of discordance in our previously held truths, it is with this disruption that the real adventure of creativity begins.

The active exploration of ideas was crucial to Whitehead's philosophical endeavor, and for this reason AI and MT serve as necessary components to his metaphysic. Whitehead valued complexity a great deal, as this ensured a greater richness to his philosophy. As a constant 'Apostle,' he valued the active pursuit beyond one style of thinking, and he was constantly seeking out different methodologies and new ways of thinking through problems. In AI he states that "there is no totality which is the harmony of all perspectives" (276). That is, if it is truth we are seeking after, it can only be arrived at through a constant process of pushing beyond "safeties of the past. [For] Without adventure civilization is in full decay" (AI 279).

Philosophy without a sense of adventure is dead (MT 11), and its aim is "sheer disclosure" (MT 49). Isabelle Stengers describes this aim as having a

> variety of experiences, the variety of what we do know, matter for itself, and matter in their very divergence…. They are diverging, actively diverging, making things and ourselves matter in a manner which does not designate a standpoint but an entanglement of adventures. And it is through the adventurous manner of their divergence that they are witnesses for a diverging world…a world where "*the fairies dance, and Christ is nailed to the cross*." (Stengers 2005, 15 quoting PR 338)

By embodying a multiplicity of perspectives, Whitehead represents a beautiful harmony of positions in unity, and the complexity of his position serves as well of disturbance that fed upon itself in new and different ways from PR on. It seems that any inner sense of harmony for Whitehead himself could only be achieved if this was the case, as he defines "the complexity of the human motive, the entwinement of its threads, as infinite" (AI 288). It was his objective that we not "rest too completely on any continued realization of the same perfection of type" (AI 258), though we tend to see our one version of finite perfection as absolute within an infinite variety of knowledge. The point he yearns to make clear in his work is that there is a complicated world beyond any one single occasion of experience. This complexity confronts us, and rather than defending one particular point of view, Whitehead advocates a multitude. His position is further advanced by his metaphysical claim that it is impossible for any single position to exist in isolation, thus reinforcing his view that all of life is richly interconnected.

Whitehead embraced multiplicity, and in doing so he created a position that was paradoxical for more reasons than simply because he made a move

that was different in style from PR. His philosophy as a whole can also be characterized as paradoxical, for if we are to judge his body of work as a philosopher, scientist, mathematician, or theologian; undoubtedly his ideas facilitate each of these methodologies in different ways, but no one specialist can claim that he is completely their own. In this way, Whitehead's unique perspective as a thinker embodied the harmony that he was yearning to maintain, for as a stranger within multiple traditions, he successfully built a bridge beyond field-specific modes of correlating ideas. The variety that he embraced failed to remain static, and continues to be enriched into the future, for he insists that the whole is not the sum of its parts, but must constantly be enhanced by the life of its parts. Indeed, in his words, "the many become one, and are increased by one" (PR 32). Perhaps this is why Whitehead continues to offer something novel to readers who are new to his claims. In this sense his system still remains fresh, an achievement he highly valued in Plato.

The true situation of the philosopher is to bring prior held truths into dialogue with the changing social circumstances of our time (MT 87). In his avid pursuit of creativity, Whitehead allowed for his system to be unfolded anew, such that AI and MT would have greater audience and thus warrant a further discussion of his concepts amidst an increasing diversity of thinkers. In PR Whitehead writes that "In the inescapable flux, there is something that abides; in the overwhelming permanence, there is an element that escapes into flux" (PR 513). As one element rests, another perspective enters in to disrupt it, and this is the principle of novelty that is a constant abiding factor in his philosophy. Ivor Leclerc's description of actual entities is relevant here, for he states that at its essence it is an "*acting* entity. It is or exists by virtue of its acting. Its being, its existence, is *constituted by* its acting."[6] If we apply this analysis to Whitehead's philosophy as such, we can say that his work exists by virtue of acting, and that his later work actively breathed new life into his system by engaging with the concrete through new modes of thinking.

For Whitehead, his paradoxical move from (but not beyond) PR was caused by a hunger for new insight, and as a scholar of multiple fields, he was comfortable with entering into strange new ways of thinking. The adventure of philosophy involves being confronted by differing views, and creativity ensues out of this interplay of ideas. As a philosopher he was constantly pushing beyond one particular interest, and allowed each of these fields of knowledge to engage with one another. The uniqueness he offers to any one discipline is that rather than abiding in familiar points of reference within a particular tradition, he provides a system that was a new hybridity all his own. The multiplicity he offers in his system is what allows for a greater open-endedness to his thought and facilitates the real potentiality that diversity in the world offers the philosopher in new and exciting ways. In the end, Whitehead saw an open discussion of his ideas as an important complement to his work. I think it is important that we take note of his concern in order to uphold the adventurous character of philosophy. Indeed, avoiding the threat of

dogmatism requires us to see his system not as a standard of measurement, but as an exploration of thought that calls for a new traversing to take place into the future. If we are to truly follow his lead, as thinkers in the twenty-first century, we should be propelled to disrupt his system by infusing it with our own empirical present, for it is in discussing our ideas with scholars outside of our comfort-zones that will continue to facilitate the Apostolic nature of Whitehead's scholarship—a multiplicity that continues to speak to us in our time.

NOTES

1. "Vertical horizon" is used in reference to Bataille's use of verticality as an axis of transcendence and homogeneity versus his use of horizontality as an axis of im manence and heterogeneity. Cf. Georges Bataille, Visions of Excess: Selected Writings, 1927 39, Ed., intro., and trans. by Allan Stoek (Minneapolis: Universi ty of Minnesota Press, 1985), 83.

2. Cf. Jacques Derrida's use of trace in *Of Grammatology,* Corrected Ed. Trans. Gaya tri Chakravorty Spivak (Baltimore: Johns Hopkins University Press, 1997. Orig inally published as *De la Grammatologie* by Les Editions de Minuit in 1967), 61. Cf. John D. Caputo's critique of ousiological thinking in *The Weakness of God: A Theology of the Event* (Bloomington: Indiana University Press, 2006), 151 152.

3. Though his methodology is not deconstructive as such, Catherine Keller claims that "we can read Whitehead's most stubbornly rationalist language as a deconstruc tive strategy. His antifoundationalist scheme is based on intricate readings of the key texts of substantialist metaphysics. His categories enter the cracks that fis sure the thought of Plato, Aristotle, John Locke, René Descartes, Gottfried Wil helm Leibniz, and Benedict de Spinoza; they probe with uncanny precision, and remain precisely because they fit well enough like a wedge, which, once in serted, prevents the closure by which the system contains and sustains itself. Or in Derrida's language, like a hinge, 'brissure' at once 'fracture,' 'fragment,' and 'joint' (OG 65)." Cf. "Introduction: The Process of Difference, the Differ ence of Process" in *Process and Difference: Between Cosmological and Poststructural Postmodernisms,* Eds. Catherine Keller and Anne Daniell (Alba ny: State University of New York Press, 2002), 11.

4. This reference to reality as composed of "drops" is from a description William James gives of his metaphysic in *Some Problems in Philosophy*, which is cited in David Ray Griffin, et. al., *Founders in Postmodern Philosophy: Pierce, James, Bergson, Whitehead, and Hartshorne* (Albany: State University of New York Press, 1993), 103 104.

5. Cf. Lowe, "An Approach to Metaphysics" in *Understanding Whitehead* (Baltimore: Johns Hopkins Press, 1962) for further insight into Whitehead's approach to me taphysics as one that is aware of the limitations of human understanding, and in corporates a passion to overcome static notions of the past.

6. Ivor Leclerc, "Being and Becoming in Whitehead's Philosophy" in *Explorations in*

Whitehead's Philosophy, Ed. Lewis S. Ford and George L. Kline (New York: Fordham University Press, 1983), 56.

Five

BEFORE METAPHYSICS:
MODES OF THOUGHT AS A PREQUEL TO WHITEHEAD'S "TRILOGY"

Clinton Combs

1. Introduction

Concerning what he referred to as "Whitehead's system," first generation Whitehead interpreter and biographer Victor Lowe observed, "I think that after PR [*Process and Reality*] no novel departures occur in Whitehead's system of philosophy. And PR must remain *the* indispensable book" (Lowe 1941, 118). While it is clear that *Process and Reality* stands out as Whitehead's metaphysical work of greatest detail, does its greater detail alone necessarily imply that it is Whitehead's most mature metaphysics? What are we to make of the fact that Whitehead regularly, if variously, referred to *Modes of Thought*, *Adventures of Ideas*, and *Science and the Modern World*, yet never to *Process and Reality*, as his own favorite (Lowe 1962, 14)? The articles that comprise this present volume ask whether or not Lowe's assessment stands the test of time and reflection.

The view that Whitehead's system reached its high water mark in *Process and Reality* is a common one shared by most first generation interpreters of Whitehead.[1] Lewis Ford's textual analysis of the writing of *Process and Reality*, however, complicates the view that a single system may be associated with Whitehead. Ford showed how Whitehead's views, initially sketched in the Lowell Lectures and published as *Science and the Modern World* came to be modified in his Gifford Lectures, modified further in his précis for *Process and Reality*, and modified still further during the writing of *Process and Reality* itself.[2] Ford gives us a dynamic account of Whitehead in pursuit of a system. In Ford, there is a distinction made between Whitehead the thinker and the system that he is working to describe. In this view, the thinker is always beyond the system itself and the notions that drive the system building can never be expressed completely and in "exact statements" (Imm §XIX).[3] With this in mind, we can ask, what is Whitehead's system? Is it really the one expressed in *Process and Reality* or even a more mature system that consists of *Process and Reality* plus the refinements of his later work, or is the system itself that still elusive goal that Whitehead was pursuing?

Two thinkers associated with continuing the pursuit of this elusive goal are Charles Hartshorne and David Ray Griffin who both attempt to develop and refine an improved systematic process metaphysics in the spirit of Whitehead's. Each has sought to build upon Whitehead system's so as to derive one that is more logically consistent and more adequate. The work of these thinkers presents our current project with another possibility. Perhaps the relevant system is not the one that Whitehead himself actually described or even had in mind, but the one that takes his views as a starting point and applies them as consistently and rigorously as possible modifying them as necessary to avoid contradiction.[4] While such a project has proven enlightening in many ways, we must not allow its seductive charms and its promise of a perfected system to obscure the playful approach that Whitehead himself took with regard to systems.

2. Towards the concrete

Although it is often overlooked, there is something playful about Whitehead's work. For all his systematic undertakings, Whitehead was acutely aware of the inadequacy of systematic thought.[5] Yet, despite this awareness, Whitehead repeatedly, and throughout his career, engaged in numerous projects of systematic play. When we examine his career as a whole and include his mathematical work and his scientific work alongside his metaphysical work, we see a playful mind who sees value in the imaginative exploration of many systems of thought, not one seeking dogmatic finality in the construction of a single perfected system.

Process and Reality is one such work of systematic play, but one also encounters Whitehead playing with system building in *Universal Algebra*, *The Axioms of Projective Geometry, The Axioms of Descriptive Geometry, Principia Mathematica*, *Religion in the Making*, and *Adventures of Ideas*. I claim that throughout his entire collection of works we can discern, not a development of a single system, but a general movement away from systems based entirely upon formalism and toward systems that rest upon experience, eventually culminating in embodied experience. Thus, in general, we can discern, in Whitehead, a movement toward the concrete.[6]

Whitehead's first original book was *Universal Algebra*. It was a systematic work that took place within a unique formal system of mathematical axioms and rules of inference. Similar projects include Whitehead's, *The Axioms of Projective Geometry* and the *Axioms of Descriptive Geometry*. In each of these Whitehead—much like a driving enthusiast takes a car out on an open road to see what it can do—plays with a system to see what it can do. Whitehead was unusual for mathematicians of his time. Whereas most chose to write papers on particular problems using well established symbolism, Whitehead chose to frame areas of mathematical thought with unique systems

of axioms (Lowe 1990, 267). Within these systems, he made no claim for self-evidence. The axiomatic undertaking was defended only by an appeal to the general success of their application. This early work of his was quite formal and detached from concrete reality.

A preliminary step was made toward the concrete in *Principia Mathematica* when Whitehead along with coauthor Bertrand Russell attempted to derive a system of mathematics from something more self-evident: the logic of propositions.[7] A further move toward the concrete was accomplished later in *An Enquiry Concerning the Principles of Natural Knowledge* and *The Concept of Nature* where nature as it is experienced became the basis for Whitehead's subsequent systematic metaphysics. In these works, Whitehead argued against the prevalent subject-predicate depiction in which qualities are thought to be only accidentally (i.e. externally) related to the things they characterize. In place of this accidental relation, Whitehead argued for what he would later describe as the internal coming together of something concrete (concretion) (RM 90). In *Concept of Nature* he merely observed that qualities (he called them "objects") and the events that they characterize are found in nature already "self-contained for thought" (CN 3). In this view, an event, which he later called an actual occasion, was a self-limiting "creature" that brought together within itself qualities or, in Whitehead's terminology, objects (later called "eternal objects") into a single concrete unitary event. This work of Whitehead's was so thought-provoking to Professor Lawrence J. Henderson[8] of Harvard University that he encouraged Harvard President A. Lawrence Lowell to invite Whitehead there to teach philosophy (Price 1954, 10).

Showing signs of system building, Whitehead extended those ideas in the Lowell Lectures and their subsequent publication as *Science and the Modern World*. The events that were described in *The Concept of Nature* took on a more precise definition in *Science and the Modern World* and came to be known as, "actual occasions" (SMW 158) or "concrete occasions of actual happening" (SMW 159). It was stressed in *Science and the Modern World* that an occasion of experience was something concrete. It was concrete in the literal sense of the word as something that has "grown together" (SMW 174).[9] It was also stated, though sparsely defended at the time, that we have "direct knowledge" of actual occasions in that our own "immediate experience" is composed of actual occasions. A more detailed account of this position would have to wait until *Process and Reality* (PR 109) and *Adventures of Ideas* (AI 208).

3. Systematic play

Process and Reality is Whitehead's most sustained effort to describe the details, conditions, and metaphysical setting involved in the process of becom-

ing concrete, but it is not Whitehead's only attempt to do so. The categoreal scheme of *Process and Reality* began with "four notions," that *diverge* from "antecedent philosophical thought." He identifies these four notions as, "actual entity," "prehension," "nexus," and his "ontological principle" (PR 18). These notions differ slightly from the three "formative elements" identified just three years earlier in *Religion in the Making*, namely, creativity, the realm of ideal entities, and the "actual but non-temporal entity" (by which he means God) (RM 88). And they differ still from the "Two Worlds," the World of Activity and the World of Value, the terms Whitehead uses to frame his "Immortality" essay (Imm § II). The question arises as to whether each of these Axiomatic-like sets each represent a different system or whether they are all just different approaches that Whitehead uses to describe and highlight particular aspects of a single metaphysical system.

Several possibilities present themselves. In moving from the three formative elements of *Religion in the Making* to the four notions of *Process and Reality* Whitehead could be seen as refining his system. In setting aside the intricacies of those four notions in favor of his "Two Worlds" Whitehead could be seen as simplifying his system in an effort to highlight a specific aspect. I think this interpretation is the prevailing view.

Similarly, one could also say that his reference to the seven Platonic notions in *Adventures of Ideas* could be his attempt to translate his esoteric language into terms more familiar to Western philosophers. These ways of accounting for Whitehead's relation to system clearly capture a degree of truth, but do they also obscure an important aspect? My reason for such a suggestion is that, in each case, Whitehead, himself, and not just the reader, seems to have benefited from each new systematic reframing. Each new framework has seemingly led to new corresponding discoveries.

It has been observed that certain thoughts come more easily in some languages than in others.[10] Is the same true for Whitehead's various systems? Are some problems solved more easily using one set of axioms rather than another? It is interesting to note that in each of his works, Whitehead touches upon some topic that was previously unexplored, under explored, or troublesome in his prior works. In each of his works new discoveries are made. Are these new discoveries simply the result of some new interest of his (as the dominant view would suggest), or are they made possible by some new framing of thought, some new adventure of ideas?

Rather than just ask whether or not it is appropriate to attribute a single metaphysical system to Whitehead or even to envision a continually improving Whiteheadian system, we must further ask, what system means for Whitehead? One candidate would be a system that described every aspect of reality and shows how all the various aspects are related. This could be (though need not be) described by some critics (as well as some followers) as a totalizing system in that the system would describe the totality of reality with no remainder. I think that when many read the opening lines of *Process*

and Reality—"Speculative Philosophy is the endeavor to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted" (PR 3)—they envision this sort of totalizing system.

4. Deconstructive systems

Catherine Keller proposes a different interpretation of system in Whitehead. She envisions his metaphysical categories acting like wedges upon the cracks in "Plato, Aristotle, John Locke, René Descartes, Gottfried Wilhelm Leibniz, and Benedict de Spinoza" (Keller 2002, 11). Once inserted, his metaphysical wedges serve to emphasize the cracks in these other systems and deconstruct the systems (including his own, at times,) that have been built upon ignoring such fractured foundations.

Roland Faber also sees in Whitehead an aversion to canonization and an appeal to openness that serves to "thwart the construction of any (closed) system." Moreover, Faber continues, "Whitehead himself never believed he had created a 'system' in any case" (Faber 2008, 42). Indeed, Faber explains, that in Whitehead's thinking, a system itself would have the characteristic of an event and, if we recall Whitehead's view of events we recognize that any event is only a finite perspective. It is never a totality.

If we look at Whitehead's work, subsequent to his turn toward the concrete, system (as event) can be best described as a finite perspective that is both limited in scope and perishing in time on the conditions underlying experience. Additionally, system (as an enduring society) can be seen as an evolving and open series of these finite perspectives. In neither its "event" nor its "social character" does system in Whitehead function like a foundation. System is not the logic behind all things. It is merely one possible framework that one may use to try to make sense of reality. Thus, in Whitehead, that which is the most concrete is not a totalizing system, but, rather, a process of becoming and perishing (AI 274), in which the actors are finite occasions of experience. One can call this view a system only in a descriptive sense. If one seeks reasons, the appeal in Whitehead tends steadily towards the concrete and away from system as totality. This is especially clear in *Modes of Thought* where the systematic framework that Whitehead uses to describe experience is entirely in the background and embodied experience comes to the foreground as the very starting point for systematic metaphysics.

Speaking directly to this topic, Whitehead writes, "System is important. It is necessary for the handling, for the utilization, and for the criticism of the thoughts which throng into our experience" (MT 2). We see in this line Whitehead describing the deconstructive (i.e. critical) role that Keller drew our attention toward. We also see Whitehead describing the constructive use of system, wherein system is a tool for organizing our experiences. Although

this depiction of system appears in *Modes of Thought*, it fits well within the context of the systematic play of Whitehead's earlier metaphysical works.

Modes of Thought, however, takes a departure from Whitehead's systematic play in the paragraph that follows the one from which the above quote was taken. Here, Whitehead describes a task that must take place prior to systematization. This task is the central unifying theme of *Modes of Thought*. It is the culmination of Whitehead's movement toward the concrete. The task that must precede metaphysics (even while, ironically, this book was written subsequent to Whitehead's most detailed treatment of his metaphysics) is the task of "assemblage," and those things that must be assembled are our experiences of that which is concrete.

But just what is concrete? The answer to this question is a surprising one to readers not already familiar with Whitehead. Throughout Whitehead's works subsequent to *Principles of Natural Knowledge*, the Keller-Whiteheadian wedges have exposed the fractured thought that conceives the sense-objects of everyday experience (the furniture of the world) as concrete. The wedges have also deconstructed the supposed concreteness of rational systems; they have shown the unreality of monisms, and the incoherence of dualisms (PR 6-7). In the wake of these fallen systems stands Whitehead's own system-of-the-moment, awaiting its own perishing and anticipating its own succession.

I have been arguing that too much emphasis on the singularity of system in Whitehead can obscure his sense of playful adventure and unfairly characterize him as a dogmatic system builder. In looking at his various works, one could read them as a translator would read the Rosetta stone: One could try to translate later works, for instance, into the language of *Process and Reality*. Such a project would miss, however, the adventurous aspect of Whitehead. If such a project were perfectly successful, it would, like any good translation, add nothing new. It would perfectly preserve the meaning found in one language and express it in another. The complication with the translation view is that there are new discoveries in the later works, new discoveries that, I argue below, are the fruit of new adventures of ideas, not merely the translation of old ideas into new applications.

5. A society of systematic play

I have been arguing that there is no single system behind (or enticing) all of Whitehead's works. Each work is another example of systematic play: a mathematical system, a natural philosophy, a systematic metaphysics, seven platonic notions, and an exploration of life. Throughout all these systematic thought-experiments, there is a continuity—a character inherited from one to another—but not a single system as event, only a society of systematic play.[11]

There are those who point out inconsistencies in Whitehead. Some of those are mere critics, others such as Hartshorne and Griffin, draw attention to such inconsistencies in an effort to develop a single consistent Whiteheadian system. Unlike these process theologians, Whitehead, however, seems less concerned with being consistent and more concerned with being interesting. Would Whitehead have a problem with those striving to make a single consistent system out of his work? I imagine that it would find it (due to its event-nature) technically impossible. If a system was explored, however, with the goal of greater consistency and coherence with the purpose of new adventurous discovery, then I think he would welcome it as further play. If the goal was to pin down experience into a single orthodox systematic framework, then I think he would find it stifling.

Whitehead's article, "Immortality," may be examined with the same questions in mind. In this article he explores "Two Worlds" (Imm §II) that together make up the "Universe" (Imm §XII). These are the "World of Activity" and the "World of Value" (Imm §III-IV), or, alternatively, the "World of multiple Activities" and the "World of coordinated Value" (Imm §XIII). Again, as with *Adventures of Ideas*, one way to understand this essay is to read it as a later day distillation of some important contrasts that are treated in a more nuanced manner in *Process and Reality*. The way I read it, however, is that of a new playful adventure of discovery in which Whitehead hopes that this new systematization, one now based upon two contrasting notions, will bring some new realizations and new connections about that concrete reality that both systems are making an effort to describe.

6. A new system for an old difficulty

"Immortality" specifically addresses the problem of personal identity. In agreement with many readers of Whitehead who find an inability within the atomistic (actual occasion-centric) system of *Process and Reality*[12] to account for personal identity, Whitehead writes, "The survival of personal identity within the immediacy of a present occasion is a most remarkable character of the World of Fact. It is a partial negation of its transitory character" (Imm §VII). Whitehead here is making an appeal to experience. Such an experience is remarkable within the system as described in *Process and Reality*—some would say that it is problematic.

"Immortality" takes Whitehead's general trend toward the concrete in a yet a new direction. Whereas in *Science and the Modern World*, a particular actual occasion was held to be concrete and eternal objects were said to be abstract, in "Immortality" both the set of all actual occasions[13] and the ordered set of eternal objects[14] are held to be abstractions. If both of these are abstractions, then are they both to be understood as abstract elements of the Universe as a whole? Whitehead does not say that the Universe is concrete, but he does

describe it as ultimate. The key, for Whitehead, and this is consistent with what he writes in the opening pages of *Process and Reality* (PR 7),[15] is that neither of the two worlds is ultimate in itself. In the language of *Process and Reality*, neither God nor the World is ultimate. What is ultimate in *Process and Reality* is Creativity.

The notions that he plays with in "Immortality" allow him to conclude that, since both worlds presuppose and require each other, and since neither world is ultimate, both worlds must exhibit an impress upon the other. This impress of one upon the other solves the problem of personal identity. While *Process and Reality* proposed its own solution (the society of occasions view), "Immortality" frames the issue of personal identity in an entirely different manner. Much like the white dot inside the black area of the yin-yang symbol, Whitehead sees personal identity to be the immortal dot within the mortal area. The World of Value, he writes, is characterized by endurance, and degree of endurance is a characteristic of identity. Conversely, the World of Activity is characterized by a finite concrete perspective. In any given occasion, the concrescence of an occasion is an experience of value, a momentary flash of self-enjoyment. The key is, however, that the two worlds are not exclusive domains: as above, so below. Just as there is persistence in the World of Value, so too is there an impress of persistence upon the World of Activity, and, in the World of Activity, persistence appears, in part, as personal identity and is the manner in which we are made in the likeness of God. Whereas God endures eternally, we have a degree of endurance for some finite—yet greater than momentary—span of time.

Not only does the impress of endurance account for personal identity, it also accounts for the possibility that value can accumulate in the World of Activity. The possibility of the accumulation of value is the condition for emphasis (Imm §VIII). (In *Adventures of Ideas* this is called beauty.) The destruction of preserved value is the definition of evil (Imm §XI).

7. Concrete embodied experience

"Immortality" gives us a new conception of abstract and concrete. Similarly, there is a comparable and novel inflection point regarding his understanding of concrete that occurs between the trilogy[16] that is *Science and the Modern World*, *Process and Reality*, and *Adventures of Ideas* and Whitehead's final book *Modes of Thought*. The shift occurs when Whitehead emphasizes a different sense of concrete than he previously had. This shift of emphasis in what it means to be concrete accounts for why *Modes of Thought* seems quite approachable (Lowe 1962, 14) while *Process and Reality* is notorious for being, in Elizabeth Kraus' words, "one of the most difficult works in philosophical literature" (Kraus 1998, xix).[17]

In *Modes of Thought* that which is concrete is defined in terms of life and specifically in terms of embodied experience. Whitehead describes embodied experience by first[18] looking at the question of life. Whitehead argues that a truly lifeless nature, such as the depiction given by many forms of physicalism, could have never given rise to life. Seeing that there is life, Whitehead argues that physicalism must be wrong and that life must be an internal aspect within all things (MT 150). Additionally, in defining what he means by life in its most general sense, Whitehead identifies broad characteristics of experience including the feeling of importance (MT 4) and that counterpart to experience that he calls expression (MT 21). More specifically to our own situation, he argues that we know ourselves as "creatures in a world of creatures" (MT 108) and that our experience is an embodied experience that takes place within "that portion of nature" that we bracket out as our own and identify as our body (MT 115), even while defending the view that any sharp demarcations between body and nature cannot be sustained (MT 114). Experience, Whitehead argues has a form that is more primary (and more concrete) than are the experiences we think of as sense perception.[19] For the human being, our embodied experience is our most "primary experience" (MT 116), and it is through the channels of the body that we come to know what the body experiences in its sense organs.

In *Process and Reality*, on the other hand, the reader, as early as the second chapter, is presented with a complicated and nuanced cosmological scheme of unfamiliar entities and categories and the rules and habits of their interrelation. The reader drops down the rabbit hole at the beginning[20] and is told to judge the success of this speculative scheme by how well it accounts for experience (PR xiv, 3). In *Process and Reality* the presentation of the cosmology comes first and experience is explained to be the standard by which one judges its adequacy.

8. The two meanings of "concrete" coincide

Modes of Thought and *Process and Reality* each emphasize different aspects of what it means to be concrete. For Whitehead, the two meanings coincide in his account of an actual occasion. This point of coincidence is, however, unique to Whitehead. For most philosophers, the two different meanings represent different sides of a chasm.

Beginning with *Science and the Modern World* an unusual meaning of concrete arose. In this work, a drop of experience itself was depicted as a concrete entity. With *Modes of Thought*, emphasis changes from the concreteness of the entity, to the concreteness of embodied experience. For Whitehead, these two aspects coincide (one moment of my embodied experience is an actual occasion), but for many, the world view that began with

Science and the Modern World remains a foreign land far removed from one's own embodied experience.

The conceptual confusion results from the fact that, on the one hand, concrete can be used in a cosmological sense to refer to those most fundamental building blocks of all other things—normally seen as the bailiwick of scientists—and, on the other hand, concrete can be used in an experiential sense normally associated with sense perception. Descartes and Locke used the word "substance" to refer to that which is concrete in the first sense. Leibniz used the term "monad." In classical atomic theory, atoms were considered to be the concrete bits of matter that were the fundamental pieces that make up all other things. Despite the fact that the atoms of modern physics have been shown to be mostly empty space, and despite the fact that subatomic particles are not concrete in any traditional sense of the term, the search for something concrete at the base of all matter remains. The current leading candidate for that most concrete entity is known as the Higgs particle. According to leading theories, the Higgs is a minute "boson" that is found in subatomic particles and gives them their mass. The search for the Higgs is one of the key missions of the CERN supercollider.[21]

Besides referring to "final real things," concrete can also refer to that type of experience or type of intuition that is able to provide one with the most immediate and most genuine information about the world as it really is. Descartes' method of radical doubt was an attempt to discern such a concrete fact upon which he could found his study of the world. Descartes concluded that one thought in particular was so concrete as to be beyond all doubt, namely: that he was thinking. This thought was Descartes' most concrete experience in that it was the one experience that he could not doubt. What he could doubt, however, was the existence of his body. As a result, a dualism of mental substance and bodily substance emerged that has henceforth created a chasm that many philosophers have, attempted to bridge.

Empiricists, such as Locke, argued that our most concrete experiences are given by simple ideas. Simple ideas, Locke explained, were ideas such as causal power and sensations. For Locke, there is no dualism in that these simple ideas provide concrete information about the world as it really is. Hume had a more restricted notion of empiricism than did Locke. For Hume, the concreteness of an experience is in direct proportion to how clear and distinct an idea is. Since sense data, at its best, is clear and distinct, sense data became Hume's gold standard of concrete of experience. Since causation could not actually be observed via the senses (it could only be inferred) Hume reasoned that we do not have an empirical ground for causation. Unlike Locke, experience for Hume was not a concrete experience of the world; it was an experience of ideas, a representation, once removed from the actual.

Kant also argued for a distinction between: the world we experience and the world as it is. For Kant, sense data can only reveal information about the world of appearance (phenomena). It cannot reveal a true depiction of the

world as it is in itself (noumena). His transcendental deduction showed only the conditions necessary for experience. Such conditions addressed only our forms of sensibility. As such, these conditions do not provide a pathway to a concrete experience. Hegel addressed this problem by arguing that Kant's phenomena / noumena separation was actually a mistake. It was a mistake in that an essence (a feature of the noumenal realm) would not be an essence unless it also appeared (i.e. took part in the phenomenal realm) (Inwood 1995, 200).

   For Hegel, thoughts are embedded in a dialectic world of nature and spirit. Hence, for Hegel, thoughts yield our most concrete information about this dialectally evolving world. This, however, is not an experience of the world as Locke understood it; rather, it is an experience of absolute spirit. It is thus a form of idealism that Whitehead would object to.   Husserl, according to Emmanuel Levinas, addressed the chasm identified by the noumena / phenomena distinction arguing that if we are careful to bracket our assumptions (and in this way prevent them from corrupting what we experience with prejudices of interpretation), then, if we pay close attention to the phenomena, we can discern an essence (a noumenal component) within the phenomena.[22] Going a step further, Heidegger makes a movement towards finding something concrete in the phenomena of experience arguing that our most concrete experience is that which occurs prior to reflection or theorizing. It occurs in our "average everydayness."

   From the idealism of Kant and Hegel to the phenomenology of Husserl and Heidegger, Jean Wahl[23] discerns a movement "Toward the Concrete" (Schrift 2006, 17-18). For Wahl, who explored this movement through a study of Whitehead, William James, and Gabriel Marcel, an orientation toward the concrete requires attention to the body and to lived experience (Wahl 1932, 13). Emmanuel Levinas extended this movement in phenomenology towards the concrete arguing that in the experience of the other's face we have a concrete experience of something entirely beyond ourselves. This experience frees the self from the trap of solipsism.

   Whitehead proposed a similar way to avoid solipsism. For Whitehead, as with Levinas, there must be some concrete experience that is more than just a representation in my own mind. Whitehead refers to such a concrete experience as "causal efficacy" (S 43). One clear example of causal efficacy is one's own feeling of one's body. The feeling of the body is understood by Whitehead to be the feeling of some other. The body—a "peculiarly intimate bit of the world" (PR 81)—is, nevertheless, an other from the perspective of the occasion that is the psyche-at-the-moment.   The body is felt by this occasion via causal efficacy. This is the same type of feeling that Whitehead uses to account for the experience of other minds—hence the comparability to Levinas.[24]

9. Conclusion

Attention to lived and embodied experience is at the heart of Whitehead's *Modes of Thought*. This last book of Whitehead's is very concrete in this embodied experiential sense. *Process and Reality*, on the other hand, is often taken to employ a technical private language and to be very far removed from everyday lived experience. As such, it is often thought of more in the mode of a speculative flight "in the thin air of imaginative generalization"[25] rather than a work clearly grounded in concrete experience, as Whitehead perhaps intends.

When *Science and the Modern World* was published it was exciting and a bit perplexing in that the system in which it was set was not yet fully described (Lowe 1962, 13). In picking up *Process and Reality* the reader comes into a conversation that has already started. Rather than being eased into this conversation, the reader is confronted with a nuanced system of categories in which the actual occasion (a very abstract seeming entity, despite Whitehead's claims to the contrary) seems to be the key player. This experience at its best seems like an adventure of ideas; at its worst, it seems like a journey down the rabbit hole. Perhaps realizing this, Whitehead, in *Modes of Thought*, revisited the convergence he argued for in *Science and the Modern World* between that foreign sounding, yet most concrete element of Whiteheadian reality that he called the "actual occasion" and that most concrete (now meaning most intimately experienced) starting point for an explanation that he identified in *Modes of Thought* as "Our bodily experience" (MT 114).

What is new with *Modes of Thought* is not a new realization that Whitehead has concerning these two senses of concrete, rather in this last book of his, Whitehead introduces a new method to demonstrate their isomorphism. In *Modes of Thought*, unlike *Process and Reality*, Whitehead begins with what is most concrete from the standpoint of embodied experience and uses such a depiction of concrete experience to build towards his earlier systematic metaphysics. Seen in this light, *Modes of Thought* is not systematically beyond metaphysics but before metaphysics.

NOTES

1. A key work that helped establish this interpretative trend is William Christian's *An Interpretation of Whitehead's Metaphysics* (1959).
2. By examining Whitehead's revisions Ford indicated that Whitehead chose to keep most of what he wrote and chose, when his thoughts about a matter evolved, to add a modifying word, phrase, or lines. Because of this, the text of *Process and Reality* is multilayered. An obvious example of this the "Category of Reversion" that is later "abolished" (PR 250) with the subsequent development of "the hybrid physical feeling of the relevancies conceptually ordered in God's expe rience" (ibid.).

3. Whitehead closes his essay "Immortality" with the lines, "My point is that the final outlook of Philosophical thought cannot be based upon the exact statements which form the basis of special sciences. The exactness is a fake" (§ XIX).

4. A concise statement of such a Whiteheadian system is found in David Ray Griffin's *Reenchantment without Supernaturalism* (2001).

5. In writing about his "method of philosophical construction," Whitehead states that "the merest hint of dogmatic certainty as to finality of statement is an exhibition of folly" (PR xiv). He also warns of a "narrowness inherent in all finite sys tems" (MT 2).

6. I borrow this description from the French philosopher who brought contemporary American, English, and German philosophy to France in the 1930's, Jean Wahl. See his article, Vers le concret (Toward the Concrete) (1931 1932), as well as his book, *Vers le concret* (1932), a third of which is about Whitehead.

7. Whitehead later came to realize the limitations of such an approach. In "Immortali ty," for instance, Whitehead describes logic as a "superb instrument" that is in adequate as a basis for thought. Such as position, he writes, "is a fake." Logic itself requires and presupposes "a background in common sense" (Section XIX). This is to say that logic needs a background in something more concrete.

8. Henderson, according to Jerome Karabel (2006), was a prominent professor of bio chemistry at Harvard.

9. In the final chapters of *Science and the Modern World*, Whitehead started to work out the conditions of the coming together of an actual occasion.

10. This is referred to as the Sapir Whorf hypothesis.

11. I use the terms "society" and "characteristic" in reference to Whitehead's technic al definition of a society (PR 34).

12. I put system in scare quotes because I am denying that there is a single system that Whitehead is developing. Rather than Whitehead having a single system, he plays systematically with ideas. We can discern different systematic plays oc curring within his works, each with its own rewards and liabilities.

13. In "Immortality" he calls this the "World of multiple Actualities." Alternatively, within the language of *Process and Reality* it could also be described as the ex tensive continuum of all actual occasions.

14. In "Immortality" Whitehead calls this the "World of coordinated Value." It could also be understood to be the eternal objects as envisioned by the primordial na ture of God.

15. Lewis Ford argues that this is a late addition to the work.

16. Whitehead groups these three works together and states that collectively they sup port "each other's omissions or compressions" (AI vii.)

17. Whitehead, in a letter dated November 4, 1929, wrote that he did not expect that Process and Reality would be well received by "professional philosophers" (Lowe 1990, 341).

18. I mean first in terms of chronology, not in terms of their appearance within the book. The two chapters "Nature Lifeless" and "Nature Alive" that appear near the end of *Modes of Thought* predate its publication by four years. Initially they were delivered as lectures and later published as *Nature and Life* (Chicago: Uni versity of Chicago Press, 1934).

19. Whitehead made this point earlier in *Symbolism: Its Meaning and Effect* (1927).

20. Whitehead is expressly aware that the "summary statement of Part I is practically unintelligible" without rest of the work (PR xi).
21. http://www.exploratorium.edu/origins/cern/ideas/higgs.html
22. Levinas writes that Husserl took steps "toward the concrete," as Jean Wahl called it (Levinas 1998, 48).
23. Jean Wahl was a French philosopher whose professorship at the Sorbonne was interrupted by imprisonment at a deportation camp for Jews during the Nazi oc cupation of France during World War II.
24. Whitehead writes, "This conclusion has some empirical support, both from the evidence for peculiar instances of telepathy, and from the instinctive apprehen sion of a tone of feeling in ordinary social intercourse" (PR 308).
25. Whitehead explicitly states that although speculative thought partakes in imagina tive generalizations, it both begins with and renews itself with particular obser vation (PR 5).

Five

IMMANENCE AND INCOMPLETENESS: WHITEHEAD'S LATE METAPHYSICS

Roland Faber

1. Introduction

In *Religion in the Making*, Whitehead sets the stage for an interesting paradox that runs through his whole philosophical work. On the one hand, he defines metaphysics as clearly and succinctly as possible, namely, as "the science which seeks to discover the general ideas which are indispensable to the analysis of everything that happens" (RM 84n1).[1] On the other hand, he warns us to *mistrust* metaphysics because of the "defect of a[ny] metaphysical system that is the very fact that it is a neat little system of thought, which thereby over-simplifies its expression of the world" (RM 50).[2] It is the explication of this *paradox* of metaphysics as its very "metaphysical" *situation* that will be the leading "idea" of my analysis of Whitehead's late thought. I think that his "late" thought could be defined as a series of ways to engage this paradox, which thereby *remains* a paradox that *cannot* be solved and reveals itself only as a *series* of deconstructions of metaphysical claims.

I do not believe that Whitehead ever gave up *metaphysical* claims or metaphysics as such, but that he was well aware of the fragility of any such claim and that for him the *status* of metaphysical claims are of as much importance as their *content*. However, he never *justifies* the claims through logic or linguistics (as analytic philosophy would proceed) but *deconstructs* their status as a paradoxical series of contrasts to the very point where they become the expressions of a *limit* where logic and language *dissolve*.[3]

Also, I don't believe that Whitehead invented this "method" only in his works after *Process and Reality;* on the contrary, if one looks closely enough, everything is already right there, sometimes right *under the surface* of the obvious agenda of the construction of a metaphysics as a "coherent, logical and necessary system" (PR 3).[4] However, against any claim that the works after *Process and Reality* are just recombinations and popularized versions of his "mature" work, or examples of a declining mind hanging on to main ideas by way of sweeping simplification, I would like to offer the thesis that these "late" works, between *Symbolism* and the last articles from 1941, are a *series of new attempts to articulate the main paradox of what Whitehead understood as metaphysics*.[5]

I tend to think that this is the true meaning of what, for Whitehead, lays *beyond* metaphysics, namely, that this "beyond" is precisely the articulation of its *paradoxical nature:* that we can *never* overcome metaphysical claims (in seeking the generality of ideas), but that we are, at the same time, *always* already *beyond* its "nature," namely, to formulate the "general."[6] In this sense, I understand Gilles Deleuze's affinity to Whitehead not as a poststructuralist misinterpretation of Whitehead's intention, but as a true fulfillment of the deeper status of his metaphysics as the *infinite adventure* of ideas (Deleuze 1994, 284-5).[7]

Hence, two of Deleuze's comments on Whitehead will guide my own exploration of Whitehead's "late" series of deconstructions of the status of metaphysical claims. Like Deleuze, I also think that Whitehead was a pluralist and empiricist in the peculiar sense that he defended the idea that "abstraction does not explain but must be explained" *and* that "the search is not for an eternal or universal, but for the conditions under which something new is created (*creativeness*)" (Deleuze 2006, 304). Therefore, I share the conviction of Deleuze that Whitehead is *not* following a paradigm of "eternity," that is, that the "best of all worlds is not the one that reproduces the eternal," but that it is the one that allows for "the production of novelty" (Deleuze and Guattari 1987, 79).

With Deleuze, I think that Whitehead's series of deconstructions of metaphysical claims is based on the exploration of novelty, creativeness, and the incomprehensibility of experience in a way that is tantamount to a fundamental "conversion of philosophy" (Deleuze 1992, 79). I will further explore this suggestion in a series of four theses that increasingly will reveal the status of *all* metaphysical claims to be *essentially incomplete* in such a way that they can be understood only from a perspective of non-exceedable or unembraceable "immanence."[8]

2. The Immanence of the Possible or the Actual Incompleteness of Metaphysics

First Thesis: *Whitehead's late work is a series of deconstructions of the idea of metaphysics, understood as a general theory of all possible actual worlds, thereby revealing the status of metaphysical claims to be of actual incompleteness.*

It is an interesting philosophical gesture that Whitehead, in formulating a desire for metaphysics, accompanied every instantiation of such metaphysics with its relative impossibility.[9] Already in early works, like *Concept of Nature*, where Whitehead was still withholding metaphysical claims, he was already hinting at the necessity of formulating a new metaphysics in the near future, which would be based on his analysis of the implicit metaphysics of physics as mechanistic. He found this mechanism neither to be scientific nor

necessary; in fact, it excluded what became the basis of its own endeavor, namely, *nature as experienced*.[10] While he still was excluding a general metaphysical claim, he laid the ground for its formulation *and* its relative impossibility when he defined nature as "the mystery of creative passage of nature" (CN 73).[11] The *implicit* metaphysical claim of such a new, non-mechanistic metaphysics became the analysis of what happens in nature in *events*, the realm of experience, and *objects*, the realm of structures of nature and its knowledge (CN 173). However, since objects are per se immanent to events of which they are mere abstractions, Whitehead already laid the ground for the *impossibility* of any "objective" formulation of such structures as general enough to encompass the "creative advance" (CN 34) of a world of events.

This is the *nucleus of the paradox* of Whitehead's metaphysics: that it strives for a *generality* that is always already *undermined* by the creative passage of structures and the creative advance of a world of events beyond any structural stability, which would allow us to analyze this world in terms of universals (cf. PR 20).[12]

When Whitehead in *Science and the Modern World* first formulated his new metaphysics, he did so precisely on the premise of a *universal activity*, which he borrowed from Spinoza, that *underlies* all structures—themselves uncovered as "abstractions"—and a *principle of concretion* that defines the most general characteristics of an actual world as *irrational process* (cf. SMW 178).[13] While a Whitehead-interpretation could be established on the basis of the belief that the famous Chapter X on "Abstractions" is the most comprehensive formulation of such metaphysical structures, its hierarchies of abstractions do not, in fact, establish an eternal order of the structural integrity of the world, but only a flexible instrument to analyze the irrational process of events in their intelligibility without ever making the claim that they represent an eternal order of ideas.[14]

Against a narrowly Platonist misinterpretation of Whitehead, which is as common as it is wrong,[15] metaphysical structures are, in fact, nothing but abstractions of the process of becoming itself; they are neither concrete nor are they actualizing forms of eternity. On the basis of universal activity and irrational concretion, events harbor structures as intelligible mediums of communication, not as principles of their actualization.[16] Instead, any metaphysical claim must have that status of *a possibility for actualization* and, hence, "describe" the actual world as one that is *actually* incomplete because of the *in completeness of its creative activity*.

While *Process and Reality* seems to make the strongest case for a "coherent, logical and necessary system" with which to analyze the utmost generalities of the actual world—as already hinted to in *Religion in the Making* (cf. RM 84) and as repeated in slightly different language in *Function of Reason* (cf. FR 67-8)[17]—it is, on a deeper level, also a serious contestation of such claims and a simultaneous affirmation of the relative impossibility of this endeavor.[18]

Besides Whitehead's famous appeal to intuition regarding the insight into "first principles" (PR 4) and "togetherness" (PR 22) and an infinite process of approximation with only "tentative formulations" (PR 8), we find more "structural" refutations of "dogmatic certainty" (PR 264)—the ultimacy of creativity (PR 21); the irrationality, although not unintelligibility, of the Whitehead's categories (PR 22-26); the embededness of all orders and laws within the relativity of a chaotic nexus (PR 95); the a posteriori status of the extensive continuum (PR 35); the infinity of cosmic epochs (PR 35-6); the primacy of becoming over being (PR 22); and so on.

Although Whitehead often addresses the *limitation* of metaphysical claims with limitations of language, experience and deficiencies of the mind to grasp the most general (PR 4),[19] he also knows about a limitation *in prin ciple*, namely in *actuality* (PR 20).[20] Maybe the most overlooked but strongest statement against the *possibility* of metaphysical claims in light of this actual incompleteness of all structures in non-preformatted actuality can be found in this passage from the section on "The Order of Nature" in *Process and Reali ty*.

> The metaphysical characteristics of an actual entity—in the proper general sense of 'metaphysics'—should be those which apply to all actual entities. It may be doubted whether such metaphysical concepts have ever been formulated in their strict purity—even taking into account the most general principles of logic and of mathematics. We have to confine ourselves to societies sufficiently wide, and yet such that their defining characteristics cannot safely be ascribed to all actual entities which have been or may be. (PR 90)

The reason for this limitation of metaphysical claims is that the world is not based in "fact," as representations of structures, but in process (PR 7), so that no structural generalization can reach beyond the activity of the process to become; or, reversely stated, metaphysical generalities are but possibilities immanent to the process as a whole in its actual incompleteness (cf. PR 36).[21] This again is the reason that Whitehead can link the two ways of metaphysical analysis in such a way that they only express this limitation of the metaphysical endeavor: While "coordinated analysis" allows for infinitely different ways of "division," none of which reach the actual process exhaustively (PR 283-4), the genetic analysis discovers only phases of becoming in which all "givenness"—be it structures, generalities or facts—are only potentials for new becoming (PR 23).

This again is the reason that, for Whitehead, the "realm" of "eternal objects" is not absolute, but only *relative* to the world-process in its ultimate irrationality—whether it is based in creativity (PR 20) or the principle of limitation (PR 46). In being *relative to actuality* the "realm" of eternal objects"

may not "in itself" be in the process of "becoming"—that is, there are no new eternal objects—but it is no well-defined "realm" either; rather it is *pure mul tiplicity*, per se chaotic, without unity, lacking any definite structure, only being unified in the *actual* process of becoming itself (PR 46).[22]

In this sweeping glance through the development of the metaphysical paradox up to Whitehead's magnum opus, *Process and Reality*, we can gain the insight that the process of deconstruction of metaphysical claims is already there, right in the midst of the *constitution* of metaphysics; but unfortunately, it remains often undetected.[23]

In the following three theses, I want to render a *cumulative* case that the late work of Whitehead, following this initial climax of the metaphysical paradox in *Process and Reality*, reveals actual incompleteness to be *the* driving force of Whitehead's further philosophical development, that is, both of new conceptualities and their constellations entering the Whiteheadian vocabulary *and* of new attempts to *formulating* the paradox *as* paradox in its deconstructive force, thereby always breaking open all (possible) solutions.[24] As a point of departure, I will always start with a passage from *Process and Reality* that indicates how the fundamental actual incompleteness canalizes into the four different spheres of incompleteness.

3. The Immanence of Reason or the Cultural Incompleteness of Metaphysics

Second Thesis: *Since the actualization of generalizing rationality for White head is an act of civilization, rationality is a moment of its development and decline whereby metaphysical claims express a cultural incompleteness.*

One way of formulating the basis for the cultural incompleteness of metaphysics and for the immanence of reason and rationality in a cultural context in *Process and Reality* is with Whitehead's conviction that there is no "givenness" that is not based on becoming and that this becoming is a relational happening of a multiplicity of events so that its immanent rationality is fundamentally in flux.[25]

> There must, however, be limits to the claim that all the elements in the universe are explicable by 'theory.' For 'theory' itself requires that there be 'given' elements so as to form the material for theorizing. … For rationalistic thought, the notion of 'givenness' carries with it a reference beyond the mere data in question. It refers to a 'decision' whereby what is 'given' is separated off from what for that occasion is 'not given.' This element of 'givenness' in things implies some activity procuring limitation. (PR 42-43)

> The evolution of history can be rationalized by the consideration of the determination of successors by antecedents. But, on the other hand, the evolution of history is incapable of rationalization because it exhibits a selected flux of participating forms. No reason, internal to history, can be assigned why that flux of forms, rather than another flux, should have been illustrated. It is true that any flux must exhibit the character of internal determination. So much follows from the ontological principle. (PR 46)

The problem Whitehead formulates here is not a metaphysical problem, but one of the very possibility of metaphysics as such. Although this paradox is guided by the ontological principle (cf. PR 24), this passage deconstructs the very possibility of principles to guide us beyond a certain point, namely that of the limitation of rationality by the historicity of the process, which is ungrounded, or grounded only in actuality with actuality meaning "decision amid 'potentiality'" (PR 43).[26] In other words, actual incompleteness generates cultural incompleteness, that is, the immanence of rationality in the cultural settings developing rationality (cf. RM, part I).[27]

I think it is this link that forced Whitehead to delve ever deeper into the cultural settings of the emergence and the decline of reason and rationality. *Symbolism* and *Function of Reason*, written right around *Process and Reality*, express this urge for the analysis of the cultural appearance of reason and rationality.[28] While *Symbolism* on the one hand hints to *Process and Reality* as the "adequate discussion" of experience (S 16), it spends a third of its explorations on the *cultural embededness* of experience or better, of *metaphysics* of experience, and that means, in Whitehead's context, of metaphysics as such (S, part III). *Function of Reason*, on the other hand, right after *Process and Reality*, addresses the *evolution* of rationality from the biological into the cultural context, in which it becomes cultivated, among other uses, as speculative reason, that is, as metaphysics. Reason is the driving force of cultivated life, the *art* of life (FR 4) and, at the same time, an expression of its own cultural conditions—the "passionate claim for freedom of thought" (FR 38)—that allows for its arrival (FR 38).[29]

In both cases, Whitehead *situates* metaphysics—as rationality *of* experience—in a distinctly cultural context.[30] In both cases, Whitehead seems to "break" with his universal metaphysical vision of utmost generality; but he does so not in order to ask a reduced "anthropological" question; rather, he situates the very existence and development of metaphysics in the *history* of the decaying and self-organizing tendencies of the "course of events" (FR 1) of which human evolution and humanities' cultures are a direct expression.

In both cases, Whitehead ends with visions of the *utmost cultural relativity* of the metaphysical endeavor. In *Function of Reason*, "Reason is the self-discipline of the originative element in history" (FR 3), that is, of creativ-

ity. But, while it raises the process beyond "mere blind appetition [that] would be the product of chance and could lead nowhere" (FR 89), it *never* becomes the expression of an underlying, almost divine Reason that would lead us to an eternal point beyond this history of becoming and perishing.[31] On the contrary, it is limited by the "form specialized to the special aptitudes of human beings" and only allows for a creative arrival of *unprecedented* cultural developments that express a "counter-tendency which converts the decay of one order into the birth of its successor" (FR 90).

That this cultural incompleteness of metaphysics, for which there is always only a *successor,* but never a point of rest in a final generality, is always the expression of a cultural environment is the insight with which *Symbolism* leaves us. The ability of a culture to establish a favourable environment and to survive a non-favourable environment is eminent in the formulation of *any* symbolism of which "metaphysics" is only one appearance.[32]

> Thus mankind by means of its elaborate system of symbolic transference can achieve miracles of sensitiveness to a distant environment, and to a problematic future. But it pays the penalty, by reason of the dangerous fact that each symbolic transference may involve an arbitrary imputation of unsuitable characters. It is not true, that the mere workings of nature in any particular organism are in all respects favorable either to the existence of that organism, or to its happiness, or to the progress of the society in which the organism finds itself. (S 87)

Hence, *none* of these cultural forms of symbolism represent reality per se, but they *always* are the *pragmatic* expressions of a success or decline of a certain cultural integrity that has no underlying reason, but the historicity of its own becoming. A "symbolism which is taken to refer to the ultimate purposes for which the society exists," therefore, needs to "combine reverence to their symbols with freedom of revision" without which it must "ultimately decay either from anarchy, or from the slow atrophy of a life stifled by useless shadows" (S 88).[33]

Of course, Whitehead's pursuit of this cultural conditioning of metaphysics in his last two books *Adventures of Ideas* and *Modes of Thought* can easily be misunderstood as an "application" of his *preceding* metaphysics.[34] In fact, however, they are really reflections of *precisely* the cultural incompleteness *of* metaphysics. While the cultivation of metaphysics for Whitehead is a civilized act of surveying "the world with some large generality of understanding" (MT 4), it must also be situated always in the particular development, the becoming and decline, of *concrete* civilizations. It is with this insight that one realizes that "[r]ationalism never shakes off its status of an experimental adventure" (PR 9) of ideas, potentials, structures, and laws of any magnitude of universality by being embedded in, and expressions of, the rela-

tivity of history, culture, society, and the universal course of events. Because of this *immanence* of rationality, Whitehead concludes that we "cannot produce that final adjustment of well-defined generalities which constitute a complete metaphysics"; we can always *only* produce "a variety of partial systems of limited generality" (AI 145). This "process is, of course, unending. All that can be achieved is the emphasis on a few large-scale notions, together with attention to the variety of other ideas which arise in the display of those chosen for primary emphasis" (MT 2).[35]

In light of the weight that the late works of Whitehead around and after *Process and Reality* lay on issues of social and cultural analysis, we must either conclude that Whitehead lost his metaphysical interest—hence, that he did indeed formulate his metaphysics in *Process and Reality*—or that these "late" works are a series of *deconstructions* of the metaphysical claim that already appeared underlying Whitehead's metaphysical construction in *Process and Reality*.[36] In the second case—and this is the thesis here—these "late" works are the *very expression of the fundamental incompleteness of metaphysics* in the relativity of its cultural constitution, articulation, scope, and flavour; an incompleteness, however, that does not leave metaphysics behind, but deconstructs it *as the moment of its constitution*. In this sense, says Whitehead in *Adventures of Ideas*, it is not the metaphysical constructions of generalities themselves but their "limitations [that] are the topics for philosophic research" (AI 145).[37]

4. The Immanence of Categories and Principles or the Transcendental Incompleteness of Metaphysics

Third Thesis: *Since for Whitehead universality is process, there is no such thing as a "complete whole"* [38] *amounting to a transcendental incompleteness of metaphysical claims.*

The passage from *Process and Reality* I want to start from, speaks about actual incompleteness as a *condition for the possibility* to formulate any metaphysical system so that this inherent limitation of any universality as such amounts to a *transcendental* condition of the constitution of actuality.[39]

> The aim at generalization is sound, but the estimate of success is exaggerated. There are two main forms of such overstatement. One form is what I have termed, elsewhere, the 'fallacy of misplaced concreteness.' This fallacy consists in neglecting the degree of abstraction involved when an actual entity is considered merely so far as it exemplifies certain categories of thought. There are aspects of actualities which are simply ignored so long as we restrict thought to these categories. Thus the success of a philosophy is to be measured by its comparative avoid-

ance of this fallacy, when thought is restricted within its categories. (PR 7-8)

When Whitehead postulates this transcendental incompleteness of any metaphysical system with its generalizing categories and embedded principles as the *overture* to his table of categories in *Process and Reality*, everything appears in a different light. Neither the categories nor the principles of White-head's alleged "system" nor the system as such are to be viewed as adequate statements of the *real* generalities involved in the analysis of actuality, but merely as *abstractions* from the very process of actualities that generates them as very incomplete statements of orientation.[40]

This limitation is, first of all, a limitation of abstraction in the attempt to use them to gain an understanding of the actual process; it is based on actual incompleteness. Secondly, it is a limitation given by the historicity and cultural embededness of the process of actuality. Thirdly, however, it is a *limitation of principality as such* in the course of the process.[41] The "fallacy of mis-placed concreteness" is not just a statement on the status of metaphysical claims in differentiation from "reality," but also a statement about the "reality" itself *insofar* as it cannot be conceptualized. Hence, principles and catego-ries ought to be incomplete not because we are limited by culture and lan-guage, but precisely because this limitation of principles and categories is the *very condition* for the conceptualization of *actuality as actuality*.[42] In other words, if actuality could be "rationalized," that is, universally grasped through concepts, categories, and principles, it would be only the expression of an "idea" (Plato) or a "spirit" (Hegel) of which it was only a variation or exem-plification.

Of course, as soon as we have seen this transcendental incompleteness working *in* Whitehead's constitution of metaphysics, many of its pieces in *Process and Reality* fall into place: that the "universal of universals" is *process*, that is, the creativity beyond all forms (PR 20); that *all* four kinds of categories are irreducible to a law of unification, a One behind them, and that they are actually open-ended (especially in the case of the categories of exis-tence, which per se generate *infinite* other categories) (PR 22); that the basic principles (principle of novelty, of process, of relativity, and the ontological principle) of his metaphysics appear *in* or *as* categories and not as self-sufficient grounds; that Whitehead can speak *at all* of a *supersession* of the category of conceptual reversion (PR 250); that the principle of concretion remains in place as the irrational, but intelligible, correction of closed systems (PR 244).

All that only explicates the fact that, for Whitehead, the *coherence* of thought is not grounded in any closed system, but in a constitutional incom-pleteness. While it might be true that the metaphysical paradox can go unno-ticed (or is even surprising) because of Whitehead's so obvious *eros of ratio*

nality, that is, his striving for comprehensiveness, universality, and the "rescue from anti-intellectualism" (PR xii),[43] the metaphysical paradox is right there, in the heart of this "rationality."[44] When Whitehead defines metaphysical coherence, he opens a *rational space* for its own *transcendental limitation*. Since coherence, for Whitehead, means that all metaphysical generalities "presuppose each other so that in isolation they are meaningless" whereby this mutual presupposition "does not mean that they are definable in terms of each other" (PR 3), they are *limited by their mutual incompleteness* in such a way that they always allow for novelty and therefore for the unprecedented on the conceptual level.

It is precisely this open potential for *unprecedented conceptual and categoreal novelty* as an implication of a thereby *a priori* open world that Whitehead most forcefully develops in his "late" writings. In *Modes of Thought*, this transcendental openness appears as a restatement of the rebuttal of the fallacy of misplaced concreteness in the form of the "The Fallacy of the Perfect Dictionary," which is "the belief, the very natural belief, that mankind has consciously entertained all the fundamental ideas which are applicable to its experience" (MT 173).[45] Similar to the demand for open metaphysical symbolism of societies in *Symbolism*, here, Whitehead understands that the "use of philosophy is to maintain an active novelty of fundamental ideas illuminating the social system" (MT 174). This transcendental incompleteness is nothing but precisely the *condition for the possibility of novelty* so that metaphysics is at its best when it does not fall short of always formulating anew "insight into depths as yet unspoken" (MT 174).

Since such incompleteness will always create a *series* of formulations of the unspoken, it always will appear only as an *imperfect* series of concepts, categories and principles. Here Deleuze is right: Whitehead's pluralism creates conceptual multiplicities, that is, divergent series of dimensions of conceptualization (Deleuze 2006, 304-5).

In fact, it is one of *Adventures of Ideas'* great characteristics to develop this transcendental incompleteness into *multiple open series of categories* answering a "depth as yet unspoken" (MT 174): the series of *seven Platonic notions* of which "all philosophy is in fact an endeavor to obtain a coherent system out of some modification of these notions" (AI 275); the series of "*five qualities* of Truth, Beauty, Adventure, Art, Peace" (AI 274; italics added) in which civilized society articulates itself ever anew; and the "incompleteness…[that] relates to the notion of Transcendence, the feeling essential for Adventure, Zest, and Peace" (AI 295) by which series Whitehead expresses the very incompleteness of the world-process *as such*, namely that it never finds a *unity* that does not create a new *multiplicity* in a vast process of unending novelty.

Here is also the place where Whitehead's "principle of limitation," which seemed to have expressed a unified notion of "God," *disperses in a multiplicity of open concepts*—Supreme Adventure, initial Eros, final Fact,

Harmonies of Harmonies, Adventure of the Universe as One, the union of Zest with Peace, final Beauty, tragic Beauty, the Great Fact (AI 295-6).

In a final move in Whitehead's last article "Mathematics and the Good," Whitehead even infects his earlier version of ultimate concepts, categories and principles with this transcendental incompleteness; that is, he begins to reconstruct *whatever* ultimacy one could pose in Whitehead's "system"—insofar as it would always be based on the *assumption of transcendental com pleteness* that is infused by the assumption of the primacy of infinity (and eternity)—instead, now, from *finitude* (and novelty).[46] It was the "superstitious awe of infinitude [that] has been the bane of philosophy"; but the "infinite has no properties. All value is a gift of finitude" (MG 105), writes Whitehead, thereby actually performing the "conversion of philosophy" in which Deleuze had situated Whitehead to formulate the conditions of the possibility of novelty. In one of the central passages from "Mathematics and the Good" Whitehead concludes that while

> Spinoza emphasized the fundamental infinitude and introduced a subordinate differentiation by finite modes…. Leibniz emphasized the necessity of finite monads and based them on a substratum of Deistic infinitude. Neither of them adequately emphasized the fact that infinitude is mere vacancy apart from its embodiment of finite values, and...finite entities are meaningless apart from their relationship beyond themselves. (MG 106)

From the *generative* energy of this *intersection* of *immanent infinitude* and, hence, a *multiplicity of series of actualities*, Whitehead now *derives* all of his ultimate notions of process in which they mutually deconstruct each other. The world now has no *unity*, except that of finite actualities; *creativity* arises in "the awakening of infinitude to finite activity" (MG 111); *possibilities* are "abstraction involved in the creation of any actuality, with its union of finitude with infinity" (MG 112-113).[47]

We can summarize this development in the "late" works of Whitehead with a "metaphysical principle" that Whitehead invokes in *Adventures of Ideas* really as a principle that *defies* all principles *as* a transcendental condition of *pure becoming*: namely, that "the very essence of real actuality—that is, of the completely real—is *process.*" Hence, for Whitehead, "no static maintenance of perfection is possible" (AI 274); any unification is "Imperfection" (AI 264); and "the singular of *The* Universe, of Nature, of φυσις can be translated as Process (AI 150).[48]

5. The Immanence of Immanence or the Essential Incompleteness of Metaphysics

Fourth Thesis: *We can define the late work of Whitehead as a series of explo rations of the metaphysical paradox of rational comprehensiveness and rela tional multiplicity. Addressed with the notion of "mutual immanence," the secret of this paradox is essential incompleteness.*

Maybe the most imminent structural appearance of this paradox in Process and Reality is Whitehead's definition of "necessity" in his formulation of a metaphysical scheme of ideas. Although it might be widely conceived as the cornerstone and proof of Whitehead's rationalism,[49] it is actually the opposite: a formulation of universal relativity; it is the very ground for the limitation of rationality by essential incompleteness:[50]

> Thus the philosophic scheme should be 'necessary,' in the sense of bearing in itself its own warrant of universality throughout all experience, provided that we confine ourselves to that which communicates with immediate matter of fact. But what does not so communicate is unknowable, and the unknowable is unknown; and so this universality defined by 'communication' can suffice. This doctrine of necessity in universality means that there is an essence to the universe which forbids relationships beyond itself, as a violation of its rationality. Speculative philosophy seeks that essence. (PR 4)

Necessity is *universal communication*; but "necessity *in* universality" is universal *relativity*, that is, *relationality*, that nothing is isolated beyond its *communication* with everything. This is its *rationality*. To seek the essence of the universe, then, means to seek an essential incompleteness through the *uni versal immanence that is the process* of the communication of everything in everything. Indeed, I think what Whitehead's late work accomplishes is to explore this claim in a manner that transcends *Process and Reality*. In *Sym bolism*, e.g., we find *this* formulation of the metaphysical paradox:

> Universality of truth arises from the universality of relativity, whereby every particular actual thing lays upon the universe the obligation of conforming to it. Thus in the analysis of particular fact universal truths are discoverable, those truths expressing this obligation. … The fallacy of 'misplaced concreteness' abstracts from time this specific character, and leaves time with the mere generic character of pure succession. (S 39)

Here, Whitehead understands universality of truth not as conformation of particulars with universal truth—representing the philosophy of infinity and eter-

nity, in which all actual happenings are but representations of universal ideas (or a divine will)—but as *universality of relativity* whereby all actual happenings are related to one another. This relationship of mutual immanence, however, is not a "state" of things, but an *infinite process of finite events*, the generation of ever-new multiplicities and series of multiplicities of events. These are not just series of variations of "eternal objects" in the realm of time and extension,[51] but, since the *singular* event generates universality,[52] *series of reverberations of novelty throughout the universe*.[53] Indeed, here, universality and relativity articulate *manifolds in mutual immanence* of which time, space, ideality (eternal objects), extension, and creativity are expression of their mutual and universal incompleteness.[54]

In many important passages of *Adventures of Ideas*, Whitehead declares the very concept of "mutual immanence" central to his metaphysics.[55] Maybe the most daring passage from the beginning of the chapter on "The Grouping of Occasion" reads:

> The general common function exhibited by any group of actual occasions [however] is that of mutual immanence. … If the group be considered merely in respect to this basic property of mutual immanence, however otherwise lacking in common relevance, then—conceived as exemplifying this general connectedness—the group is termed a Nexus. Thus the term Nexus does not presuppose any special type of order, nor does it presuppose any order at all pervading its members other than the general metaphysical obligation of mutual immanence. (AI 201; italics added)

This "common function" of whatever happens is not any "property," it is not a "form," it is more like Plato's "place," the *khora*, "'a natural matrix for all things'. It receives its forms by reason of its inclusion of actualities, and in a way not to be abstracted from those actualities" (AI 134).[56] At this stage in Whitehead's work, it formulates the widest, and maybe the *only* truly *meta physical* "function" of actuality, *prior* to extensiveness, time, space, characteristics, structures, orders, and laws. Although it does not presuppose *anything*, it is no chaos either; rather it is the "medium of intercommunication" (AI 134) "whose sole function is the imposition of a unity upon the events of Nature. These events…obtain their actuality by reason of emplacement within this community" (AI 187). *It is universal relativity as such; incompleteness; the multiplicity of becoming.*

Slowly again: How is "mutual immanence" not a violation of the metaphysical paradox? Isn't it a new universal category, finally capturing everything? How does it formulate essential incompleteness? First of all, *relativity* is only "universal" insofar as it actually says that there is *no* universality *tran scending* the mutual immanence of all actualities, which already harbour pos-

sibilities, categories, and principles. It is a non-category, a non-principle. It is not *a* unity, but *pure difference*.[57] It is not *a* form, but only *connection*.[58] It says that there is no principle encompassing everything. Secondly, it is a *criti cal* notion that, in refuting any transcendence of categories and principles, *denied anything* the status of origin, source, ground, aim, or goal beyond the nexus of happenings itself. It is anti-hierarchical![59] Hence, thirdly, it can only be realized *as process*, as in/finite becoming, unguided by any order or law transcending its actual process. It is the expression of *groundlessness* of becoming as such.[60]

In his last lecture "Immortality," held 1941 in Harvard, Whitehead explores unoccupied territory. Clearer than ever before, and maybe for the first time in this sense ever, he formulates mutual immanence in such a way that it directly exposes the deepest meaning of the metaphysical puzzle that has energized his thought throughout his whole career.[61] He restates metaphysical universality in terms of the mutual immanence of *all* concepts, categories, and principles as exhibiting the essential incompleteness of the world-process and its conceptualization. I confine myself to the most daring claims.

Firstly, from the claim that the "contrast of finitude and infinity arises from the fundamental metaphysical truth that every entity involves an indefinite array of perspectives" he concludes that no "finite perspective does…enable an entity to shake off its essential connection with totality," that is, an always unanalyzed "infinite background" that any entity presupposes, "which is the universe in its relation to that entity" (Imm 682).[62] In other words, in *whatever* categories we can analyze the universe, the *mutual imma nence of infinity and finitude* always generates *multiplicities* of categories and principles.

Secondly, in answering how infinity and finitude *generate* infinite categories of analysis, Whitehead analyses the universe into *two* multiplicities—a world of actualities and a world of values—that must be mutually immanent in such a way that "the description of either of the two Worlds involves stages which include characteristics *borrowed* from the other World" (Imm 685).[63] Because the contrasting series of concepts, categories, or principles must "include *characteristics derived from the other*," these "major examples of perspectives of the universe" "*require* each other" (Imm 685; italics added) so that they exhibit the universal incompleteness of *all* metaphysical claims.

Finally, since metaphysical claims can only exhibit "the *concrete* Universe in its relation to either of its … aspects" (Imm 684-5; italics added) by avoiding the metaphysical generalization that happens when these aspects become "considered by itself [in] abstraction" *from* the Universe, it is always only in their *mutuality* that metaphysical claims approximate the concrete.

Indeed, Whitehead's late work finally addresses the paradox of a metaphysical claim *without* invoking any "unity" that names "*the same*" *in* the difference of aspects, but only names the differences *themselves* in their *mu tually creative dynamic*.

NOTES

1. Cf. Griffin (2007).
2. Cf. Faber (2005, 179 200).
3. Cf. Faber (2009).
4. Cf. Leclerc (1958, part I).
5. Much work was done on the early development of Whitehead up to the "mature" metaphysics; cf. Ford (1984); Lowe (1941/1991, 15 124); and the "final phase" of Whitehead's metaphysics of multidimensionality and relativity in PR: cf. Welker (1985, 269 312). The later work appears only as "application" of this metaphysics; cf. Johnson (1983).
6. Cf. Faber in Helmer, Suchocki, and Quiring (2004, 39 72).
7. Cf. Faber and Stephenson (2010). Deleuze, like Whitehead, has rejected the "end of metaphysics" as "idle chatter" but rather wanted to reformulate its constitutional paradox. Cf. Robinson (2005, 129 136).
8. Cf. the most radical application of this immanence is in Deleuze and Guattari (1994, ch. 2).
9. This has raised the question why Whitehead, if he really wants to employ a pluralis tic viewpoint, would not deconstruct any metaphysics as one claim among infi nitely many but would instead formulate "one" metaphysics of plurality; cf. Kasprzik, (1988) and the pondering of this problem in Faber (2000a, § 16). I think that the reason is that Whitehead wanted to uphold the paradox as essential to the metaphysical endeavour as such.
10. Cf. Sayer (1999).
11. "The passage of nature which is only another name for the creative force of exis tence has no narrow ledge of definite instantaneous present within which to op erate. Its operative presence which is now urging nature forward must be sought for throughout the whole, in the remotest past as well as in the narrowest breadth of any present duration. Perhaps also in the unrealised future. Perhaps also in the future which might be as well as the actual future which will be. It is impossible to meditate on time and the mystery of the creative passage of nature without an overwhelming emotion at the limitations of human intelligence" (CN 72).
12. Cf. Faber (1999).
13. It is often overlooked that Whitehead never gave up on his "principle of concre tion" and, hence, also never on the fundamental irrationality of its being an act; cf. Faber (2008a, § 27).
14. Cf. Leue (2005).
15. Its "presence" can even be felt in new approaches; cf. Williams (2005a, 88 92).
16. Cf. Faber in Helmer, Suchocki, and Quiring (2004, 72).
17. Cf. Rust (1987, 45 66).
18. Cf. Weber (2006, 83 138).
19. Cf. Mesle (2008).
20. Cf. Wiehl (1986, 141 68).
21. Here, Leclerc cannot overcome a hidden rationalism; cf. Leclerc (1986, 13 32). Rohmer (2000), however, with the explication of Whitehead's thought in a rhythm of creativity and rationality points in the right direction, namely the overcoming of the rationalism as the foundation for the creative process.

22. Cf. Ford (1972, 79 84); Leue (2005, 107 16); and Faber (2008, § 15).
23. Cf. Griffin (2001).
24. For the transmutation of the project of "universalizing towards relativity" into that of "relativizing towards universality" after PR cf. Faber (2000a, § 17).
25. This assumption that can always be undercut by fundamental rationalistic assump tions that are understood as justifications of Whitehead's approach. Whitehead instead does not justify rationality but explores it always already on the basis of actuality; cf. Lachmann (1990, 130 135).
26. The "ontological principle" states that all "reasons" are (or are grounded) in actual ities; hence, it is the very principle that situates reason in actuality; cf. Faber in Helmer, Suchocki, and Quiring (2004, 67).
27. Cf. Kraus (1997, ch. 1).
28. Their existence, therefore, is not due to any "side project" in which Whitehead would have wanted to "apply" his metaphysics but a necessary implication of the actual incompleteness of metaphysics as such.
29. Both works are mostly consulted only as additions to PR's discourses on reason and perception; in their integrity, however, they reveal the relativizing effect they have on metaphysics. Notable exception is Lachmann (1990, part II/ch. 3 4).
30. Cf. Kann (2001, ch. 2).
31. Whitehead, therefore, is a notable exception to the "logocentrism" that Derrida criticizes; cf. Faber (2008, § 19).
32. For an analysis of the modes of perception that create "symbolic reference" cf. Kraus (1998, 75 93). It is easy to overlook that which Whitehead formulates in Symbolism as a self referential undermining of metaphysics as a symbolic sys tem that is already based on the relativism of the biological, evolutionary and cultural symbolism out of which it grows; and even deeper, the principle of rela tivism in the generation of such symbolic systems.
33. Cf. Faber (2008b).
34. Cf. Johnson (1958).
35. "Philosophy is the attitude of mind toward doctrines ignorantly entertained. By the phrase 'ignorantly entertained' I mean that the full meaning of the doctrine in re spect to the infinitude of circumstances to which it is relevant, is not understood. The philosophic attitude … refuses to be satisfied by the conventional presuppo sition that every sensible person knows the answer. As soon as you rest satisfied with primitive ideas, and with primitive propositions, you have ceased to be a philosopher" (MT 171 172).
36. Cf. C. Keller, "Introduction: The Process of Difference, the Difference of Process," in Keller and Daniell (2002, 1 30).
37. Cf. Faber (2000a, §§ 25 26).
38. Cf. Jung (1965, 608).
39. Cf. Faber, in Helmer, Suchocki, and Quiring (2004) 64 71.
40. Cf. Bradley (1994).
41. Cf. Williams (2005a, 1 8).
42. This is the basis for Deleuze's "transcendental empiricism" that he relates back to Whitehead, which does not seek the transcendental condition of all possible ex perience but that of actual experience. Cf. Marks (1998, 78 90).

43. Cf. Griffin et al. (1993).

44. Cf. Keller and Daniell (2002, 1 11).

45. Cf. Franklin (1990, 293).

46. Not that Whitehead never had another "ideal" than this reversal. In this sense, event and process are the thoroughgoing ideal of Whitehead's philosophy from CN on. Cf. Ford and Kline (1983). But it is his deconstruction of the grounding ideal of "infinity" as "ultimate reality" that remains in the background as "subs tantialist remainder" that he addresses in MG in a manner that is unprecedented insofar as it now has consequences for Whitehead's own "ultimates."

47. Cf. Faber (2000b, 171 199).

48. Cf. Faber (2008,§§ 16, 24).

49. Cf. Rescher (1996); cf. the discussion with Rescher in Weber (2006, 13 31).

50. Cf. Faber in Helmer, Suchocki, and Quiring (2004, 60 4).

51. Cf. van Heften (2006, 319 337).

52. Cf. Faber (2008, §§ 11 4).

53. Cf. Leue (2005, 105 115, 125 152).

54. Cf. Faber (2000b, 171 199).

55. Cf. Faber (2000a, § 25).

56. Cf. Faber (2006a, 179 97).

57. Cf. Faber (2008, §§ 16, 24, 32).

58. Cf. Keller in Keller and Daniell (2002, 4).

59. Cf. Faber (2010a).

60. Cf. Faber (2010b). In *Adventures of Ideas* Whitehead directly implements mutual immanence as anti principle, as anti hierarchical refuge, and as "foster mother" of becoming, by criticizing any transcendence breaking through the mutuality of everything in all. When there are no pre given Laws, all laws must be immanent (AI113); when there is no One beyond this immanence, there can be no external God but only self creativity or immanent creativity (AI 236); when there is no unity as ground or goal, all unity must be becoming and perishing. Immanence creates multiplicity of becoming and its mutuality essential incompleteness. Cf. Faber (2006b).

61. Cf. Faber, "De Ontologizing God: Levinas, Deleuze, and Whitehead," 209 234, in Keller and Daniell (2002).

62. A. N. Whitehead, "Immortality," in Schilpp (1941/1991, 682 700).

63. Cf. Williams (2005, 89 106).

Part Two

DEPTHS OF NATURE, ORDER, AND ORGANICITY

Seven

THE ORGANISM OF FORMS
IN LATER WHITEHEAD

Robert J. Valenza

1. Introduction

This essay arose in connection with some recent examinations of sociological and ethical interpretations of Alfred North Whitehead's later writings.[1] My own previous work on Whitehead, much of it done in collaboration with Granville Henry, had dealt with his mathematical, scientific and metaphysical outlook up to, but not beyond, *Process and Reality* (PR). Thus, a wonderful surprise was waiting for me in these new analyses: key points in the works suggested an arc that would extend certain ideas that Prof. Henry and I had drawn originally from *Universal Algebra* (UA) and PR right into Whitehead's later work, especially his essay "Mathematics and the Good" (MG). Indeed, one might summarize the effort here as an attempt to trace the development of a certain deficiency—at least from a historical perspective—in the style of Whitehead's mathematics into a more prominent, thorny problem in his process metaphysics, later to be resolved with great elegance, if only informally, in his final writings. The essay accordingly progresses through three stages: beginning with a brief critique of UA, moving rapidly through PR, and concluding with Whitehead's thoughts in MG—with some associated speculative implications for mathematics.

Before beginning, a preliminary note on terminology is very much in order. Whether in process or substance metaphysics, a small hoard of words are often used in opposition to the usual, localizable particulars of the world, and these include the terms universals, abstractions, ideals, forms, patterns, orders, kinds, types, properties, potentials, and values (among others). These words are not interchangeable, and carry different emphases. In what follows, no exact terminological boundaries are necessary, and the essential feature intended when any of them is used amounts to a matter of synthesis or binding: the adherence of an attribute to a particular object or event.

2. Universal Algebra and Whitehead's Early Philosophy of Mathematics

Many years ago, Granville Henry and I had occasion to take a close look at *Universal Algebra*. Acknowledging Whitehead's genius as a philosopher and astounding tenacity as a mathematician, we nonetheless found the work both

excruciatingly tedious and wanting in ways that explain its lack of influence on subsequent mathematics. To reduce our criticism from two papers (1993a,b) down to very few words, let me make two points and then make a single, somewhat speculative statement that encompasses both.

First, if one regards the work as an attempt at rigorous mathematics within the framework of an informal axiomatic system, it is often a bit of a muddle. Here is an example by no means unique (see Valenza, 2008). In the second chapter of UA, Whitehead offers this definition of a manifold:

> Consider any number of things possessing any common property. That property may be possessed by different things in different modes: let each separate mode in which the property is possessed be called an element. The aggregate of all such elements is called the manifold of that property.

Since Whitehead at this point has already acknowledged a debt to Grassmann, one might argue that the extreme dismay a present-day mathematician feels at this language is only a matter of idiomatic dissonance. But here, in contrast, is part of a definition given in a work published just a quarter century later by a far more influential mathematician, the eminent number theorist Erich Hecke (1923/1948, translation mine):

> *Definition of a group*. A system *S* of arbitrary elements *A*, *B*, *C*… is called a *group* if the following conditions are satisfied: I. There is a rule (a law of composition) given by virtue of which from an element *A* and an element *B* we can always uniquely derive another element of *S*, say *C.* We write this relationship symbolically as *AB=C*…

The point is that Whitehead's style in UA can hardly be considered all that formal in the sense that we have come to understand formalism in twentieth century mathematics. One wonders how this could be, and this leads us—after a slight historical detour—to the second problem with UA vis-à-vis the subsequent development of mathematics.

The slight detour consists of a few comparative remarks on algebra and geometry. One might think of algebra as rooted in the concept of number and geometry as rooted in the concept of space, but the exact truth and limits of these respective characterizations are really not at issue here. What is at issue is that historically the formalism of algebra has disentangled itself from counting and elementary calculation much more neatly than any formalism of geometry has been able to detach itself from space. To put this more precisely, as arithmetic becomes algebra, its development as a formal system simply does not make implicit reference to the semantics of its original domain in ways that are apt to invite deductive errors. In contrast, as geometry (as a mat-

ter of measurement of spatial relations) becomes formalized, the temptation to contaminate the formalism with these semantics has successfully seduced not only the ordinary high school student, but also the great minds who conceived the subject. The point is that geometry purports to be about abstract objects and relations and so achieves an aura of epistemic privilege, while in practice it is often about the actual world. Thus, Einstein and others were tempted to make the plausible claim that geometry should be regarded as a matter of science. To summarize this state of affairs so that it leads us conveniently from the detour back to the main road, we might simply assert that geometry has been difficult to detach from real objects.

An attachment to objects, construed in a more general sense, might be what is behind some of the more formalistic failures of UA insofar as formalism loses its appeal when we already know what we are talking about. To return briefly to the examples, Hecke was defining the notion of an abstract group, and while no doubt his definition is informed by millennia of mathematical experience, the solidity of his definition does not rest on having shared impressions and conventions of language derived from this experience. Indeed, naïve students of mathematics, with only some latent talent and no conception whatsoever of the depth or origins of this definition, often pick it up and run with it in their second or third year at university. One begins with Hecke's language and then only later discovers "what he's really talking about." Whitehead's definition of the manifold of a property is, in contrast, so utterly murky to an ear less than a century out of synchronization with him because to understand what he is saying, one already has to have a pretty good idea of what he is talking about—and from Whitehead's learned perspective, why wouldn't anyone in his readership be adequately prepared? To make a rather simplistic illustration of this point, one can say some substantive things about circles to a child who has never seen the formal definition of a circle; one simply assumes that she knows what we are talking about. (Ironically and entirely coincidentally, Whitehead makes a remark along similar lines about children and circles in MG, part vii.)

The upshot of all of this is that, while one might excuse the comparatively shoddy formalism of UA in its historical or intentional context, it flows from a deeper problem with Whitehead's mathematics vis-à-vis the direction that mathematics actually took in the twentieth century. Here I am specifically not talking about the problem of its foundations, but mathematics as practiced by mainstream mathematicians. The success of informal axiomatic systems such as groups and topological spaces soon acquired a dual footing in the sense that the system as *object* was superseded by the system as *objects and relations*. For example, what we now loosely refer to as the study of abstract groups is indeed the study of groups and group homomorphisms; the study of topological spaces is likewise more precisely the study of topological spaces and continuous mappings. The superstructure for all of this is called category theory (Eilenberg and MacLane, 1945), and in essence it is a formal frame-

work for mathematical systems that places objects and relations on equal footing by positing them simultaneously. Thus, we do not separate the introduction of the abstract group from the introduction of the relationships between groups that honor their abstract structure; these are precisely the group homomorphisms. The technicalities here are not at issue; the key concept is the requirement that the interesting domains of mathematics consist intrinsically of more than formalized objects and that the corresponding relations are inextricable. With this in mind, Whitehead's mathematical deficiency can be seen also as a philosophical deficiency.

The plain irony here is, of course, that the philosopher who would so much celebrate the primacy of relations in his metaphysics, would so neglect it in his mathematics, and that was the point that Granville Henry and I made at the conclusion of our paper on Whitehead's early mathematical philosophy. Here, however, as mentioned in the introduction, I want to carry the analysis further, ultimately through *Process and Reality* and into Whitehead's later writing.

3. Forms in Process and Reality

The founding of ontology in experience and process, rather than substance, forces the question of persistence of processes through time. Without appealing to the technicalities of process metaphysics, I should still like to ask, What can possibly lend endurance, in both a metaphorical and literal sense, to the ordinary things of the world, especially including those persisting experiencing nodes of subjectivity known as conscious minds? In exactly what sense can continuity adhere, not to substance, but to processes that are taken to be more fundamental than substances? The answer in Whitehead, which reaches its technical crescendo in PR, is in some ways a technical explication of an answer that underlies the intuition given expression in Plato: that forms persist and ingress into the things of the world, and that the forms reside in a realm that is epistemologically privileged in that we can know these forms as we can know nothing that is imminent in the world. The eternal objects in process metaphysics seem inescapable concomitants of coherence for the reality of processes, and indeed this is already acknowledged in the implicit naïve substance ontology of the most ordinary among us when dealing with elements of reality for which the substance characterization is fundamentally inept, such as our own minds or brains and those of others.[2] In observing our thoughts from the inside or in reading or guessing those of others from the outside, we assume a relative coherence of form. Indeed, without it, we could not complete a thought or a sentence without envisioning the famous *gleich alles zusammen* mode of Mozart's composition—and we certainly could not make sense of the thoughts expressed by others. Thinking and communicat-

ing—indeed any experience—requires time, and therefore coherent experience presumes some form of persistence.

The coherence of the forms of experience is as likely to invite a kind of substance ontology of forms as the coherence of the forms of the physical world is to invite the substance ontology of objects. In fact, although I am using the phrase "substance ontology of forms" in a figurative sense and am all too aware of its oxymoronic nature, if I could persist a little longer with this, I might even say that for some of us the coherence of experience is even *more likely* to assimilate to a substance ontology of forms. Plato and mathematics help us here: the epistemic privilege of a circle in the abstract is that we know it somehow directly, and somehow more directly than we can know any particular rock that we touch. The form seems, moreover, to be eternal and unchanging, and hence in this sense the stuff of circles is prior to the stuff of rocks. Admittedly, we don't all feel this way—Aristotle certainly did not—but the temptation is real.

Whitehead as he is read in PR seems to have given in to that temptation, at least in the language and role of eternal objects. I say "seems to have" because I suppose some might say that in his acknowledgment of a cosmic epoch he admits the possibility of moving forms, but overall their residue seems to accumulate in the realm of static potentials. I think that here, perhaps, we have also the residue of Whitehead's way of seeing as a mathematician in that his mathematical discourse was founded in objects characterized by, but not *given* by relations. In the sense that I was speaking in the previous paragraph, this is to deny to potentials the element of organism that extends to the rest of reality. Two questions then loom: First, does this denial accord with reality? Second—or, perhaps equivalently, depending on how one views truth—can this position be maintained consistently?

I have argued elsewhere (again with Granville Henry, 2001) that the history of mathematics suggests a fluidity in its primary objects no less than Thomas Kuhn has asserted for science. To recall one example, the ancient notion of a prime number has evolved into a broader, distinct and more fundamental formalism in a domain of mathematics called commutative algebra. One might dismiss this by saying that some much more esoteric definition in modern mathematical discourse has merely subsumed the previous working definition used by the contemporaries of Euclid, but a fairer description must acknowledge that something in the essence of the definition has changed, so that the previous notion might be said to be disclosing a more limited or even different set of insights. The point is that the actual history of mathematics leads me to believe that neither forms nor potentials are immutable. Whether this is true or not, the second question remains the more interesting one: can one maintain the immutability of forms or potentials consistently within process theory? One can, of course, approach this both theoretically and by examining Whitehead's own words in his later writings.

At least one theoretical objection to maintaining the essential flux of objects and constancy of forms comes essentially to a matter of symmetry. Here I shall only sketch the argument given in detail in the paper just cited.[3] Mathematics is, to a large extent, concerned with classes of objects x and functions f. Our usual understanding of these things is that a function acts on an object to yield some associated object $f(x)$, called the value of f at x, and this value is very often of the same class as x. [For example, $f(x) = x^2$ associates 2 with 4, 7 with 49, etc. Both the inputs and outputs are numbers.] But explicitly both in mathematics and physics we often make heavy use of a certain duality: if we choose, we can think of the object x acting on the function f to produce the value $f(x)$. In other words, the roles are reversed. Along the same lines, we can think of the actual occasions at the heart of Whitehead's metaphysics as a dynamic bundling in which his eternal objects ingress to various degrees. The dual view, though, would be to see each eternal object as the ingression of actual occasions, and in this way actual occasions and eternal objects are mutually defining. To maintain the malleable nature of the elements of one domain and the rigidity of elements of the other, in light of this reciprocity, would accordingly invite an unwelcome inconsistency.[4]

To put this analysis more directly in the language of process metaphysics, Whitehead in PR wants to paint a flowing reality of actual occasions but recognizes that the coherence of that reality requires some definite basis of explanation. For this basis, he appeals to a separate domain of eternal objects, requiring, by the way, some subtle and difficult accommodation with his ontological principle. My point at present is that this state of affairs is intuitively unappealing, inconsistent with the history of mathematics and physics, the disciplines most directly concerned with forms, and inconsistent with the duality between objects and attributes (or potentials, or forms). I shall subsequently argue that Whitehead seems to have come in his own way to a similar place, and to the recognition that process metaphysics does not require the broken symmetry introduced via eternal objects.

Before proceeding, it is irresistible to speculate now on the connection between the deficiencies of UA cited above and Whitehead's evolution away from aspects of PR. Constructing a curve from two points may be risky, but I must at least note that the attachment to transcendentally given objects in UA is very much in character with the presumption of eternal objects in PR. In view of the subsequent movement shown in Whitehead's works beyond PR, one might characterize process metaphysics as a two-step evolution: first, the granting of priority to process, including experience, thus exposing the derivative nature of naïve substances, and second, the weaning of this metaphysics away from what might be called the analog of substance in the realm of forms—which is to say eternal objects.

4. Where have all the eternal objects gone?

Writing from outside of process metaphysics, Michael Halewood discusses the relation of values to particulars, noting that, according to Oakes, values are attached to individual objects and events. Halewood asserts moreover that values are derivative of the uniqueness and unrepeatability of experience, and not particular examples of some more abstract class. Note the larger point, very reminiscent of Whitehead's ontological principle, that values are nothing except in connection with this attachment. My sense, at this point in Halewood's essay, is that he is prepared to resolve any ontological problems with extraordinary things, such as values, by simply not requiring them to make sense of reality, and he accordingly adduces the disappearance of the eternal objects in Whitehead's later work as evidence. This looks to be very much in accord with Quine's well known problem with the entification of properties and their summary banishment from his ontology (Quine 1981), but I am not prepared to follow that far, for this move solves the ontological problem at the expense of the coherence problem.[5] Moreover, here is the very node of the reciprocity between objects and their qualities or values: values may only be values by virtue of their incorporation into actualities, but actualities are only actualities by virtue of their incorporation of values (in a generalized sense). As we shall see below, this is a point made quite clearly in MG without the technical armaments of PR. Thus we face again the elemental but not elementary duality formalized with such clarity in mathematics: that objects and functions may switch roles.

I shall not continue with any further detailed engagement of Halewood's essay, except for one further point that does act to catalyze a clarification of where things stand. Halewood argues that while the role and rationale for eternal objects is clear enough in PR—a point I accept entirely—Whitehead has trouble speaking about them, and they disappear accordingly from his later discourse. Two explanations immediately suggest themselves: One is that Whitehead has learned that the whole idea is intrinsically ill-founded and that it is better to say nothing more. Another is that Whitehead still holds that elements of the basic idea are well founded, but there is something in its fundamental nature that obstructs attempts at coherent description. Halewood's quotation from 1936 of Whitehead's frustration with the inadequacy of his exposition of the concept would seem to weigh in on the side of the latter explanation.[6]

5. Eternal Reciprocity

The stage is now set for some speculation. In UA we have seen in Whitehead a susceptibility to the sort of geometric disposition that does not fully succeed in detaching abstractions from the world and relocating them in formalisms

but rather gives them a kind of ontological immediacy.[7] In PR he constructs a metaphysics based on concrescence and prehension, which manifestly needs the notions of concept and value. In his attachment to abstract objects, he posits, although not quite ontologically, eternal objects. At this point, his own words are best recalled:

> [T]he actualities constituting the process of the world are conceived as exemplifying the ingression (or 'participation') of other things which constitute the potentialities of definiteness for any actual existence. The things which are temporal arise by their participation in the things which are eternal. The two sets are mediated by a thing which combines the actuality of what is temporal with the timelessness of what is potential. This final entity is the divine element in the world, *by which the barren inefficient disjunction of abstract potentialities obtains primordially the efficient conjunction of ideal realization*. The primordial actual entity constitutes the metaphysical stability whereby the actual process exemplifies general principles of metaphysics, and attains the ends proper to specific types of emergent order. By reason of the actuality of this primordial valuation of pure potentials, each eternal object has a definite effective relevance to each concrescent process. (PR 39–40, emphasis added)

The key point is that eternal objects in isolation can be described only as "the barren inefficient disjunction of abstract potentialities." Their efficacy in the world is via God and their subsequent ingression into actual entities. In this particular sense, eternal objects in themselves are indeed strange objects, of which, as Halewood notes, nothing can be said!

The block quote tells us that Whitehead knew there were difficulties in his conception of eternal objects, and he reconciles the difficulties by calling upon God. It is precisely via his notion of God that he can speak of his pure potentials as having meaning, or otherwise say nothing at all. Now this seems to me to be an intuitive and ingenious move to the extent that it solves the ontological problem for forms, values, and potentials by creating what I can only describe as an isomorphic copy of the whole system of pure potentials— whether fully realized in the ordinary (non-divine) world, or not—that *is* actual insofar as it is realized in God.[8] But the very adeptness of this isomorphism raises the obvious question of what exactly has been accomplished? What discomfort has been assuaged? Eternal objects are spoken of as objects, yet denied reality unless ingressed forever in God, at which point these objects lose the aura of the ineffable and somehow find divine expression. How does this alleviate the apparent uneasiness with eternal objects that drove Whitehead to refer the associated ontological problem to God in the first

place? I do not believe that it does, and Whitehead's later writings suggest that he no longer believed it himself.

To continue the construction, or reconstruction, that I put on all of this, the two fundamental problems with eternal objects can be summarized as follows: First, when one tries to capture the quintessential immutability, they dissolve into something meaningless by virtue of having no extension, no actuality in themselves. Second, when one attaches them to the particulars of the world, their immutability is no longer maintainable, except insofar as one might assert their immutability in God, and this introduces an axiom that would seem to apply to God, but, historically, not to lesser mortals. At this point, the term eternal object must appear hopelessly compromised, and yet something *is* needed to account for the coherence and comprehensibility the world.

I propose that one way to understand later Whitehead and the philosophical problems we have been addressing is to allow some significant reciprocity between the abstract and the particular, or objects and relations. At the heart of this is a simple acknowledgement that one cannot speak of reality without simultaneously invoking both poles symmetrically. Whitehead in *Process and Reality* was driven by the elevation of dynamic relations among actual occasions, but hampered by trying to have the terms of those relations somehow operate in fixed modalities. Later, in dropping the language of eternal objects, he restores the symmetry and reciprocity in less technical language.

6. Mathematics, Pattern and Value

As noted in the introduction, the ideas I am developing here have also taken energy from the work of Jude Jones. I shall now borrow both from her key sources, the essay MG and the collection MT, and from one of her key points, namely that at the heart of self-expression is the agency of provocation of subsequent agents.

Let me begin with my favorite quote from MT:

> The essence of life is to be found in the frustrations of established order. The Universe refuses the deadening influence of complete conformity. And yet in its refusal, it passes toward novel order as a primary requisite for important experience. (87)

The thought that novelty is a general aim of becoming is ineradicably embedded in PR, but the language here is explicitly subjective, especially in the choice of the term frustration. Although the language is consistent with that of PR, Whitehead is speaking here on a scale much grander than that of an individual concrescent event, and he is speaking in particular about life.[9]

What we see here is a universal formulation of what Jones has distilled into the notion of provocative expression and clear, if still inferential, evidence that Whitehead's dynamism has overwhelmed any notion of static forms.[10]

One might claim that in this grand talk of novelty and talk elsewhere of epochs of dominant forms, Whitehead is only saying that against a fixed background of eternal forms or potentials, reality chooses from among a narrow subset characteristic to a given cosmic epoch. Indeed, I believe that is exactly what he meant in PR. Let us listen now to some key quotes from MG and then reconsider.

> The notion of the complete self-sufficiency of any item of finite knowledge is the fundamental error of dogmatism. Every such item derives its truth, and its very meaning, from the unanalyzed relevance to the background which is the unbounded Universe. *Not even the simplest notion of arithmetic escapes this inescapable condition for existence…* There is no entity which enjoys an isolated self-sufficiency of existence. In other words, finitude is not self-supporting. (MG 78, emphasis added)

What is so striking here is this: to the extent that actualities of the world are the binding of particulars, there is no assumption of an asymmetry between the physical or formal components. Whitehead is explicit about this in his mention of arithmetic. This would seem to be decisive evidence that he has dissolved the previous fundamental distinction between content and form, and it dramatically recolors the previous quote from MT: in the universal thirst for novelty, form itself admits a sense of organism. In more naïve language, one might say that both the experience and the actuality that we speak of as having the experience draw from a symmetric, jointly organic world of patterns and past actualities.

A symmetry of organism is also revealed, as we have argued previously, in the essential duality or reciprocity between actuality and potentiality. Whitehead anticipates this point, too, in both a broad statement about the dual nature of theory and practice and in some more technical statements about the infinite. In connection with the former, we have:

> All theory demands exact notions, somewhere or other, however concealed. In practice exactness vanishes: the sole problem is, "Does it work?" But the aim of practice can only be defined by the use of theory; so the question "Does it work?" is a reference to theory. Also the importance of theory resides in its reference to practice. The vagueness of practice is energized by the clarity of ideal experience. (MG 80)

The words theory and practice here need not be narrowly construed as if describing some sort of engineering activity. This is a statement that applies

in spirit to the moment by moment negotiation of reality, of the relation of intention to experience: there is no process without both actuality and form. This is stated more precisely a page later in these two passages:

> The finite essentially refers to an unbounded background. We have now arrived at the converse doctrine, namely that infinitude in itself is meaningless and valueless. It acquires meaning and value by its embodiment in finite entities.

> The infinite has no properties. All value is the gift of finitude which is the necessary condition for activity. (MG 81)

This "converse doctrine" is the nub of the matter: whatever Whitehead might have, in some despair, earlier called eternal objects are now bound for their existence and meaning to the things of the world in full reciprocity: one kind of reference has no meaning without the other.[11, 12, 13]

7. Summary and Concluding Remarks

My main goal here has been to use the insights provided by the analysis of both the sociological and ethical content of Whitehead's later writings to understand what at first appeared as technical problems in UA and PR as an evolutionary path in Whitehead's thinking—a path that led away from an early, somehow objectified stasis of form in his mathematics, through the positing of eternal objects, with their attendant metaphysical difficulties, and eventually brought us into the more symmetric and reciprocal world of his late writings. In these last remarks, I would like to make a few brief points of contact between this perspective and some matters of mathematics—notes from the mathematical underground, as it were.

Mathematics, as is evident already in high school algebra and geometry, confronts a paradox of epistemic privilege. As one moves from the arts and humanities, through the social sciences and into the hard sciences, there is growing priority given to objectivity, which, for purposes of this brief discussion, is a kind of perspective invariance. Scales and rulers are useful in science insofar as the reports based on our experience with them (i.e., measurements) tend not to depend on our state of mind or on the individual making the report. These reports are both made in and feed into a theoretical framework, and there again, as we move toward the hard sciences, the terms of discourse within the framework tend to be defined, even if only in relation to other terms, in such a way that their usages are highly constrained and unambiguous. This rigidity of terms reaches its apex in mathematics, and it has two distinct interpretations. On the one hand, the formalism is so rigid that the consistent use of its terms is highly encouraged, and on the other, sometimes

via and sometimes despite this very formalism, we reach what feels like an immediate, intuitive perception of the object or construction in question. The paradox inheres in the mixture of these two senses: mathematical objects enjoy the same suspect epistemic privilege of qualia and other long lamented incorrigible reports (perhaps most famously explicated by Rorty, 1979) while remaining exemplars of perspective invariance. One possible resolution, and the safe one from the standpoint of materialism, is to declare the epistemic privilege illusory and to fall back entirely on formalism to explain the extraordinary coherence of mathematical discourse. This move conceals some paradoxes of its own, but my point here is restricted to looking at the dual nature of mathematical experience in light of what has been said earlier about Whitehead's later philosophy. Two things immediately come to mind.

The first and more obvious matter concerns the far-famed limitative theorems of Gödel: the formalisms do *not* suffice and this failure is not harmlessly abstract or negligibly esoteric. What we can know as mathematical truth is limited by formalism, and accordingly any epistemic privilege that adheres to mathematics cannot be entirely rooted in formalism. In this regard, Plato was right that there is a kind of knowledge superior to calculation or deduction. The second and less obvious matter—less obvious, at least, to those whose mathematical training is limited to old and established subjects such as elementary algebra, Euclidean geometry, and even calculus— concerns sociology. Mathematics, no less than science, has a sociological element. The most famous example of this lies perhaps in connection with the attempts to secure the foundations of mathematics. One of the approaches, often called ironically intuitionism, was rejected as insufficient not on the same Gödelian grounds as the logicism of Russell and Whitehead or the more adept formalism of Hilbert, but simply for the fact that the working body of mathematicians would not accept its limitations (see Snapper, 1979/1984, for a beautiful recounting of the failure of all three foundational schools). More generally, in matters of both the style of mathematics in any given era and the ultimate acceptance of results, there are clearly the same elements of community appraisal that we find in science. Indeed, in this connection the word proof that follows the statement of a theorem in a book or journal does not introduce incontrovertible evidence for the absolute truth of the preceding assertion. It is not a proof at all in the idealized sense, but rather strong evidence that must stand the test of time. Upon reflecting, this is hardly surprising given the history of plane geometry and the distance at which working mathematicians operate from the methods of formal logic as directly applied even to an informal axiomatic system (see De Millo, 1979/1984).

To conclude, then, extrapolating later Whitehead to mathematics alone suggests an organism of forms, with two key senses of the term front and center: organisms are dynamic and their dynamics partially self-generative— perhaps even teleological, to risk a heretical taint. And I will not pretend that seeing forms in this light is a matter of detached indifference to me, for it im-

bues mathematics—that which Whitehead acknowledged as the science of pattern—and therefore all of nature, with at least a trace, indeed a very welcome trace, of Romanticism.

NOTES

1. I refer more specifically to the two papers included in this volume, authored respectively by Michael Halewood and Jude Jones.
2. The point survives either the mental or physical characterization.
3. Although we were not aware of it at the time, it turns out that this theoretical objection is in fact anticipated in late Whitehead, as we shall see below.
4. Clinton Combs noted in his editorial review of this paper that Justus Buchler has made a point similar to mine, to which Charles Hartshorne responded by arguing for a "radical asymmetry" between actual occasions and eternal objects. [Both Buchler's paper and Hartshorne's response are in Explorations in Whitehead's Philosophy edited by Lewis Ford and George Kline (1983).] Our argument here, however, does not depend on any sort of full symmetry, but rather on enough reciprocity to suggest that neither domain can be independently rigidified, which is what Henry and I have asserted.
5. This point survives Halewood's summary, which immediately follows in his essay, of Rickert's notion of concept as a kind of simplifying filtration on an otherwise incomprehensible flux of reality. A filtration of utter randomness or complete chaos cannot create order, so the notion of coherence is prior to the notion of any conceptual scheme that can provide a grounding for science. It seems to me that Whitehead is right in asserting that coherence requires the deployment of something paradoxically both exterior and extra physical.
6. I have almost no sense of his personality, and so I cannot help but wonder if Prof. Whitehead is being all politeness in the quotation under discussion in attributing this failure of communication to his own deficiencies. In either case, I cannot read this as evidence of a man who has given up on the need for something like eternal objects as the foundation of coherence.
7. In deference to Gödel, one might add, insofar as possible.
8. The borrowing from mathematics is irresistible: two structures are said to be isomorphic if they can be connected by a one to one correspondence that preserves the relevant relations. Here is a perfectly elementary but still striking example. The positive real numbers have a certain structure with respect to multiplication, and the set of all real numbers has a certain structure with respect to addition. Either the common or natural logarithm function in this case constitutes an isomorphism from one structure to the other. In the former case, we have the multiplicative relationship $7 \cdot 11 \quad 77$ which is exactly reflected in the additive relationship $\log(7) + \log(11) \quad \log(77)$. Those of us of a certain age with egg shaped craniums recognize this, of course, as the basis for the now defunct slide rule.
9. Here is a more succinct formulation by one universally acknowledged to be a far greater writer than Whitehead: "[T]wice two makes four, and such positiveness is not life, gentlemen, but is the beginning of death." (Dostoyevsky in Notes from Underground)
10. This distillation is itself beautifully, almost smugly, exemplary of both Whitehead's assertion and of Jones's own dictum.

11. I seem to be conflating some incarnation of eternal objects with the notion of infin ity here, and this is indeed something that has given me pause. If one thinks of the infinite as somehow the universe in toto in opposition to some finite assem blage residing therein, this statement is a leap of interpretation from one kind of reciprocity to quite another. However, in thinking through the quote from MG above, another, and of course not unrelated, sense of infinity asserts itself. This is directly related to the sense in which we speak of "to be" as the infinitive form of the given verb: not bound to any particular subject. In just this sense one might speak of the infinite as including the metaphysical panoply of universals, abstractions, ideals, forms, patterns, orders, kinds, types, properties, potentials, values, etc., and Whitehead's statements seem to respect this meaning.

12. Here I have come full circle with regard to the earlier remarks on the nature of twentieth century mathematics, with its simultaneous joint deployment of ob jects and relations on equal footing. Of course, in mathematics this was a delibe rate choice of a style that has proven an effective framework for mathematical development; with regard to metaphysics, in contrast, Whitehead would seem to claim that one has no choice.

13. There is another, beautiful case in metaphysics where this sort of axiomatic mutual dependency is raised: we are told by Martin Buber in the first pages of I and Thou that none of the three component words of the fundamental word pairs I It and I You can be uttered in isolation.

Eight

BEYOND DOGMATIC FINALITY:
WHITEHEAD AND THE LAWS OF NATURE[1]

Jeremy Dunham

1. Introduction

In this article, I will investigate the development of Whitehead's metaphysics after *Process and Reality* by focusing on Whitehead's discussion of the Laws of Nature. A theory of nature's laws appears in *Science and the Modern World* and *Process and Reality* and I will spend the first part of this essay examining the theory explicated in these works and its debt to earlier theories developed by Charles Sanders Peirce and James Ward. Whitehead's most detailed discussion of the laws of nature appears, and takes up a substantial part of, *Adventures of Ideas*— in which he asks: "what exactly do we mean by the notion of the Laws of Nature?"

I will argue that Whitehead returns to this problem for two important reasons. First, he intends to show that the scope of the problem of nature's laws expands well beyond the laws discovered by science. Whitehead's development of this discussion therefore encompasses philosophical methodology, a defense of speculative metaphysics and (perhaps most importantly) a defense of systematic thinking—on the condition that such thinking never lapses into dogmatic finality.

Second, I will argue that Whitehead uses this discussion as a "dramatization" of the methods of metaphysics. Whitehead does not offer us a finished theory of nature's laws but, rather, introduces four dominant doctrines all with distinct answers to the question: "what is a law of nature?" His critical discussion of these dominant doctrines is aimed toward showing how the first three doctrines should not be seen as working in strict opposition. Each doctrine is what Whitehead calls a "working hypothesis," each with its own successes and its own failures. Whitehead then attempts, I will argue, to reunite these theories so that they can "grow together" producing a new "working hypothesis" with a "wider sweep." The successes and failures of each doctrine depend on their particular level of abstraction, and the development of a more inclusive theory of nature depends on the concrescence of these theories. This veritable concrescence of theories, in turn, must not be seen as a final theory but one that must be critiqued and developed on its own terms. Metaphysics must not be seen as the battleground for mock combats between absolutely opposed armies but rather the breeding ground in which discordances between theories

can produce new and improved theories. It is not that Whitehead ever moves "beyond" metaphysics—the investigation into what exactly we mean by nature's laws is a paradigmatic example of a metaphysical question—but rather that metaphysics must always be a process of development.

Finally, in order to attempt to show the importance of Whitehead's method in the investigation of nature's laws in *Adventures of Ideas*, I will explicate his theory within the context of the contemporary laws of nature debate as discussed by contemporary metaphysicians from the analytic tradition. The dominant doctrines from *Adventures of Ideas* remain largely similar to those in this contemporary debate and I will argue for Whitehead's inclusion in this debate and for his method of "concrescence" as a way of furthering the discussion.

2. C.S. Peirce and James Ward

Before discussing Whitehead's own theory of nature's laws, two important predecessors must be mentioned. First, C.S. Peirce and, second, the Cambridge personal idealist James Ward.

C.S. Peirce addresses the subject of nature's laws in his important 1891 work on metaphysics "The Architecture of Theories." He argues that we cannot merely assert that laws, which just happen to be perfect for the proliferation of life, can have emerged *ex nihilo.* The supposition of laws of nature that we can perfectly apprehend is the kind of fact which *par excellence* requires a reason. Peirce objects to mechanistic explanations of laws and argues that the laws of nature cannot be merely the result of mechanical processes for three important reasons. First, any account of laws producing the necessary behavior of particulars supposes an extraneous cause. This in turn must require an explanation, and no such explanation for this extraneous cause can be found. Second, our universe displays an incredible heterogeneity, and a universe of purely homogeneous laws could not produce the variety, spontaneity, and novelty we experience. Finally, mechanical laws are reversible, meaning that they could function equally well if time were to run backwards. Growth and development, instabilities and fluctuations are inexplicable by the classic reversible laws that emphasize equilibrium and stability. What "indeterminacy," "spontaneity," and even "absolute chance" show us, Peirce argues, is that there is only one possible way that we can explain natural laws and this is as the result of a process of evolution. He argues that Herbert Spencer, a self-proclaimed "evolutionist," who nevertheless adheres to a theory of mechanical laws, is in fact only a "half-evolutionist." Peirce argues, in language that Whitehead will echo, "philosophy requires thorough-going evolutionism or none" (AI 289). Peirce rejects materialism considering it to be synonymous with mechanism and in its place, he defends a pan-psychist objective idealist theory whereby matter is simply "effete mind." According to his theory, the

original spontaneity of mind develops more and more into "inveterate habits" that we then discover as physical laws. These are, however, only habits and the element of spontaneity and chance can never be fully eradicated.

James Ward develops a theory of nature's laws five years later in his 1899 *Naturalism and Agnosticism,* which he later places within a developed metaphysical system in his 1911 *Realm of Ends* (Ward 1911, 431). Pierfrancesco Basile highlights a number of key similarities between Ward's metaphysics and Whitehead's. Focusing on Ward's *Realm of Ends,* he argues that Whitehead should have said more of his "heavy obligations" to Ward in his published works (Basile 2007). Basile notes that Whitehead and Ward would have discussed ideas regularly and the similarities between the two philosophers' systems suggest that these discussions must have had an important influence on Whitehead's thought.[2]

If we focus on Whitehead's theory of nature's laws, it certainly appears that there is further evidence that this theory has been heavily influenced by Ward's metaphysics. The aim of *Naturalism and Agnosticism*, which was originally given as Gifford lectures between 1896-1898, is to argue against the primacy of the material and mechanical and to insist, instead, on the necessary presupposition of the spiritual and the teleological. Echoing Peirce,[3] Ward's metaphysics is grounded on an evolutionary theory of natural laws, but he places this theory within a monadic metaphysical system more similar to Whitehead's. For Ward, the laws of nature are the global patterns that emerge from the egoistic activities of a community of mutually creative monads, aiming toward a kind of unreachable Platonic/neo-Hegelian "Idea of the Good" (Ward 1903/1915). The unreachability of this goal means that Ward's monads are constantly evolving entities, which, through their mutual activities and creative synthesis, form novel emergences. The background independence of the monadological framework means that there can be no laws prior to the monads themselves. The only law determining a monad's behavior is its individual appetition. The original spontaneity of the monads is tamed and controlled by their mutual interaction with every other monad and therefore temporary habits are formed. The laws are the product of evolutionary processes and there is always the possibility of the creation of new patterns and the potential for the evolution of new laws. The laws of nature, which the physicists search for, must merely be the statistical averages of habits formed by monadic interactions. Ward claimed that while the statistician is aware of the deviations underneath his aggregates, the physicist is blind to this fact and treats his abstractions as if they were the final ground of reality.

In the exposition of his metaphysical system, Ward quotes Tennyson's line, "one far off divine event to which the whole creation moves." It is important to note that he simply means that the community of monads is pulled toward a lure for progress, "the Idea of the Good" in the Platonic sense. He is certainly not arguing that the whole of reality has been written out in advance and that the world is gradually unfolding toward a final perfection; such talk

is for him "reprehensible." While Leibniz's monadic world was an unfolding of the pre-formation of God, in Ward's Monadology, progress and novelty emerge through epigenesis. His appeal to epigenesis means that he is critical of any talk of "potential" and argues that reality is entirely actuality. Real contingency is absolutely essential for progress and novelty. The new, Ward claims, is always the result of a creative synthesis. As such, we might say with Ward that what philosophy requires is a theory of thorough going epigenesis, rather than a theory of thorough going evolutionism. G. Dawes Hicks (1925) has noted that Ward's work on epigenesis made him an extremely important influence for the movement called "emergentism," a term coined by Lloyd Morgan. Emergentism became a fully developed philosophical position championed by both Lloyd Morgan and Samuel Alexander—the two theorists who receive an explicit mention in the preface to *Science and the Modern World* as being "very suggestive" (SMW xi).

Peirce and Ward offer an alternative view to the two dominant doctrines that regard laws as either 1) eternal pure forms prior to and in control of particulars, or 2) merely the observation of the succession of particulars. Peirce and Ward's third way is a view of nature as immanently creative and contingent; laws are the products of nature's internal and indeterminate powers. It is this third way that Whitehead adopts and develops in both SMW and PR.

3. Nature's Laws in Science and the Modern World and Process and Reality

Chapter VI of *Science and the Modern World* traces the importance of the idea of conservation of energy and the idea of the doctrine of evolution for the scientific development of the nineteenth century. It is through the idea of the conservation of energy that mass begins to lose its hold as the undisputed fundamental building block of the universe. Energy begins to take its place, and mass takes on the subsidiary role as "the name for a quantity of energy considered in relation to some of its dynamical effects" (SMW 127). As mass loses its preeminence, so does the undisputed authority of the doctrine of mechanism, and Whitehead argues that we must instead appeal to organism. It is only through the functioning of organism that the idea of energy as foundational can be understood, and thus the boundary between biology and physics becomes much more permeable: "Biology is the study of the larger organisms; whereas physics is the study of smaller organisms" (SMW 129).

Whitehead argues that the theory of organism and the theory of evolutionary laws of nature are mutually supportive. From an adequate philosophy of organism one must ultimately conclude that the laws of nature are nothing above the particulars but rather the observable patterns produced by such particulars. Whitehead, therefore, argues that a theory of the evolution of natural laws must also ultimately depend on a metaphysics of organism. Whitehead's

tendency to refer to both a "thoroughgoing organic theory of nature" and, synonymously, a "thoroughgoing evolutionary philosophy" constitute both a nod to Peirce's earlier work and an effort to develop this theory of evolutionary laws through an organic metaphysics.

The foundation of Whitehead's philosophy of organism is composed of events or actual occasions. Events are mutually interrelated with communities of other events and they become ingredients in the creation of nexus. The "interfusion" of events is at once a result of the organic nature of these particulars and, at the same time, the ingredients for each event are made up by the way that they express eternal objects. Each event is essential for every other event, but their inherit importance in the structuring of their resulting patterns depends on their own intrinsic self-worth. The surface definition of natural laws has not strayed far from Ward's theory outlined above. It is the interactions of the individual monads that produces the resulting structure, patterns or laws through a reciprocal battle—the winners of which are those with the strongest self-worth. As Whitehead writes, "The laws of physics are the laws declaring how the entities mutually react among themselves" (SMW 133). Each actual occasion is constrained by the general laws produced by the overall interactions of the entire organism, yet the actual occasion itself has its own part to play in the production of the laws that will constrain it. (It is a reciprocal relationship between chance and constraint.) It is this relationship of reciprocal determination that allows for the possibility of chance and spontaneity while still creating the conditions for stability and pattern formation.

Whitehead moves away from Ward's metaphysics of laws in two important ways, both of which are made clear in *Science and the Modern World* and *Process and Reality*. The first point can be explained in relation to their respective references to Tennyson's phrase: "one far off divine event to which the whole creation moves." For Ward, this one far off divine event is the Idea of the Good, and while each monad is capable of spontaneity and novelty, it is this final "value" to which they all aim. In one sense, it appears as if Whitehead could not be clearer in his refusal of this doctrine, which he argues presents a "fallacious conception of the universe" (PR 111). Value is not to be found in an Idea transcendent from each agent but is rather immanent to each individual "actual occasion." The idea of a singular "ideal," guiding the whole of reality, results from a "disastrous overmoralization of thought" (PR 84). However, Whitehead's cosmology unites multiplicity with unity and the individual subjective aim of each actual occasion is dependent on the eternal urge of desire that is God, In this sense, Whitehead travels very little distance from Ward's metaphysics. Each actual occasion is conditioned by God's lure for feeling, but also independently conditioned, as every occasion has its own individual standpoint on the world and, consequently, its reception of God's own lure is unique.

The second major shift from Ward's theory is Whitehead's refusal of Ward's pure actualism in favor of the doctrine of "not-being." Plato's thesis

of "not-being," found in the *Sophist*, Whitehead argues, is "the enunciation of a profound metaphysical truth" (AI 285), and in *Science and the Modern World* he claims that "every occasion is a synthesis of being and not-being" (SMW 202).

In Plato's *Sophist*, Socrates asks the Eleatic stranger, the dialogue's key protagonist, to reveal the true nature of the Sophist. The stranger concludes that the Sophist is a manufacturer of false images. The false image is a false image because it falsifies its status as image in order to present itself as what it images (not a painting of an apple, but an apple; *ceci n'est –ce pas une pipe*), thus claiming to be what it in fact is not. Thus, there is a form of not-being (the not-being an apple of the painting) that at the same time, is. This is why the stranger is aware that this takes him down the path of inquiry forbidden by Parmenides, as if we classify the Sophist as the producer as of the false. Rather than claiming that we cannot speak of what is not, we must be able to say that not-being is. Not-being therefore is not the opposite of being, but rather something different that partakes in being. What is essential is that not-being is no less real than being. Not-being is simply that which is real without being actual.

Whitehead uses the thesis of being and not-being in order to explain how actual occasions maintain an insistent relationship with the past from which every ultimate occasion must be composed. This is essential for the habit formation of occasions, which then form the exhibited patterns labeled natural laws. Possibility has the status of not-being but is absolutely real—real without being actual. As Whitehead writes, "We conceive actuality as in essential relation to unfathomable possibility" (SMW 216). Whitehead's theory of time, which replaces instants of time with actual occasions, is absolutely dependent on the asymmetrical synthesis of not-being to being to not-being, that forms the foundation of his theory of laws. Each actual occasion has its own ideal lure that pulls it into existence and at the same time is a "growing together" of a whole set of experiences. Whitehead calls this concrescence. The possibilities of an occasion's existence are dependent on the patterned relationship from the previous actual occasions from which it emerges and its actualization is the limitation of these possibilities to one unified whole. If each actual occasion contains within itself the past, present, and the future, as Whitehead suggests, this is because it contains the past as its possibility and objective ground. An actual occasion has a subjective phase in which it becomes the present as it mutually actualizes with its own community of actual occasions and, as it perishes, it enters its objective phase and becomes part of the realm of not-being. Its existence in this later phase is no less real than its existence in the subjective phase. It is simply no longer "actual," although it still maintains an insistent relationship with the actual. It then contributes to the form of the newly adjusted ground of possibility from which the new actual occasions must emerge.

The "togetherness" of the community of actual occasions, whose order forms the phenomena we perceive as the laws of nature, depends on an important ground, which Whitehead emphasizes in both SMW and PR. This ground is "God." God appears as the "principle of concretion" in SMW—invoked to replace Aristotle's "prime mover." God is not before reality, like Aristotle's first mover, but rather "with" reality. In PR, Whitehead conceptualizes God as not only the principle of concretion but also as an actual entity. This is because Whitehead develops a two-phase conception of God. God, in his primordial nature is the "unlimited realisation of the absolute wealth of potentiality" (PR 343), but, in his consequent nature, he is the ultimate limitation—the principle of limitation—which makes the production of potential a process. "This is the conception of God, according to which he is considered the outcome of creativity, as the foundation of order, and as the goad towards novelty" (PR 88). God is something like the glue of the universe, and mediates the relationship between actual occasions and eternal objects. He is the ultimate reason why the eternal and the temporal can coexist. In *Process and Reality*, Whitehead argues that without God the formation of laws or origination of order would not be a possibility. While the mutual interrelation of events and prehensions of past occasions by present occasions account for some degree of unity, the occasions themselves rely on the conceptual realization of eternal objects by God for the initial creation of order. The specific laws of our current cosmic epoch are developed through the mutual interrelations and prehensions of actual occasions and are contingent on these relations, but they further depend on the underlying potential for order and prevention of chaos preformed by God. What is particularly interesting about the theory of laws developed in *Adventures of Ideas*, which I will discuss below, is that God is no longer invoked to perform this role and I will argue that this latter theory is fully satisfactory without God, undermining Whitehead's emphasis on the importance of God in *Process and Reality*.

One particularly interesting factor of Whitehead's conception of God, which makes his theory of laws particularly novel, is that as God is "with" the universe, rather than a kind of perfection toward which the evolution of the universe is aimed, any theory of a single "teleological" end is avoided, and, as a result, Whitehead's theory of nature's laws is capable of expanding beyond the limited cosmic epoch of this particular universe. Our contemporary cosmic epoch is a society of actual occasions dominated by electromagnetic occasions. This epoch displays laws of nature that display impressive regularity, but, for Whitehead, these are not eternal laws, but merely temporary habits of nature that seem eternal from our limited human standpoint. These are laws that have evolved into being. It is not Peirce that Whitehead cites as his immediate influence in PR, but rather Plato's *Timaeus* in which "the origin of the present cosmic epoch is traced back to an aboriginal disorder, chaotic according to our ideals" (PR 95). In our cosmic epoch, ordered societies of actual occasions dominate those of disorder, but chance evolutions can change

everything, and there always remains the possibility that our dominant laws, which are only really of a statistical nature, could be overthrown. This would return us into a state of disorder, which could evolve into a completely original form of order, marking the beginning of a wholly original cosmic epoch.

4. Adventures of Ideas: Four Doctrines

Why does Whitehead return to the problem of laws in depth in *Adventures of Ideas*? This discussion, which takes up a substantial chunk of the book, is less the presentation of his own theory of laws than a dramatization of the method of metaphysics. It constitutes a plea for a metaphysics "beyond dogmatic finality." Whitehead begins his investigation by emphasizing the wide scope of the notion of law. The importance of the problem is that it is not only of interest to scientists but is also essentially important for technology, methodology, scholarship and speculation. In order to attempt to navigate through all the various contours of this question, he offers us four doctrines that he considered the most dominant of his day. In this section I will present an overview of these four doctrines exploring Whitehead's analyses of them as important "working hypotheses." At the same time, I will discuss the related contemporary theories in order to show the contemporary relevance of this discussion.

The first theory that Whitehead discusses is the doctrine of observed order of succession. This theory remains to this day perhaps the most popular theory of nature's laws due to the undeniable force of Hume's "problem" regarding necessary connections. Hume succinctly summarizes his entire metaphysical position in one well-known paragraph of his *Enquiry*:

> Upon the whole, there appears not, throughout all nature, any one instance of connexion which is conceivable by us. All events seem entirely loose and separate. One event follows another; but we never can observe any tie between them. They seem *conjoined*, but never *connected*. And as we can have no idea of any thing which never appeared to our outward sense or inward sentiment, the necessary conclusion *seems* to be that we have no idea of connexion or power at all, and that these words are absolutely without any meaning, when employed either in philosophical reasonings or common life. (Hume 1777/1975, 74/59)

The strength of Hume's problem is that when accepted on its own terms it is irrefutable leading many philosophers to conclude that this is because it is ultimately true. The metaphysical picture of the world developed by the Neo-Humeans[4] is one which the analytic philosopher Davis Lewis has best described as "a vast mosaic of local matters of particular fact, just one little thing and then another" (Lewis 1986, ix). The universe is merely a collection of particular facts on top of which the appearance of laws of nature super-

venes. At its most modest, this is a theory of epistemic humility; we have no way of establishing the necessity of nature's laws through human reason and as such we can only treat the recordings of science as regularities of contingent particulars whose ultimate qualities and drives we cannot know. The French philosopher Meillassoux has recently pursued a much less modest version of this doctrine (Meillassoux 2007). For Meillassoux, the reason why Hume's problem is irrefutable is because it tells us an ultimate ontological truth: Reality is ultimately contingent. The particulars of the universe are merely contingent facts unconstrained by the events that occur immediately prior to them.

In *Modes of Thought* Whitehead is uncompromising in his critique of this doctrine:

> Suppose that a hundred thousand years ago our ancestors had been wise positivists. They sought for no reasons. What they had observed was sheer matter of fact. It was the development of no necessity. They would have searched for no reasons underlying facts immediately observed. Civilization would never have developed. (MT 149)

The problem with the rejection of metaphysical speculation implicit in this doctrine is that its epistemological atomism, inspired by Hume's denial of necessary connections, unconsciously (or consciously in Meillassoux's case) turns into a dogmatic adherence to an inadequate and inconsistent metaphysical atomism. The seductive appeal of this doctrine is that it eliminates the need for the somewhat messy and difficult metaphysical doctrines of God and internal relations, but this neatness comes at a high cost and is only possible at a certain level of abstraction. One of the most important costs is that the ground of induction must be abandoned. If epistemological atomism will not allow us to see the next moment as conditioned by its prior moment then we can make no sense of probability whatsoever. If probability is absolutely unlimited then the notion of chance is almost meaningless. Statistics cannot help us unless we make some illegitimate metaphysical claim for the permanence of statistical form. All that is left is contingency in its most absolute form. The result of such a doctrine is that it establishes science on a metaphysical foundation freed from any form of the principle of sufficient reason: The only reason is that there is no reason. As every moment is potentially unconditioned by its prior, absolutely anything can happen. The unsatisfactory consequences of maintaining such a philosophical position have been forcefully pointed out by both Brian Ellis and George Molnar (cited in Molnar (2003).

Ellis asks us to consider the Holy Eucharist announced at the council of trent in 1551:

> If anyone shall say that, in the most holy Eucharist, there remains the substance of bread and wine together with the body and blood of our lord Jesus Christ; and shall deny that wonderful and singular conversion of the whole substance of the bread into the body, and of the whole substance of the wine into the blood, the species of bread and wine remaining, which conversion the Catholic Church most fittingly calls Transubstantiation, let him be anathema.[5]

The miracle that happens at mass is that the bread and wine literally become the body and blood of Jesus Christ while retaining all of the appearance of bread and wine and none of those of Christ. Molnar and Ellis' critique of epistemological atomism is that if the doctrine is accepted, it becomes the foundation for a philosophy of science in which the Holy Eucharist is a perfectly legitimate possibility. If there is no causal connection between what a property is one moment to what a property is the next, then every occuring moment is as much of a miracle as the Eucharist. While this does not add up to a *re ductio ad absurdum*, it does suggest something rather unsatisfactory at the heart of this position.

The second dominant doctrine is the doctrine of imposed law. In *Process and Reality* this doctrine suffers the most vicious critique. This is because the doctrine of imposed law has more often than not been put in place for the purpose of adding some order to a universe composed of passive entities. When the notion of Aristotelian active substance was replaced by Cartesian passive substance *res extensa*, some extra entity was needed to make the passive substances behave in an orderly fashion. It is therefore unsurprising then, as Jane Ruby (1986) has recently noted, that the notion of "laws of nature" really began to take hold at the same time as the Cartesian extended substance. However, it is clear that Whitehead considers this a poor solution. He writes: "those modern empiricists who substitute 'law' for 'causation' fail even worse than Hume. For 'law' no more satisfies Hume's test than does 'causation.' There is no 'impression' of law, or of lawfulness" (PR 167). The doctrine undergoes a similarly severe critique in *Adventures of Ideas*, but the "working hypothesis" gets a fairer treatment, and it successes are assessed as well as its failures.

Since the doctrine suggests constituents that are ultimately passive, these constituents must be connected solely by external relations; this relationship between constituents is imposed by the laws of nature. The unsavoury problem which this doctrine introduces is the problem of "laws-particulars" dualism. The particulars can tell us nothing about the laws that are imposed on them, and the laws can tells us nothing about the particulars that they govern. This doctrine is unsatisfactory for the same reason that Cartesian dualism is so unsatisfactory. Just as there is no satisfactory account of how a cogito entirely separate from its body can govern it, there seems to be no satisfactory account

of how laws entirely separate from particulars can govern. Just as a mind-matter dualism seems unappealing, so does a laws-particulars dualism. This Cartesian dualistic theory of laws is suggestive of a transcendent imposing Deity who must be obeyed. As Whitehead writes: "When he said, Let there be light there was *light* and not a mere imitation or a statistical average" (AI 145).

The success of the doctrine of imposed law is that it is very difficult to understand how any kind of consistent pattern could exist without it. Regardless of whether entities are the epistemological atoms of the law as mere description or immanent powers, the question which remains is: how does contingency develop into something resembling necessity? In addition, the whole impetus for scientific research has been based around the discovery of something resembling imposed order, even before Descartes. And, as Whitehead stated in the quote above from *Modes of Thought,* without this impetus for the discovery of order or for the discovery of reason, there would be no science and no civilization.

Few contemporary philosophers would adhere to a doctrine of the laws of nature as transcendent forms imposing their rules on the heterogeneous realm of particulars. Yet there are many who still insist that nature's laws must be necessary rather than contingent. These philosophers, known as "new essentialists," have attempted to produced a theory of necessity that is *de re* rather than *ante re*. Brian Ellis argues that the new essentialism is a "twentieth century Aristotelianism," in which Aristotle's natural kinds of substance are accepted, but his plant and animal essentialism rejected. The new essences "include the basic kinds of physical and chemical substances, such as the various species of atoms, molecules and subatomic particles" (Ellis 2002, 12). An electron is an example of the new essentialist's natural kind because it is necessarily disposed to act a certain way. It's necessary charge is what makes it essentially what it is, and without this necessary characteristic, it would not be an electron. Not only are there natural kinds of substances and objects but there are also natural kinds of events and processes (such as the laws of energy transmission or of particle interaction). Ellis argues that the laws of nature are the immanent result of these natural kinds. They describe or "spell out" their essential properties. Nature's laws are metaphysically necessary rather than contingent because they necessarily follow from the natural kind structure of our world. In one sense, this is already a theory of "immanent" law (the forth doctrine we will discuss), but the reason why it should be included in the theory of law as imposed is that it is a theory of law as "necessary." According to this conception, laws are not the results of evolutionary processes or statistical observations hiding an underlying level of spontaneity. They are mechanical and imposing in the sense that the patterns displayed by particulars must necessary follow from the structural ground of the cosmos. There is no room for indeterminacy in a doctrine of laws as necessary.

The third doctrine, "The doctrine of conventional interpretation," receives the least attention. It considers the laws of nature as arbitrary systems of speculation formed without any reference to direct observation of nature itself. The success of this doctrine is that it describes the process by which speculation develops into an interpretation of Nature. Mathematics is a particularly good example of such a discipline which has developed along these lines. Subsequently, mathematics has provided the tools for an interpretation of nature. "The conclusion seems to be," Whitehead remarks, "that Nature is patient of interpretation in terms of Laws which happen to interest us" (AI 174).

Mathematics has attempted to show that there is an element of arbitrary truth regarding our interpretations of the world. When interpreting the geometrical character of nature, any region which exemplifies metrical Euclidean geometry can also be interpreted in terms of metrical Elliptic geometry and metrical hyperbolic geometry. However, Whitehead argues that this type of mathematical truth has no bearing whatsoever on the laws of nature, for each geometry exemplifies a different form of distance. He jokes that if this method of "conventional interpretation" could be used for nature's laws, we would have to ask our friend who had just motored for a hundred miles to see us, which form of geometry he had used. Therefore, Whitehead argues that, since it is fairly obvious that we all adopt the same system: "the appeal to geometry can be dismissed when we are discussing the question of the conventionality of the laws of nature" (AI 175).

The doctrine of "conventional interpretation" does express an important truth of scientific laws, namely, that the laws that we are currently aware of are the laws as interpreted in terms of the currently available mathematics and physics. There is no doubt in Whitehead's mind that there are a huge number of abstract sciences still to be developed, all of which will guide our search for laws. The truth of conventional interpretation is that laws can only be interpreted by those methods we have so far discovered. The error of conventional interpretation is to twist this doctrine and to assume that the facts of nature can be used to illustrate any kind of law we may wish to attempt to apply.

The fourth and final doctrine, "the doctrine of law as immanent"[6] is the doctrine that Whitehead discusses with the clearest approval. He suggests a starting point for this doctrine that could be read as the absolute antithesis of the epistemological atomism used to start the doctrine of law as mere description. For this starting point, he turns to Plato's *Sophist* in which the Eleatic Stranger offers to Theatetus a definition of reality as simply power:

> My suggestion would be, that anything which possesses any sort of power to affect another, or to be affected by another even for a moment, however trifling the cause and however slight and momentary the effect,

has real existence; and I hold that the definition of being is simply pow-
er. (247e)

This definition identifies the ability to cause an effect, to produce a difference,
or to be effected as the very definition of reality. The very test that anything
must undergo in order to prove its existence is that it must be able to cause an
effect. The very essence of being is power. If Whitehead's philosophy is the
inversion of the neo-Humeanism of the positivists, as he claims in *Modes of
Thought,* it is because Plato's reality test is his starting point for metaphysics,
not epistemological atomism, which must only be regarded as a secondary
conjecture. Starting from this reality test requires a return to the doctrine of
internal relations expelled by Hume and his followers. In addition, it is a con-
scious return to metaphysics. It amounts to the claim that dealing with laws as
mere phenomena can only lead us to an inadequate conception of what laws
actually are. If we endeavor to speculate over the very *being* of laws them-
selves, then we are led to the doctrine of powers.

The individual patterns characteristic of a constituent's internal denomi-
nations combine to create higher order patterns through their mutual relations
with other natural things. The combinatory emergent patterns are the laws of
nature. Absolute being and absolute laws are abandoned in favor of interde-
pendence. As these individual constituents change so will the laws of nature.
Therefore, one important consequence of this doctrine is that we cannot ex-
pect exact conformation to any law, but that does not mean that we must ab-
andon all faith in induction as we must with the doctrine of observation. Of all
the doctrines discussed by Whitehead, this is the only one that considers na-
ture as intrinsically powerful and alive; therefore, the creative urge of nature
gives us some reason to have some limited faith in induction. We are not
brought toward necessity, Whitehead argues, but rather 'Platonic persuasion.'
Whitehead's conception of Platonic persuasion is important because Hume,
following Malebranche, had equated power with necessary connection.
Whitehead returns to Plato in order to resurrect a conception of power as
'persuasive' rather than necessary. All powers are engaged in a network of
relations with other powers, they provide an 'attempt to persuade' and put
forward their own argument and thus contribution regarding the shape of this
cosmic whole. Rather than necessitating their effects, they can always be, to
some degree, overcome by stronger arguments. It is from this battle of persua-
sive powers that contingency and indeterminacy arises.

Contemporary philosophers who adhere to such a doctrine now refer to
themselves as "pan-dispositionalists." While these contemporary thinkers do
not cite Whitehead as an influence to their work, the historical lineage is re-
markably similar and can be traced from Plato's *Sophist* to Locke's theory of
power in the *Essays on Human Understanding*. However, most contemporary
analytic philosophers consider not Whitehead as their important precursor but

rather Sydney Shoemaker. In Shoemaker's influential article "Causality and Properties" (1980/2003), he argued for a theory of powers as primary ontological constituents that clustered together to form properties. Properties are no longer primary but rather second-order powers. Shoemaker presents this as an epistemological argument in which the only way we can recognize properties is by their effects—by their causal powers. Without a theory of powers, we can have no explanation of how we are able to engage with properties at all. Shoemaker concludes with a powers theory of identity in which he claims that "the identity of a property is completely determined by its potential for contributing to the causal powers of the things that have it" (ibid., 232). Research on the metaphysics of powers has proliferated since Shoemaker's article and Mumford, Martin, Molnar, Bird and many others have produced a number of notable works. Stephen Mumford, like Whitehead, has argued that we now have two competing metaphysical starting points: either Hume's problem or Plato's reality test from the *Sophist*.

In Mumford's monologue on laws and powers, *Laws in Nature,* he argues that if we consider laws as nothing more than the statistical results of the arrangements of powers that constitute them, then the analogy with laws is misleading. A law is a misleading metaphor in that it is responsible for a fallacious way of considering the processes of nature. Mumford offers us four important reasons why the analogy with laws is regrettable and with which Whitehead would be largely sympathetic. Laws suggest, in Mumford's words:

1. that the world needs something that plays the role that laws are supposed to have;
2. that the world consists of discrete and inert units that stand in need of animation;
3. that the Humean metaphysic is roughly correct at the basic, subvenient level: there are no necessary connections between distinct existences;
4. any compulsion there is in nature must be imposed by external and contingent laws. (Mumford 2004, 204)

Mumford, therefore, refers to his position as "realist lawlessness" in order to emphasize acceptance of a modal reality yet at the same time a refusal of the laws metaphor. There is evidence in Lucien Price's recording of Whitehead's "dialogues" that Whitehead, in fact, suggests a theory of realist lawlessness almost sixty years earlier. In the *Dialogues,* Whitehead asks: "Why talk about 'the laws of nature' when what we mean is the characteristic behaviour of phenomena within certain limits at a given stage of development in a given epoch?" (Price 1954, 346) This is clearly a serious suggestion and Price records an even more forceful repetition of the same point from November 11, 1947 where Whitehead states that, "People make the mistake of

talking about 'natural laws.' There are no natural laws. There are only temporal habits of nature" (ibid., 363).

The key problem regarding "pan-dispositionalism" or simple theories of laws of nature as immanent is that they fail to provide a sufficient account of regularity. Without a grounding in natural kinds essentialism, the "powers only" theory seems almost as contingent as the epistemological atomistic view. There is no clear reason why regularity would ever occur and why it would persist. In addition, David Armstrong has provided an even more damming problem: The "always packing, never traveling" (Molnar 2003, 173) problem that states that we can only ever know a power through its manifestation and that an ontology of powers only would lead to an infinite regress of unrealized potential and no reality. Armstrong argues that "particulars would seem to be always re-packing their bags as they change their properties, yet never taking a journey from potency to act. For 'act,' on this view, is no more than a different potency" (Armstrong 1997, 80). Armstrong later asks "where does potentiality get cashed out as act?" (Armstrong 2001:169)

5. A Concrescence of Theories

Whitehead finds in Plato not only the first doctrine of the law as immanent but also the first attempt to unite this doctrine with the doctrine of law as imposed. This is an early important concrescence of theories. It is through Plato that we find the reconciliation of the nature of individual temporal constituents with Eternal Being. Imposed law is not found in a transcendent creator, but rather Whitehead finds a way to combine the two doctrines without falling into impossible heterogeneous dualism in his modification of Plato's receptacle. The Receptacle of becoming is introduced into Plato's cosmology in order to explain how a realm of pure becoming can have any sort of thisness. To think of things as material substances is a mistake, the pure becomings of powers form combinations which are only a unity through the permanent being of the Receptacle. Plato claims that the Receptacle is "a nature invisible and characterless, all-receiving, partaking in some very puzzling way of the intelligible and very hard to apprehend" (*Timaeus* 51a).[7] Whitehead's own use of the Receptacle is an adjustment of Plato's original model. While for Plato things move in and out the Receptacle, Whitehead's Receptacle is the receiver of all actual occasions—the matrix of their interconnections and objective immortality. While the Receptacle is permanent, its form is always in flux due to the processual nature of Whitehead's metaphysics. It is the form of the unity of the multiplicity to which all future occasions must conform. Whitehead argues that the Receptacle should be the model for our conception of space-time (not an exterior background but rather the general interconnectedness of all actual entities—a single community of connected yet individual actual entities advancing towards novelty). While the receptacle imposes a

common relationship, it has no power to impose the particular form of that relationship. The law of imposition is not imposed by the receptacle, but rather it is the very interconnectedness and the objective immortality of all passing occasions that imposes the future law to which all following actual occasions must obey. Therefore we are able to account for imposition and regularity without the baggage of necessity or natural kind structures.

As discussed above in the dialogue between the Eleatic stranger and Theaetetus in Plato's *Sophist,* the stranger argues that we must part with Parmenides and agree that "what is not, in some respect has being, and conversely that what is, in a way is not" (*Sophist* 241d). Whitehead heralds this as one of Plato's greatest discoveries. However, Plato's use of the doctrine of not-being extends only as far as the Ideas and Whitehead argues that Plato should have extended this doctrine further. He should have also applied it to perishing occasions. "When they perish," he claims "occasions pass from the immediacy of being into the not-being of immediacy. But that does not mean that they are nothing. They remain 'stubborn fact'" (AI 305). The doctrine of the being of not-being allows Whitehead to produce a conception of both the immortality of the past and the lure of potential Ideas as part of the unity of nature rather than external to nature. It is this doctrine of the being of not-being that allows the receptacle imposing and uniting power. The process and creation of the future must always obey the objective immortality of the past. Plato's concrescence of theories is important for two reasons. Firstly, it provides a way of maintaing a powers-ontology that can account for regularity and, at the same time, avoids Armstrong's "always-packing" critique outlined above. Kristina Engelhard (2008) has argued that we can avoid the regress argument if we accept her "dualist intuition" that powers have a multi-leveled structure. What Whitehead offers is a fully fleshed out theory of what Engelhard has only presented as an intuition. An actual occasion is precisely the move from potency to act that Armstrong argues cannot be accounted for in a powers-only ontology. It is the account of not-being as in a continuing synthetic relationship with actuality that presents a thesis that is not "always-packing" but rather starts on a fresh journey as soon as it arrives.[8]

Secondly, this "concrescence" marks a notable shift from the use of God in *Process and Reality* to the use of Plato's receptacle in *Adventures of Ideas*. The extra emphasis on the importance of "not-being" and the receptacle in Plato is essential to the presentation of a metaphysics of nature's laws *without* God. While in *Process and Reality* God is the essential mediator for the preservation of actual occasions, this function is provided by the receptacle in *Adventures of Ideas*. Early on in AI, Whitehead writes that "progress in religion is defined by the denunciation of Gods" (AI 13) and it is tempting to read this absence of God as evidence of such progress in metaphysics, but, given the context of Whitehead's work as a whole, this line of argument can probably not be supported. (See Whitehead's essay "Immortality"). Regardless of whether or not this presents a radical shift in his entire metaphysical

system, it does present a novel theory of laws much more capable of being accepted into contemporary debates in metaphysics and the philosophy of science. However, given the essential role that God plays in mediating the relationship between actual entities, and, in addition, the essential role that eternal objects playing in prioviding qualities, extreme skepticism must be applied to the conclusion that this is a godless theory that he could have explicitly adhered to.

If, in Plato, we find a concrescence of imposed law and immanent law, in Epicurus we find an early concrescence of imposed law and law as mere description. And it could be argued that in Whitehead we find a concrescence of Plato and Epicurus. Lucretius' *Nature of the Universe* is the epic of the atomic theory in which "the world is an interminable shower of atomic particles, streaming through space, swerving, intermingling, disentangling their paths, recombining them" (AI 155). The problem with the atomistic theory is that it fails to go far enough and to reach the intrinsic nature of the atoms. However, it does seem to supply Plato's "missing text." Whitehead argues that Plato should have written a companion book for the *Symposium* in order to highlight that Eros can never be thought adequately without also paying attention to the "Furies"—the horrors of imperfect realization. And who better to supply this book than the Epicureans. Whitehead further expands on this confrontation between Eros and the Furies in his discussion of Beauty and Evil when he claims that this intermingling is the result of the finitude of actualization and the necessary exclusion of alternative possibility that results from this finitude. In Epicurean terms we can say that: "Even the sunbeam, falling on shady places, is an image of this eternal war" (Marx 1839/1927).

Such a concrescence of theory can also be seen as necessary from the discussion of Leibniz and Lucretius. If both thinkers obtained such different answers from their enquiry into atoms, it is because they asked such different questions. Lucretius, Whitehead claims, can tell us what an atom might look like to others, but Leibniz's phenomenology of the atom is an answer to another question: "how an atom is feeling about itself." (Leibniz extends the experiential intuitions of philosophy all the way down to the ultimate constituents and therefore discovers experience all the way down.) Lucretius examines the objective while Leibniz investigates the subjective, but neither side can be ignored. Leibniz takes us towards the doctrine of immanence, but Leibniz is still too trapped by determinism, too trapped by Plato's Eros and therefore fails to recognize the necessity of the companion text: the Furies. As a result, Leibniz ends up endorsing one of the most extreme doctrines of imposed law in the history of philosophy.

If the doctrine of law as immanent is the most important doctrine for Whitehead, it is because the doctrine of law as imposed and the doctrine of mere description make no sense without it. They lead us into absurdities and false dilemmas. These problems can only be overcome if our working hypotheses can be developed together. This requires a sensitive openness to our

philosophical intuitions and careful examination of the various methods of philosophical enquiry, which must not be seen in strict opposition but rather evaluated in terms of what their discordances can offer. The doctrine of law as imposed and the doctrine of observed succession present theories that are clear and distinct, but this clarity must not be seen as originative but rather arising from the vagueness of the background of power.

The strength of Whitehead's concrescence of theories is that he does not merely dogmatically refuse to engage with Hume's problem and assert necessity but rather accepts its truth at the particular epistemological level of "presentational immediacy." If we can find no evidence of the absolute necessity that the defenders of the doctrine of imposed law argue for, this is because it cannot be found. However, this does not mean that we have to fall into epistemological atomism or a doctrine of absolute contingency. Rather the stability that we require can be found in the doctrine of power and the imposition comes from the inter-relation between being and not-being. Again, this shows the importance of Whitehead's move from necessity to Platonic persuasion, as discussed above.

6. Methodology

Whitehead's discussion of the laws of nature extends past the laws discovered by physicists all the way to the very method of speculation itself through which we theorize. Both sides of this debate are as important as each other. This is made clear when Whitehead remarks that:

> it is interesting to notice that, according to Plato, the distinguishing mark of the philosopher in contrast to the Sophist is his resolute attempt to reconcile conflicting doctrines, each with its own solid ground of support. In the history of ideas the doctrine *of* Speculation is at least as important as the doctrines *for* Speculation. (AI 153)

It is for this reason that the discussion of nature's laws extends past the various doctrines and all the way to philosophical methodology.

It could be argued that Whitehead's discussion of the laws of nature essentially fulfills a similar role in his *Adventures of Ideas* as Kant's "Amphiboly of the Concepts of Reflection" fulfills in the *Critique of Pure Reason*. For Kant, a philosopher commits an amphibolous fallacy when he conflates the understanding and sensibility—a fallacy of treating two very different faculties as if they were one. The two philosophers guilty of committing the amphibolous fallacy were Locke and Leibniz. Leibniz's error, Kant claimed was to "intellectualize" appearances and thus underestimate the importance of sensibility. Locke committed the opposite error and underestimated the importance of the understanding whilst claiming that everything comes from the

senses. The bulk of the amphiboly is taken up by Kant's critique of Leibniz and aimed to show that any attempt at using formal logic in order to discover truths about the appearances of sensibility is destined to fail.

While Kant distinguishes between two faculties, Whitehead puts forward three types of knowledge. First, direct intuitions unspoiled by verbal expression. Second, literary modes of expression and the dialectical deductions that we perform through these modes; and third, the purely deductive sciences. It is Whitehead's aim in his discussion of natural laws to argue that an adequate metaphysics of laws must be able to recognize the importance of this first kind of knowledge—the intuitions—and not let the abstractions formed by the second and third drown it out. If the slogan of Kant's amphiboly was: "we must not underestimate the importance of intuitions for our metaphysics of experience," then the slogan of Whitehead's discussion regarding nature's laws could be expressed similarly. However, what constitutes experience is radically different for Whitehead than it is for Kant, or at least what constitutes a subject is radically different. Like Kant, the intuition of space and time is imminent to the individual, although the subjective forms for the intuitions are the processes of each and every actual occasion. The transcendental aesthetic, conversely, is imminent to every actual occasion. As Steven Shaviro notes (2009), this amounts to the collapsing of epistemology into ontology. Ultimately, Whitehead's discussions of epistemological methods in *Adventures of Ideas* and in the later *Modes of Thought* are inseparable from metaphysics exactly because of this collapse.

Whitehead's second form of knowledge—our literary training—has benefited us in that we can now consider the past and the future in terms of decades and centuries, but it has blinded us to our immediate past and immediate future—the past of half a second ago or even a tenth of a second ago. It is only through a sensitive training of our philosophical intuitions to this immanent past and future that we can recognize the truth of the doctrine of immanent law and Plato's reality test—that to be real is to cause an effect. If something does not cause and effect, it is not real, it fails the test. Without such intuitions we will always be trapped in the false dilemma between necessity and absolute contingency and induction will be useless. Whitehead's three kinds of knowledge are not three completely heterogeneous faculties, like Kant's sensibility and understanding, they are in constant interaction and our intuitions must affect our construction of categories. As we critique and develop our working hypotheses regarding the laws of nature, we must constantly pay attention to our methods of philosophical enquiry and attempt to ensure that we do not ignore one form of knowledge due to the development and successes of another.

7. Conclusion

Whitehead shares with Peirce the conviction that our doctrine of laws must be one of "thorough going evolutionism." In *Science and the Modern World* and *Process and Reality* Whitehead is concerned to show how thorough going evolutionism and a metaphysics of organism are largely inseparable doctrines and no sense can be made of either doctrine without the other. Whitehead's metaphysics of laws in these earlier works is largely the logical result of his metaphysical foundations. Whitehead's return to the problem of laws in *Adventures of Ideas* takes the doctrine of thorough going evolutionism one step further: not only must we consider the very foundations of our cosmic epoch as products of evolution—a process without end—we must also consider our very methods of metaphysical speculation under the same light. It is through Whitehead's insistence that metaphysical speculation must never reach dogmatic finality that we can understand why Plato is such an important figure for Whitehead. Plato symbolizes the unlimited possibilities of thought and the unending potentiality of change. If the ancient Greeks were to return today, he speculates, Plato would have been the one man who would not have been absolutely shocked, because he was the one philosopher who was always taking account of the unpredictable. In Price's dialogues we find constant references to the importance of considering the process of speculation as without end. Whitehead discusses his education in the 1880s in which he had been taught that Physics was nearing completion. However, by the 1900s such closure had been demolished. Newtonian physics, he claimed, was done for. Here we are treated to an important insight regarding the impetus behind his thought. This historical example is raised to show that we must consider the era of finality of thought as over. "I've been fooled once," Whitehead writes, "and I'll be damned if I'll be fooled again" (Price 1954, 341).

It is my conclusion that the best way we can read the discussion of nature's laws in *Adventures of Ideas* is as an example of how Whitehead believed we must undergo our metaphysical speculations and in turn how he would have hoped his metaphysical speculations would be treated. We should read them not as a final theory but rather as a bubble in the never ending process of speculative thought, which must be tested and adjusted against new and evolving theories. Placing his discussion of nature's laws within the context of the contemporary debate in analytic philosophy might well be one important way of doing exactly that.

NOTES

1. I would like to thank Roland Faber, Vincent Colapietro, Clinton Combs, Iain Hamilton Grant and Chris Esson for their helpful comments on this paper, either during the conference or on earlier drafts, which have helped me significantly improve this work.

2. Of course it is more than likely that this influence could have go travelled both ways.

3. While Ward does not refer to Peirce in the exposition of this theory in Naturalism and Agnosticism he does reference "The Architecture of Theories" in his latter Gifford lecture series Realm of Ends and in his lecture "Mechanism and Morals" from 1905.

4. It has been convincingly argued by Galen Strawson that Hume himself was not a Neo Humean and the pseudo metaphysical views upheld by the Neo Humeans were not held by Hume himself. See Strawson (1989).

5. Session 13, Canon 2. Cited in Molnar (2003).

6. Perhaps controversially Whitehead states that the doctrine of the law as immanent is the one now defended by physicists for the majority of nature's laws. Presum ably Whitehead believed that this was the implicit assumption of his contempo rary physicians rather than a view they overtly announced. This would make sense in the context of his claim from "Nature Lifeless" in which he argues that: "The presuppositions of yesterday's physics remains in the mind of physicists, although their expert doctrines taken in detail deny them" (MT 131).

7. While Whitehead uses the A.E. Taylor translation and commentary, all quotes in this essay are from F. M. Cornford, Plato's Cosmology: The Timaeus of Plato. (Cambridge: Hackett 1935).

8. "[T]he process is itself the actuality, since no sooner do you arrive than you start on a fresh journey" (Price 1954, 366).

Nine

ALFRED NORTH WHITEHEAD'S RECEPTACLE

Joachim Klose

1. Introduction

There have been countless discussions about the implications of physics, especially quantum physics, for various issues of human understanding (Griffin 2005, 1).

- Regarding *time*, it has been argued that modern physics shows time as we experience it to be ultimately unreal.
- Regarding *consciousness*, it is thought that any philosophy of the mind, to be compatible with modern physics, must regard conscious experience as a by-product of the brain's subatomic particles.
- Regarding *freedom*, it is thought that any understanding of reality based on modern physics must rule out the possibility that our decisions truly involve self-determination.

In light of these supposed implications, it is widely assumed that a worldview that takes physics seriously necessarily contravenes the worldview of ordinary human understanding. Whitehead's philosophy rejects all three implications. They are examples of what he calls "the fallacy of misplaced concreteness," meaning the "error of mistaking the abstract for the concrete" (SMW 52).

Whitehead wants to unify different views of nature and to overcome the dualistic Cartesian tradition in modernity (SMW). This concerns, in particular, the dualisms of body and consciousness (soul), nature and mind, the inorganic and organic. Their supposed separation prevents the true understanding of their connection (Wiehl 2000, 26). Whitehead disagrees with Descartes: "In the first place," he states, "there is the claim to unity" (MT 159). He manages to set up the basis for this unity in his epochal theory of time. Whitehead's revised space-time of modern mathematical physics can be identified with Plato's receptacle which is the "foster-mother of all becoming."

2. Bifurcations

The Sciences are not concerned with epistemological matters but rather with a coherent explanation of nature. This fact leads to the bifurcation of reality. In relation to such bifurcation, Whitehead categorically rejects:

- The distinction between events of nature and events as they are formulated in scientific theories, and
- the distinction between events of nature as they exist by themselves and as they appear to us.

The first concept maintains a purely conceptual existence of physical entities such as atoms and electrons. For Whitehead, scientific concepts are derived from nature by way of logical abstraction. He argues against the bifurcation of reality into the mathematical world and the apparent world. Concepts, as far as they are true, refer directly to facts of reality.

The second formulation of bifurcation is a consequence of the first. Historically, after separating the realm of apparent nature from that of its physical description, John Locke asked how both realms could be connected. Isaac Newton developed a kinetic theory of atoms, but he did not explain how unperceivable atoms in absolute space and time are connected with our space-time experiences. The observer can have knowledge only of his sensory impressions, not of the objects which produced them. This results in the banishing of the observer from nature. The knowledge of reality now requires a theory.

3. Perception

To avoid these bifurcations, the origin of every possible bit of knowledge must be considered. Whitehead regards this origin within everyone's daily experiences and addresses directly the British empiricists' starting point. In addition, he integrates psychic impressions such as emotions, beauty, love and satisfaction.

Usually, perceptions are described in presentational immediacy. This mode of perception presents the spatial relationships between the perceiver and sense data, even while temporal aspects are ignored. Perceptions in presentational immediacy are preferred compared to causal efficacy because they are directed by attention But, attention is comprised of a teleological and a temporal aspect. The analysis of past data directs the attention to the emergence of future data. However, the analysis of past data is no longer part of presentational immediacy but rather of causal efficacy. Attention is the cut between the two modes of perception. All scientific observations are made in

the perceptive mode of presentational immediacy (PR 169). However, physical theories refer exclusively to causal efficacy.

If all knowledge is traced back to perception at one moment, one cannot have empirical knowledge of relations nor of the continuum of reality. Whitehead asserts that one can perceive them directly in the mode of causal efficacy, tacitly assuming the experience of temporal and spatial extension. Temporally adjacent events are perceived directly in the "specious present" (William James). It contains not only immediately observed events; it also includes the immediate past. The presence of immediate past events shows that present and future events have to confirm earlier events in the same way that immediate past events had to confirm events in the even more distant past.

4. Time

Within each period of his philosophical development, Whitehead argues that space and time do not exist independently. It is an abstraction whose explanation requires reference to that from which it has been abstracted. In Whitehead's natural philosophy, the real world is an extended, continuously flowing process. Later, in his metaphysical period, space and time are seen as abstractions from extended events and are to be experienced empirically.

A. Time in Whitehead's Natural Philosophy (1914-1925)

During this period, Whitehead understood that time spans do not have any reality in nature but are the property of a perceiver. The reality is characterized by an extensive space-time continuum. Events in nature do not have any reality independent of a consciousness and do not have definite temporal extensions. Time relations are an expression of an ordering relation of a perceiver.

During the specious present one perceives a unit already separated into its parts by the activity of the perceiver. But it is not clear how one can proceed from individual experiences to a uniform space-time-structure. Whitehead confesses that what he has termed the "uniformity of the texture of experience" is a mere illusion. We are not directly aware of a smoothly running world.

B. The Epochal Theory of Time (1925-)

The transition from momentary events to extended actual occasions is not only initiated by the knowledge that perception takes place in the specious present and that causal interactions are directly perceivable, it is also a result of logical difficulties within physical theories and metaphysical outlines.

Physical descriptions of dynamic processes like impulse, velocity and tension, and the descriptions of simple physical structures like atoms or biological organisms presuppose the existence of temporal events. In addition, becoming is only possible if reality is constituted out of temporal, atomic events. Becoming and continuity are incompatible (Zenon of Elea). Here, Whitehead shows that momentary events can be deduced out of extensional events by means of the method of extensive abstraction. All these points forced him to conclude that reality is not founded on momentary events but rather on temporal, extended events.

Despite the fact that Whitehead probably never became acquainted with the post-1924 development of quantum theory, first results motivated him to transfer the new knowledge of philosophy and psychology to all entities of reality. The particles of reality were no longer material, static forms but rather spatiotemporal extended events. Whitehead got his inspiration from scientific discoveries, without necessarily going into their specific formalism.

In the epochal theory of time, Whitehead unifies four different time aspects to be found in the experience of an actual occasion. There are two internal and two external aspects. The internal time aspects are the passage of thought, and the experience of extension. The external time aspects are the potential physical time, and the actual physical time. The experience of extension corresponds to potential physical time; the passage of mind corresponds to the passage of nature The physical concept of time unifies the experience of an extensive continuum and the perception of concrete, actual occasions. It unifies the discontinuity and continuity of the external world into one concept.

5. Actual Occasions

An actual occasion is limited in terms of space and time and, in comparison to other actual entities, owns a defined space-time position (PR 73).

Every actual occasion is a spatiotemporal unit possessing an indivisible volume and time quantum, which cannot be disassembled without being destroyed (PR 219). Actual occasions express the uniform space-time structure of the universe because their external relations fit them into superordinate actual occasions, and their internal relations, their coordinate divisibility, divide them into subordinate actual occasions.

Actual entities are not only microcosmic. For Whitehead, the whole universe, or just a single atom, is an actual entity. An actual entity is linked with every other actual entity of the universe by means of prehensions (PR 41).

There is a significant difference between perception, which is causally influenced by perceived objects, and prehension, which means a coming together of different parts of reality. The latter could also mean a coming together of very distant events. For Whitehead, "physical science maintains its denial of 'action at a distance,' the safer guess is that direct objectification is

practically negligible except for contiguous occasions" (PR 308). Each event does prehend all of creation, not only those events found in its backward light-cone (Stapp 1977, 315). The unity of the world would be destroyed if each event would prehend only its own actual world (Stapp 1979, 21). A theory of perception connects causally past events with present ones. But, the theory of prehension changes the perspective It describes the development of reality from present to future Therefore, the growing actual entity is not the perceiving subject in the process of prehension. The perceiving subject does not exist before the perceived events and is not their contemporary. Vice versa, the perceived events are temporal before the objectifying actual entity. Prehensions reach into the future like tentacles. They grow together into a new unity. However, this process does not take place locally and aimlessly. It is accompanied by an ideal—the subjective aim.

The only kind of entities observable in nature are living organisms, which unify final and efficient causation. Therefore, it is more reasonable to transfer the concept frame of living organisms to all phenomena of reality than the reverse (MT 154). Whitehead's philosophy of organism attributes the double character of efficient and final causation to the final things of the universe.

According to the theory of evolution, primordial physical events enter into mental events and cause them. According to the philosophy of organism, the reverse is basic. It takes back the grounds of mental events by using physical ones. An actual occasion is the product of the interplay of the physical with the mental pole. The physical pole is extended over the whole space-time continuum and can be divided. In contrast, the mental pole does not share in the divisibility of the physical pole. The mental pole has its equivalent in a thought (of mind). It is an act of attention with the duration of the specious present.

6. Quantum Theory

Whitehead was clearly influenced by the early phases of quantum theory. Obviously, one would expect that there have to be similarities between quantum theory and process philosophy In particular, the properties of an actual occasion and a quantum event are quite similar. It appears that the collapse of the quantum state is the atemporal process that corresponds to an actual entity, and the elementary quantum event corresponds to what Whitehead called "the satisfaction of an actual entity" (Malin, 2006).

Another parallel one finds in the conception of a trajectory. It is a consequence of Heisenberg's uncertainty relations that a quantum particle cannot have a definite position in space and a definite momentum at the same time "Consequently, quantum particles cannot possess continuous trajectories because this would obviously force them to possess a definite position and a

definite momentum at each time of their existence" (Hättich 2004, 99). The experimental result one gets from a bubble-chamber experiment looks like the spatiotemporally continuous trajectory of a classical particle. "But under closer inspection it turns out that this 'continuous' trajectory is merely a succession of discrete, i.e. spatiotemporally non-overlapping, events" (Hättich 2004, 100). This description of a trajectory is in accordance with Whitehead's concept of a society.

To what extent can Whitehead's metaphysics provide an ontological basis for quantum theory? Lately some articles and books have been published on this subject. There are strong endorsements of process philosophy, and striking parallels to Whitehead's formulations.

The "Copenhagen" quantum theory was formulated as a practical set of rules for making predictions about what we human observers would observe under certain, well-defined conditions (Stapp 2004, 92ff). This pragmatic view "is essentially subjective and epistemological, because the basic reality of the theory is 'our knowledge'" (Stapp 2001, 2). It contains in itself no definitive criterion of completeness However, it is guided by two basic principles: "The final theory should be comprehensive and unified" (Stapp 1979, 9). In this regard, the Copenhagen formulation includes an awkward feature: Human observers are excluded from the system. The theory is based on a bifurcation of the physical world into "observer" and "observed."

This situation is dissatisfying for someone who seeks "a rationally and dynamically coherent understanding of what is actually going on" (Stapp 2004, 27). Because measuring devices and human bodies are made up of atoms, one expects that the laws of quantum theory, if universal, ought to work for these physical systems, too (Stapp 2007, 11).

Two choices enter into the determination of what happens in quantum theory:

(1) the question that is posed to nature, and

(2) the answer given by nature to that particular question

Quantum theory gives a statistical prediction for the last answer. But, the first one is decided by the experimenter. The exclusion of the experimenter from the system being investigated is fixed by the "orthodox" quantum theory devised by von Neumann and Wigner. Von Neumann showed that the observed event in the external world is directly linked to the brain of the observer of that event. The observed system (process 2) is described in terms of quantum mathematics, the observing system (process 1) in terms of human experiences. Due to the fact that it makes no practical difference which of the various placements of the dividing line between the two systems one uses von Neumann put all parts of nature composed of atomic constituents on the side

described in terms of the quantum mathematics and only the consciousness of the observer outside of the mathematically described world. In von Neumann's formulation, the whole world is treated as a quantum system. He brought the physical and mental aspects of nature together as two aspects of a rationally coherent whole. Because his theory is built on the Newtonian concept of an instant of time it was elevated by Tomonaga and Schwinger to a form compatible with the physical requirements of the theory of relativity. They constructed a relativistic quantum field theory. The Tomonaga-Schwinger-Surface σ does not differ significantly from the constant time surfaces of Newtonian physics. Contrary to the theory of relativity, there is a preferred sequence of instantaneous "nows." Direct changes of a part of the surface σ cause indirect changes along the rest of the surface due to quantum entanglements. "These 'indirect changes' produce the 'faster-than-light' effects" (Stapp 2007, 10). "Thus quantum theory reverts, at a certain deep ontological level, to the Newtonian idea of instantaneous action at a distance, while maintaining all of the empirical demands of the theory of relativity" (Stapp 2001, 10).

Nonetheless, there must be a dynamic connection between mind and brain: The mind of the observer is obviously connected to what is going on in his brain, and his choice of which question to put to nature influences his brain in ways controlled in principle by quantum laws.

Asking a question about something is closely connected to focusing one's attention on it. This connection can be found via the quantum Zeno effect, which shows how the choice and timing of questions can influence the course of events in the probed system. Physical principles do not specify which questions are posed to nature. This opens the logical possibility that our conscious thoughts could be entering into the mind-brain dynamics in a way reducible neither to purely mechanical effects governed by the Schrödinger equation of motion nor to the random effects of nature's choices of outcomes.

In general, our thoughts issue commands to "attend" to certain questions in the future. These directives supply the missing component of the quantum dynamics: They pose the particular questions that are put to nature. The point is that the occurrence of a conscious thought associated with a quantum system is supposed to cause a reduction of the state of that system to the reduced state. Since the question to be posed is supposed to be an experience, it would appear that it really ought to be part of the mental, rather than physical, side of the mind-brain dynamics. Quantum theory has a lacuna that can very naturally be filled in such a way as to allow our thoughts to exercise real, though not absolute, control over the mechanical aspects of mind-brain dynamics.

7. **Process Philosophy and Quantum Ontology**

"The natural ontology for quantum theory . . . has close similarities to key aspects of Whitehead's process ontology" (Atmanspacher 2006, 71). Both are theories of perception. Whitehead tells us that it is equally possible to arrive at his organic conception of the world from psychology on the one side and from mathematical physics on the other (McHenry 2002, 168). Put another way, "quantum theory gives us a mathematical model, not of an independent reality, but of our perception of reality" (Hartshorne 1977, 189). Both are interpreting systems of nature and share the same intention.

On the other side, all Whiteheadian physicists have in mind a discussion of "a modified philosophy of organism, which would preserve Whitehead's essential ideas while according with the discoveries of modern physics" (Malin 2002, 172). There seem to be great differences deeply rooted in the concept of time. Spatially separated parts of reality must be related in some way that goes beyond the familiar idea that causal connections propagate only into the forward lightcone. Quantum events behave as a unified system (Stapp 1993, 30). Whitehead has been blamed for having only a causal theory of perception, with which he cannot account for contemporary events (Stapp 1979, 2). Actually, Whitehead introduces three different concepts of contemporaneity: contemporaneity, simultaneity, and instantaneity: "An instantaneous space is static, being related to the static nature at an instant" (CN 261). "Actual entities are called 'contemporary' when neither belongs to the 'given' actual world defined by the other" (PR 66). This concept covers all events in the light cone. But simultaneity includes all contiguous events of prehension. These events need not be causally connected. Two electrons very distant from one another are also contiguous by means of gravity (Stapp 2001). For Whitehead, the available information about a (faraway) system that is disturbed by the (nearby) measurement and a nearby system are one actual occasion. There is no need to modify process philosophy at this point (Hartshorne 1977, 185).

Quantum theory is formulated as an indeterministic theory. Each experimenter can choose freely which experiment he will perform. In addition, the result of the experiment is subject only to statistical requirements.

> These elements of "freedom of choice," on the part of both the human participant and nature herself, lead to a picture of reality that gradually unfolds in response to choices that are not necessarily fixed by the prior physical part of reality alone. The central roles . . . of these discrete choices . . . makes quantum theory a theory of discrete events, rather than a theory of the continuous evolution of locally conserved matter/energy. (Stapp 2001, 11)

The internal process of concrescence is not a spatiotemporal process, but the way in which the result of this internal process is "made available" to the external world is an atomic act. "Continuity is rejected as a basic feature of the units of becoming, but in the succession of the units of becoming what becomes is continuity" (McHenry 2002, 168). Additionally, if quantum theory is a theory of observation, what does the term "observer" mean? Physical instruments of measurement cannot be regarded as observers: They do not generate facts. One would come to a chain of observers. Where does this chain end? "Several eminent scientists (von Neumann, London and Bauer, Wigner) proposed that it terminates when an event becomes consciously perceived. Consciousness is regarded as the ultimate agency" (Haag 2004, 55).

According to the Heisenberg picture, "each occurring event signalizes a transition of the 'possible' to the 'actual'" (Stapp 1979, 23). A becoming actual occasion receives past actual occasions as potentials for ingression into its own development. The development is one from potentiality to actuality and from actuality to potentiality. The potentials of past actual entities are interwoven into a unit by the activity of the growing actual entity. The newly grown actual entity is a real potential for future concrescence processes.

There are parallels in quantum theory and psychology. Henry Stapp's "quantum theory of consciousness" is based on Heisenberg's interpretation that reality is a sequence of collapses of wave functions. Stapp observes that this view is similar to William James's view of mental life as "experienced sense objects." According to Stapp, the whole range of science, from atomic physics to mind-brain dynamics, is brought together in a single coherent theory of an evolving cosmos consisting of a physical reality with the closely related, but differently constituted, mental aspects of nature (Atmanspacher 2006, 76).

Is it now justified to argue that quantum events could be counted as sentient? This assertion would equip elementary quantum events with a degree of creativity. It must first be asked how mentality is to be measured. One observes mentality concerning its effects out of the behavior of the things observed. To argue that each actual occasion possesses a mental pole is a consequence of the transference of human understanding to all events of nature It conforms to the principle of unity of nature. Finally, quantum theory of consciousness as well as process philosophy delivers a rationally coherent way of understanding our conscious selves within the reality surrounding and sustaining us (Stapp 2007, 3). Whiteheadian quantum ontology is essentially an ontologization of the structure of orthodox relativistic quantum field theory, stripped of any anthropocentric formulations. This means that mentality is no longer reserved for human beings and higher creatures. But, it is, to a high degree, anthropomorphical because this is the only way we can speak about reality. Thus, Whitehead's philosophy of organism is a logical transfer of the concepts of human experiences onto all entities of reality. In describing the

last units of reality, he uses concepts that were derived from living organisms and applies them to the whole of nature.

Why is consciousness needed in the universe at all? It is needed because otherwise there would be no historical development. There were many possible changes from one state to another but no becoming anew. This leads to a "many-minds" interpretation (Stapp 2004, 55). The observed particularity would be the particularity of one individually observed branch of the universe. In this view, it is a property of each human consciousness to accommodate only a single one of these branches, even though all the branches exist together (Stapp 1993, 188). The proposal of Heisenberg and Dirac as well as our human understanding assert the opposite: Nature actualizes one observable branch from among the emerging set of possible ones. The conflict originates from the continuous character of the description of nature provided by the quantum state and the discrete character of human experience. Real becoming necessitates temporal atomicity. But, real temporality presupposes teleology, and, consequently, mentality.

8. Teleology

Intended purposes are parts of creatures. This is known through the observation of human and animal experiences. From an inner perspective every process can be described either teleologically or causally. A preliminary decision is required to take into account only causal descriptions, which can only be justified by metatheoretical arguments (simplicity, reproducibility, formal descriptiveness). The question is when and why one chooses which description. Causality is not possible without determining the aims. Where is the beginning of inferior processes localized? And how is it possible to examine these processes separately from everything else which takes place in time?

> To state a constitutional causal connection, one has to place a telos in terms of a final state in a relationship to another state, which is characterized as cause. We have to build or fix a segment which does not exist by itself in nature. (Spaemann 1984, 52)

Whitehead asserts the complete determination of the present through past events and teleology. Therefore, he seems to provoke a contradiction. But teleology does not mean the total determination of the present by future events, but rather the anticipation of future states. For Whitehead, while present events are determined by past events, they are not determined by future ones. Future events are undetermined concerning their completion. The anticipation of future states does not automatically imply their appearance. Present actual entities do not anticipate their future determination but rather their subjective aim. The subjective aim represents the vision of a future state,

which influences development into this state. The vision is not the final state of determination, but it does influence the actual entity in its decision.

It could be concluded from the pursuit of the subjective aim that there has to be something within which the subjective aim is present. Something exists that moves towards this aim. This idea puts a subject under the process of reality envisioning the subjective aim. This means that there has to be a substrate of changes, which contradicts Whitehead's intention. Past actual entities do not have "intentions." They have passed away and do not possess a transition to future aims. A growing actual entity perceives the subjective aim as a date within the actual world.

It is contemporaneous with past actual entities; as a purpose it is neither a cause nor an effect. The "'moving' finis in the final nexus is the interpretation of the purpose as a cause" (Löw 1980, 292). The subjective aim determines what delivers positive contributions to the growing actual entity. According to Whitehead, the subjective aim is pro-offered by God.

> Each temporal entity . . . derives from God its basic conceptual aim, relevant to its actual world, yet with indetermination awaiting its own decisions. This subjective aim, in its successive modifications, remains the unifying factor governing the successive phases of interplay between physical and conceptual feelings. (PR 224)

One can only distinguish between subjective aim and satisfaction if the concrescence process is limited in time. Whitehead took for granted that teleology assumes temporal atomicity, and that temporal atomicity is only possible in a state of reality that is teleological (PR 19). In a cosmology with a continuous concept of time, real becoming is impossible—there are only changes that are transformations from one state into another. However, a teleologically constituted physical process assumes an aim of development for the single entities.

> In the formation of each occasion of actuality the swing over from reenaction to anticipation is due to the intervening touch of mentality. Whether the ideas thus introduced by the novel conceptual prehensions be old or new, they have this decisive result, that the occasion arises as an effect facing its past and ends as a cause facing its future. In between there lies the teleology of the Universe. (AI 193-4)

9. Immanent Laws

The potentiality of future states flows into the process of reality through abstractions; actuality and potentiality thus come into contact through abstrac-

tions. The subjective aim is integrated into the concrescence process as an actual dimension of a potential development by the possibility of abstractions.

> The notion of potentiality is fundamental for the understanding of existence, as soon as the notion of process is admitted. . . . Immediacy is the realization of the potentialities of the past, and is the storehouse of the potentialities of the future. (MT 99-100)

Abstractions are necessary in the process of reality in order to recognize the order of the world and to classify the elements of experience. Sense perceptions are the first abstraction in the process of perceiving reality. They produce "an approach to accuracy, a sense of the qualitative differentiation of external activities, a neglect of essential connections" (MT 73). Every system for the interpretation of reality necessarily contains abstractions, meaning elements which repeatedly occur. "We cannot abstract without recognition, and we cannot recognize without abstraction. Perception involves apprehension of the event and recognition of the factors of its character" (CN 189). "You cannot think without abstractions; accordingly, it is of the utmost importance to be vigilant in critically revising your *modes* of abstractions" (SMW 58).

Philosophy is the criticism of abstractions. "Its function is the double one, first of harmonizing them by assigning to them their right relative status as abstractions, and secondly of completing them by direct comparison with more concrete intuitions of the universe, and thereby promoting the formation of more complete schemes of thought" (SMW 83). "It follows that philosophy, in any proper sense of the term, cannot be proved. For proof is based upon abstraction. Philosophy is either self-evident, or it is not philosophy" (MT 48-9).

The importance of mathematics for the description of reality shows that the progressive expansion of the limits of human knowledge requires abstractions, as the development of ideas takes place within abstractions. In order to describe reality, one has to accept the bifurcation between actual occasions and abstractions (objects). As long as one is occupied by pure mathematics, one resides in the area of perfect and absolute abstractions.

Mathematics is only possible because the actual occasions disclose general, outlasting conditions and structures that can be abstracted from individual situations and put forward onto new situations.

> In its broadest sense, the discovery of mathematics is the discovery that the totality of these general abstract conditions which are concurrently applicable to the relationships among the entities of any one concrete occasion, are themselves inter-connected in the manner of a pattern with a key to it. (SMW 31)

Mathematics assumes a general acceptance of an order. "The idea of functionality in the abstract sphere of mathematics found itself reflected in the order of nature under the guise of mathematically expressed laws of nature" (SMW 35). Order and disorder are part of our experience They express the interconnectedness of the universe: "In the world, there are elements of order and disorder, which thereby presuppose an essential interconnectedness of things. For disorder shares with order the common characteristic that they imply many things interconnected" (AI 227-28). Additionally, "An inductive argument always includes a hypothesis, namely, that the environment which is the subject-matter considered contains a society of actual occasions analogous to a society in the present" (PR 205).

> Anticipations as to the future of a piece of rock presuppose an environment with the type of order which that piece of rock requires. Thus the completely unknown environment never enters into an inductive judgment. The induction is about the statistical probabilities of this environment, or about the graded relevance to it of eternal objects. (PR 205)

Closing by induction always concerns societies with a stable structure. Their stability is necessary for their present environment in order that this stability may be expected for the future. Incidentally, there is no justification for the transference of an inductive closing in the actual world. "There is no valid inference from mere possibility to matter of fact, or, in other words, from mere mathematics to concrete nature" (AI 126). Inductive forecasting has only a statistical probability because inductive closing cannot take into account all aspects of a future world. And, "statistics tell you nothing about the future unless you make the assumption of the permanence of statistical form" (AI 126). The necessary premise of the stability of the world can only be established by metaphysics.

> The speculative extension of laws . . . are the obvious issue of speculative metaphysical trust in the material permanences, . . . speculative extension beyond direct observation spells some trust in metaphysics. (AI 128)

The application of the laws of nature reasoned out of present observations to future or otherwise distance events requires the interplay of natural sciences and metaphysics; it presupposes the unity of reality. This unity must be expressed within actual occasions and will be found within their inner space-time-extension. Through their extension and their mutual overlapping, the actual occasions compose a common ether of extension. "Nature is what is observed, and the ether is an observed character of things observed" (R 5).

Our experience requires and exhibits a basis of uniformity. In the case of nature this basis exhibits itself as the uniformity of spatio-temporal relations (R v).

> The perceptive mode of presentational immediacy . . . exhibits that complex of systematic mathematical relations which participate in all the nexus of our cosmic epoch. . . . From the point of view of a single experience that mode discloses systematic relations which dominate the environment. But the environment is dominated by these relationships by reason of the experiences of the individual occasions constituting the societies.

> It is by reason of this disclosure of ultimate system that an intellectual comprehension of the physical universe is possible. There is a systematic framework permeating all relevant fact. (PR 326-7)

The basic experience of a uniform space-time structure allows the systematic description of the universe.

Despite the progressive success of the natural sciences, their certainties have turned out to be illusions. "We are continually led into errors of expectation. Also, whenever some new mode of observational experience is obtained the old doctrines crumble into a fog of inaccuracies" (AI 154). Therefore, one cannot assume that reality behaves in accordance with our laws. Rather, our laws behave like reality; scientific theories are fitted to reality. Our abstract scientific concepts expressed in mathematical terms apply to the physical world so well because the effort to harmonize thought and perception is largely a process of progressive approximation.

Concerning the relation between the status of the laws of nature and nature, Whitehead presents three convictions:

- the doctrine of immanent laws (Whitehead's own position)
- the doctrine of imposed laws (classical physics, Newton and Descartes)
- the doctrine of pure description of nature (positivistic position). (AI 111ff.)

The doctrine of immanent laws suggests that the order of nature is in accordance with the character of the real things of nature. If the character is known, their mutual relations are known as well. If different entities contain common elements, then they must have identical relations to each other These relations are expressible in natural laws. This doctrine presupposes the mutual dependence of their entities (AI 112-13).

One can consider Whitehead's entire philosophical effort as a defense and justification of the description of the universe by means of immanent laws. This doctrine is in opposition to both the doctrine of imposed laws and the doctrine of pure description of nature.

In the doctrine of imposed laws, which inspired mostly the natural scientists of classical physics—especially Newton and Descartes (AI 113)—external relations are the ultimate constituents of nature. The entities of such a universe are utterly isolated from each other and exist only by themselves. The relations to other entities, which are the required structural basis for natural laws, are imposed on them. One cannot discover the essence of the relationships by analyzing the laws of the relationships. Moreover, one cannot find the laws by analyzing the entities. This doctrine necessitates a theism in order to eliminate these discrepancies.

The doctrine of pure description of nature asserts that the laws of nature are nothing more than the (observable) persistent structures of the observable chronology of things (AI 115ff.). Laws of nature are only forms of description. Whitehead identifies this doctrine with the doctrine of the positivists of the 20th century.

> Of course most men of science, and many philosophers, use the Positivistic doctrine to avoid the necessity of considering perplexing fundamental questions—in short, to avoid metaphysics—and then save the importance of science by an implicit recurrence to their metaphysical belief: That the past does in fact condition the future. (AI 125-6)

The positivist doctrine assumes that one has direct knowledge of the order of things. Then, the laws of nature describe only observable and identical structure within comparable orders. Since a law of nature can only make reference to observable things, statements about future states are impossible on this basis. In Whitehead's words, "The Positivist has no foothold on which he can rely for speculation beyond the region of direct observation" (AI 124). In this case, the "task of science" is restricted to search for the most simple forms of description in that it, according to Whitehead, "is explained to be merely the formulation of observed identities of pattern persistent and recurrent in each stream of experience" (AI 125). Any questions concerning causes or justifications do not, in this context, make sense.

For Whitehead, the significance of science is different: On the one hand, it should deliver guidance for future activities, while, on the other hand, it should be a theoretical source for the understanding of reality. Furthermore, the Positivists claim that the observable facts of experience are comprehensible and reasonable. However, according to their doctrine, understanding is equated with simplicity of description. For Whitehead understanding means the integration of new aspects into the coherent whole of the world.

Still, the positivists must also have a metaphysical understanding of the world which is part of their descriptions. Otherwise, they could not perceive a trajectory of a particle. One needs an understanding of unity in order to describe such an entity. Whitehead explains:

> The paths of the molecules can be ascribed to mere chance. They are random distributions, each path being entirely disconnected from any other path, and each continuation of one path being unconditioned by the earlier portion of the same path. Thus the world, as we know it, exhibits for our confused perception an involution of paths and a concatenation of circumstances which have arisen entirely by chance. We can describe what has happened, but with that description all possibility of knowledge ends. (AI 123)

The conflict between Albert Einstein's and Whitehead's general theory of relativity is situated in the negative answer of Einstein regarding compliance with Whitehead's demand of consistency. Philipp Frank attests in his biography of Einstein, that:

> Whitehead had a long conversation with Einstein. He tried to convince him again and again that one has to attempt to get along without the assumption of the curvature of space out of metaphysical reasons. But Einstein was not willing to give up something against which one can not bring forward neither logical nor experimental reasons nor reasons of beauty and simplicity. Whitehead's metaphysics did not make sense to him. (Frank 1949, 303)

Natural sciences and metaphysics are separated for pragmatic reasons. One can distinguish the virtues of a scientific theory, yet this is impossible regarding metaphysical controversies. These often engender opposed and entrenched positions. This does not, however, prevent scientists from metaphysical reflections. Whitehead writes, "Your available concepts depend upon your philosophy. . . . [P]hilosophy is useless in the progress of science. But when once you tamper with your basic concepts, philosophy is merely the marshalling of one main source of evidence, and cannot be neglected" (R 6).

10. Receptacle

Whitehead was the first to point out that "the space-time of modern mathematical physics is almost exactly Plato's Receptacle" (AI 150).

> There is the one all-embracing fact which is the advancing history of the one Universe. This community of the world, which is the matrix for all

begetting, and whose essence is process with retention of connectedness, —this community is what Plato terms The Receptacle. In our effort to divine his meaning, we must remember that Plato says that it is an obscure and difficult concept, and that in its own essence the Receptacle is devoid of all forms. It is thus certainly not the ordinary geometrical space with its mathematical relations. Plato calls his Receptacle, "The foster-mother of all becoming." . . . The Receptacle imposes a common relationship on all that happens, but does not impose what that relationship shall be. It seems to be a somewhat more subtle notion than Aristotle's "matter." . . . Plato's Receptacle may be conceived as the necessary community within which the course of history is set, in abstraction from all the particular historical facts. I have directed attention to Plato's doctrine of The Receptacle because, at the present moment, physical science is nearer to it than at any period since Plato's death. (AI 150)

Whitehead explains the receptacle to himself as the conception of the essential unity of the universe conceived as an actuality, and yet in abstraction from the "life and motion" in which all actualities must partake (AI 275). He also argues that the notion of space-time represents a compromise between Plato's basic receptacle, which imposes no forms, and the actual world, which imposes its own variety of forms (AI 188). If one conceives the receptacle apriority and independently, then it is a homogeneous space which can take all possible forms. But, if one conceives it together with the things that are in space, as the elements of the cosmos, then parts of it are inhomogeneous and formed. They are able to interfere with each other and to generate sense impressions. Therefore, in contrast to Whitehead's statement that space-time could be a compromise between Plato's receptacle and the actual world, it can, to the contrary, justifiably be identified with the receptacle. Considering how recognized Plato's receptacle is, it seems to take a middle position between the things of sense perception and the ideas. The receptacle is not observable and is outside the phenomena of the perceivable world (Scheffel 1976, 68). In Einstein's general theory of relativity the metric of space is determined by the distribution of matter. Plato's receptacle becomes inhomogeneous through the formed complexes of its parts. Both doctrines abandon an absolute space which would, according to Newton, exist independently. The doctrine of the thoroughgoing relativity infects the universe and makes the totality of things that are or have been a receptacle uniting all that happens (AI 154). The doctrine of the receptacle allows a real communication between ultimate realities. In Whitehead's words, "This communication is not accidental. It is part of the essential nature of each physical actuality that it is itself an element qualifying the Receptacle, and that the qualifications of the Receptacle enter into its own nature" (AI 134). The idea of the receptacle is, therefore, connected by Whitehead to the space-time structure of the general theory

of relativity as well as quantum theory and affected Whitehead's doctrine of immanence In his later philosophical writings, especially in *Adventures of Ideas*, Whitehead connects Plato's *Timaios* to quantum mechanics, then suggests that "the modern wave-theory of the atom sides with Plato" (AI 122), meaning that there is one strand in Plato's doctrine that seems qualified to present a possible metaphysical interpretation of quantum theory. Therefore, concerning the receptacle, Whitehead's philosophy of time is a further footnote to Plato's doctrine because Plato's receptacle can be identified with the space-time of relativity and of quantum mechanics. Conversely, this means that, by means of the space-time of modern physics, one finds a key to a better understanding of Plato's "obscure" concepts.

Ten

CONTINGENCY AND WHITEHEAD'S METAPHYSICS OF EXPERIENCE

Helmut Maaßen

1. Introduction

In March of 2004, a beautiful woman entered the casino in London's Ritz with two friends. The threesome made 1.3 million pounds in two nights at the roulette tables before the police arrested them in their hotel. After a thorough investigation, they had to be set free. They had broken no existing law and were allowed to keep their loot. The threesome had apparently equipped their mobile phone with a velocity-sensitive laser scanner linked wirelessly to a nearby laptop. The scanner read the location of the roulette ball as it was released and then marked the moment it passed two designated points on the wheel. The data then streamed to a laptop in an upstairs hotel room, which by calculating the velocity of the spin (tempered by its decaying orbit) indicated the ball's probable final resting place. Before the third rotation of the wheel, after which bets cannot be altered, the prediction was relayed back to the gambler via her cell phone display, in a total turnaround time of just over two seconds (Dworshak 2004, 174).

Gambling is indeed a typical act of contingency or chance. It takes place in a system, which physicists call instable, in which even thermic movements of the balls' atoms could change its movement. Only with the tools, mentioned above, after the croupier's throw took place, could the probability of the ball be calculated and narrowed down to such an extent that one could be sure to win.[1]

The term "contingency" was first used, according to the *Oxford English Dictionary,* in the sense of chance by John Donne in a sermon on the Proverbs: "Exposed to the disposition of the tyde, to the rage of the winde, to the wantonness of the eddy, and to innumerable contingencies" (1616). Just a few years later, it was used with a similar meaning by Robert Burton in his book, *The Anatomy of Melancholy* (1621): "Columbus did not find out America by chance, but God directed him…it was contingent to him, but necessary to God." Its origin is quite different though.[2]

The term originated from the Greek ἐνδεχόμενον and has been translated into Latin by Marius Victorinus and Boethius as "contingere," which, literally, means touching each other, in contact, or together. Aristotle uses it and

often replaces it by δύνατον (that which can be what is possible).[2] Aristotle defined possibility in two ways. First, in his Hermeneutics: that is possible (ἐνδεχόμενον) which is not impossible (22a14-22b28). Later, in his Analytica Priora, he defines it as that, which is not impossible and not necessary (32a18-20).

One does not find a concept of contingency in Aristotle that would mean: something contingent is something that could not be necessarily, but which could not only possibly be, but is there in fact, although not necessarily there.

The subtle history of the term was explored in the Christian context by St. Augustine. Aristotle defined God as actus purus and defined the cosmos as the becoming real of what is possible, which is opened up by Ideas. (One can already find this in Plato's Timaius, which is close to Whitehead's idea of how the cosmos came about and continues to be.) Augustine puts God's will at the beginning of the cosmos. When asked, why God created the world, Augustine answered: Quia voluit: Through his will (*De Genesi adversus Mani chaeos* I,2,4). The Qiua voluit set the frame for the modern discussion of what contingency means. It was most clearly developed by Leibniz.

Contingency, according to Leibniz, has to be clearly distinguished from pure chance or fortune. "Kein blinder Zufall ist möglich," writes Leibniz. No blind chance is possible, blind chance is a stupid concept (Leibniz 1710, §9). He wants to prove that not only is something possible or necessary, but that there is a third form of existence: the contingent one. Leibniz claims that these three forms of modality enable him to describe all reality adequately. Everything that is governed by the principle of contradiction is necessary: What is necessary cannot not be, because it would be a contradiction in itself. Possibility describes a state, which is neither necessary nor impossible. Leibniz says, that that, which is possible, can be hindered in becoming by something else, which also, in its turn, yearns towards reality.[3] The interesting point in this is his clear distinction between the possible and the contingent. Whatever is possible is what it is and can never be something else. The contingent is something that could have been different under the same circumstances. Contingency does not imply not being, but it does imply being something different. That which is contingently real could be replaced by something else, which is also contingently real.

To add a footnote: In this context Leibniz worked on the mathematics of probability,[4] and, surprisingly enough, the 17th Century become the century of gambling, the vulgar form, if you like, of probability. Gambling spread enormously in the 17th Century. Nicolas Rescher cites the story of a victorious ship during the Thirty Years' War. The captain feared, that his sailors would lose all their booty through gambling and therefore had all dice and cards thrown into the sea. What did the sailors do? They invented a new game: lice were put in a circle, drawn on the wooden planks of the ship and the betting would be on whose louse would leave the circle first (Rescher 1995, 141f).

Of course the fear of gambling spread simultaneously: to gamble means, to many people in the 17th century, avoiding moral actions and to denying God's prescience and predestination. [5]

Incidentally, there is gambling terminology used in Pascal's famous bet on God's existence, although, in his view, you cannot lose such a bet, because it is, literally, a win-win-situation.[6]

2. Contingency in Process and Reality

Augustine's *Qiua voluit* could be applied to Whitehead's actual entities, because each event is a self-creating act that can never be fully determined.

> [I]t is to be noticed that 'decided' conditions are never such as to banish freedom. They only qualify it. There is always a contingency left open for immediate decision. This consideration is exemplified by an indetermination respecting 'the actual world' which is to decide the conditions for an immediately novel concrescence. There are alternatives as to its determination, which are left over for immediate decision. Some actual [436] entities may be either in the settled past, or in the contemporary nexus, or even left to the undecided future, according to immediate decision. Also the indirect chains of successive objectifications will be modified according to such choice. These alternatives are represented by the indecision as to the particular quantum of extension to be chosen for the basis of the novel concrescence. (PR 284)

Each event happens between two poles: the determining one of the past and the present, undetermined one, of the subject. It has its public and its private side. Only such a form of 'indeterminateness' allows a meaningful ethics, or, to put it in Whitehead's words: "The point to be noticed is that the actual entity in a state of process during which it is not fully definite, determines its own ultimate definiteness This is the whole point of moral responsibility. Such responsibility is conditioned by the limits of the data, and by the categoreal conditions of concrescence" (PR 255). In Whitehead's 'Ultimate' category, universal of universal or transcendental category, creativity means to facilitate the process as described above.

A. Method and System

Whitehead's mathematical background should always be kept in mind while trying to understand his method.[7] As a math teacher told me once, hearing about eternal objects and actual occasions, "That's like the mathematical function of a variable." Or, to put it in Bradley's words: ". . .Whitehead follows the long mathematical-logical tradition which runs from Lambert, to

Cassirer . . . Frege, Russell, and the early Wittgenstein . . ., in extending the concept of the function and opening it up to all domains of inquiry . . ." (Bradley 1994, 166). It should also be kept in mind that the term "actual" in actual occasion should not be misunderstood in a realistic fashion. Actual is the adjectival form of act (ibid., 170). The German translation of the term actual entity (wirkliches Einzelwesen) is particularly misleading, with its implication of objectivity or realism. Once Whitehead was asked by a student, how big an occasion is. With a smile, Whitehead placed his thumb and his forefinger about an inch apart and replied "Oh, about so big!" (ibid., 171).

His metaphysics, in general, has been described as critical or open metaphysics. It is not a fixed system that enables one to explain everything. Whitehead's famous statement concerning any scheme of philosophy should be remembered:

> If we consider any scheme of philosophic categories as one complex assertion, and apply to it the logician's alternative, true or false, the answer must be that the scheme is false. The same answer must be given to a like question respecting the existing formulated principles of any science. (PR 8)

Whitehead insists on stressing the fallability and contingency of systems:

> It would be cosy to get a neat theory without error. "James' service to metaphysics [lies] in bringing out error and patting it on the back. Always on the side of the underdog—one side of it." (based on Luft's notes of Whitehead's lectures, Luft 1984, 288)

In a similar fashion, Whitehead writes: "Philosophers can never hope to formulate these metaphysical first principles . . ." (PR 4). There is not even the language in which to frame them (PR 13). These are several distinct statements that emphasize relationalism as suitable forms of philosophizing, to avoid the Scylla of absolutism and the Charybdis of relativism (Lotter 1996, 20-48).

Therefore, according to Whitehead, the major problem for philosophy and theology is dealing with symbols concerning experience:

> So much of human experience is bound up with symbolic reference, that it is hardly an exaggeration to say that the very meaning of truth is pragmatic. But though this statement is hardly an exaggeration, still it is an exaggeration, for the pragmatic test can never work, unless on some occasion in the future or in the present there is a definite determination of what is true on that occasion. Otherwise the poor pragmatist remains

an intellectual Hamlet, perpetually adjourning decision of judgment to some later date. (PR 181)

For a further discussion of symbolic reference and a fully developed system of signs, one should turn to Charles Sanders Peirce's philosophy.[8]

Progress in truth—truth of science and truth of religion—is mainly a progress in the framing of concepts, in discarding artificial abstractions or partial metaphors, and in evolving notions which strike more deeply into the root of reality. (RM 127)

To have a neat system without error would mean that such a system, by its defined nature, loses the immediacy of feeling. Only an open system is able to keep the immediacy of feeling and be open—open to new events in both the narrow sense, as Whitehead defined them, and in a general sense.

B. Creativity[9]

Creativity, the universal of universals, is the category in Whitehead's metaphysics that accounts for contingency in the process of becoming. Each actual occasion is causa sui "for the decision in respect to the qualitative clothing of feelings."[10] But, it is also partly determined by its predecessors. They provide the framework, so to speak, in which the new occasion becomes actual through acting. It is worth noticing that the future of the event determines the occasion as well. The future becomes a datum much as the past is a datum for the event. This is because "The reality of the future is bound up with the reality of this continuum. It is the reality of what is potential, in its character of a real component of what is actual" (PR 66). Whitehead calls this interconnectedness of the past and the future of occasions in their concrescence, the passage of nature This universe, with its passage character, implicitly requires freedom, otherwise it would not make sense to talk about self-creation and self-determination. "The freedom inherent in the universe is constituted by this element of self-causation" (PR 101).

Consider the discussion of neuroscience and free will that is presently taking place in Germany and the United States. The interpretation of the "Libet experiment" is only one example of the dichotomy between the approaches of Process Thought and neuroscience, both which oppose dualisms and both which end with completely different conclusions—the latter ends in "having" to deny freedom and creativity altogether. One example may suffice: a passage from a neuroscience textbook:

Most neuroscientists and philosophers now take for granted that all biological phenomena, including consciousness, are properties of matter.

This physicalist stance breaks with the tradition of dualism stemming from ancient Greek philosophy. The break . . . focuses the problem of consciousness for the twentieth century neuroscientist. Philosophically disposed against dualism, we are obliged to find a solution to the problem in terms of nerve cells and neural circuits . . . We are optimistic that future cognitive neural scientists will identify the neurons involved and characterize the mechanisms by which consciousness is produced.[11]

One should not counter these statements by taking an idealist position or materialialist position. A process philosopher will try to avoid these alternatives of either matter or mind, freedom or causality.[12] Causality and freedom belong together. The actual occasion in Whitehead's thought is final causation and efficient causation. "Thus the mental pole is the link whereby the creativity is endowed with the double character of final causation, and efficient causation" (PR 277).[13]

C. Contingency and Experience in James and Whitehead

Whitehead relies to a large extent on William James' concept of experience, which was a rejection of a purely mechanistic understanding of reality. For James, experience, or more precisely, as he calls it, pure experience, is the key to all knowledge. He follows the British empiricist tradition, which was articulated by John Locke in the famous paragraph of his Enquiry:

Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas:- How comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? Whence has it all the materials of reason and knowledge? To this I answer, in one word, from *EXPERIENCE*. In that all our knowledge is founded; and from that it ultimately derives itself. Our observation employed either, about external sensible objects, or about the internal operations of our minds perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring. (Locke 1690, II, I, 2)

The process of experiencing is one which applies not only to humans and to living organisms but to reality as a whole. James writes:

There is no thought-stuff different from thing-stuff, I said; but the same identical piece of 'pure experience' (which was the name I gave to the 'materia prima' of everything) can stand alternately for a 'fact of con-

sciousness' or for a physical reality, according as it is taken in one context or in another. (James 1905/1912, 137-8)

Reality is a process of experiencing that manifests itself primarily as a phenomenon. The world of experience is one in the experience of each self.[14]

The individualized self, which I believe to be the only thing properly called self, is a part of the content of the world experienced. The world experienced (otherwise called the 'field of consciousness') comes at all times with our body at its centre, centre of vision, centre of action, centre of interest. Where the body is 'here': when the body acts is 'now'; what the body touches is 'this'; all other things are 'there' and 'then' and 'that'. (James 1905/1912)

James' ontology, therefore, is a metaphysics of relations that successfully tries to overcome the Subject-Object dualism.

We become conscious of ourselves as experiencing entities. These entities are not isolated but part of an oceanic multitude.

Out of my experience, such as it is (and it is limited enough) one fixed conclusion dogmatically emerges, and that is this, that we with our lives are like islands in the sea, or like trees in the forest. The maple and the pine may whisper to each other with their leaves, and Connecticut and Newport hear each other's fog-horns. But the trees also comingle their roots in the darkness underground, and the islands also hang together through the ocean's bottom. Just so there is a continuum of cosmic consciousness, against which our individuality builds but accidental fences, and into which our several minds plunge as into a mother-sea or reservoir. (James 1911, end of chapter VIII)

True ideas lead to useful concepts and lead away from isolation.[15] For James, in the process of experience, parts of it get lost, abolished, do not continue (unlike in Whitehead). Its predecessors set the framework for later experiences, but they do not necessarily continue.[16] It is experience all through. James' relational metaphysics, therefore, is a new type of metaphysics, because of its relational character based in experience.

Whitehead stresses the function of experience as fundamental: "this doctrine fully accepts Descartes' discovery that subjective experiencing is the primary metaphysical situation which is presented to metaphysics for analysis" (PR 160).

D. Prehension, Novelty and Contingency

In experience, as mentioned above, you experience the connectedness of events. This connectedness, according to Whitehead, appears because the events are linked with each other by a process, which he calls prehension.

> Actual entities involve each other by reason of their prehensions of each other. There are thus real individual facts of the togetherness of actual entities, which are real, individual, and particular, in the same sense in [30] which actual entities and the prehensions are real, individual, and particular. Any such particular fact of togetherness among actual entities is called a 'nexus' (plural form is written 'nexūs'). The ultimate facts of immediate actual experience are actual entities, prehensions, and nexūs. All else is, for our experience, derivative abstraction. (PR 20)

The interconnectedness and inter "action" has not only been described by Elmar Busch in his doctoral thesis (Brush 1993), but is also being practised by him. He is in charge of a Neurological Center at the University of Essen in the Ruhr Center. The complex structure of prehension is an attack on substance metaphysics: it opposes the notion of an isolated, independent subject and it is an attack against the bifurcation of nature into physical and psychic actualities. Whitehead explains:

> The theory of 'prehensions' embodies a protest against the 'bifurcation' of nature. It embodies even more than that: its protest is against the bifurcation of actualities. In the analysis of actuality the antithesis between publicity and privacy obtrudes at every stage. Some elements can only to be understood by reference to what is beyond the fact in question; on the other hand, there are elements expressive of the immediate, private, personal, individuality of the fact in question. The former elements express the publicity of the world; the latter elements express the privacy of the individual.
>
>   An actual entity, considered in reference to the publicity of things, is a 'superject'; namely, it arises from the publicity which it finds and it adds itself to the publicity which it transmits. It is a moment of passage from decided public facts to a novel public fact Public facts are, in their nature coordinate.
>
>   An actual entity considered in reference to the privacy of things is a 'subject'; namely, it is a moment in the genesis of self-enjoyment. It consists of a purposed self-creation out of materials which are at hand in virtue of their publicity. (PR 289)

The swinging of the subject from the private into the public sphere, as Stascha Rohmer describes it (Brush 1993, 195), confers the possibility of novelty. In fact, each actual occasion is a "novel fact," since its subjective feeling can never be reproduced or reiterated, always something will be lost.[17] The advance into novelty is an ongoing process in each concrescence, be it a singular actual occasion, a society or a nexus. What, then, is the status of a natural law? According to Whitehead, ". . . the laws of nature are the outcome of the social environment" (PR 204). A different, but even more telling approach is the definition that Charles Sanders Peirce gave. According to Peirce, a natural law "is a prognostic generalization of observation" (Peirce 1998, 68). Or earlier on, in 1891he said, "The one intelligible theory of the universe is that of objective idealism, that matter is effete mind, inveterate habits becoming physical law" (Peirce 1998, 293).[18]

E. God and Contingency

In *Process and Reality*, God's primordial nature establishes the order of the eternal objects (the forms) toward their ingression in an actual occasion. God's ordering of nature happens through providing the initial aim for each actual entity. In analogy to Leibniz, one could say: *Deus calculat et ordinet formas*.

Creativity breathes life into divine mathematics. Creativity is imminent in God as it is in any other actual entity. Through its ingression into the consequent nature of God, a new pattern or order of forms arises. God gains appetition through the ingression of actual entities into God's self. This is the focus of Whitehead's sixth antithesis on God and the world: "It is as true to say that God creates the World, as that the World creates God" (PR 348).

Each actual entity is doubly dependent. On the one hand, an occasion is dependent on God's provision of its initial aim and, on the other hand, it is dependent on its own action. God's primordial nature ensures that all the past will be present for actual occasions thereby allowing all possible forms to be present in an ordered fashion. An unwanted relapse into more primitive forms of existence is, thus, prevented.

For Whitehead, creation is a mutual process for all actual entities, God included. The definiteness of actual entities, which ingress into God, let God participate in contingency and enable God to create an ideal complement to each of these entities. This defines God as goodness, since God aims at harmony through the creation of ideal complements.

Whitehead describes a plurality of unique and irreplaceable entities, ever becoming and vanishing. They are not in time, but constitute time. They are the basic foundation of endurance, sameness, and difference. These entities are unrest through and through, becoming and movement (Wiehl 1967, 381).

3. Contingency in Whitehead's late work

Does Whitehead shift his focus concerning the propositional function for philosophizing in his later work? His statement that "Exactness is a fake" (ESP 104) might indeed be difficult to understand as something the co-author of Principia Mathematica would have said. As James Bradley pointed out, "Whitehead constantly reiterates that what he refers to as 'the algebraic method' is the rubric under which he elaborates his position (cf. ESP 109ff., 127ff.). In Whitehead's own words: "Logic prescribes the shapes of metaphysical thought" [Whitehead 1934, ix-x]; and again, 'Poetry allies itself to metre, philosophy to mathematic pattern' (MT 174)" (Bradley 1991, 133).

Russell "discovered a rule of safety by introducing the notion of 'types'" (ESP 111).With this rule of safety, "all the difficulties are avoided." Though problems still remain, "unfortunately this rule cannot be expressed apart from the presupposition that the notion of number applies beyond the limitations of the rule" (ibid.).

As far as system is concerned, one cannot detect difference between the early and late Whitehead. He insists that system-thinking is necessary, but that it has to be open. He writes that ". . . the unity of treatment is to be looked for in the gradual development of the scheme, in meaning and in relevance. . . In each recurrence, these topics throw some new light on the scheme, or receive some new elucidation" (PR xii). The flexibility of the scheme itself does not mean, however, that Whitehead gives up his strong emphasis on symbolic logic. (e.g. As he states in the essay "Analysis of Meaning" (1937), "Necessity requires accident and accident requires necessity. Thus, the algebraic method is our best approach to the expression of necessity by reason of its reduction to the ghost-like character of the real variable" (ESP 138). In fact, Whitehead claims (two pages later), "We must end with my first love—Symbolic Logic.") In his paper "Mathematics and the Good" (1939), Whitehead stresses the function of mathematics as the tool used to cope with pattern in experience. He explains, "The notion of pattern emphasizes the relativity of existence, namely, how things are connected" (ESP 119). A pattern, however, cannot grasp the individuality of existence. To retain a balance between the individuality of existence and the relativity of existence is the "crux of philosophy" (ibid.).

A. Contingency in *Modes of Thought:* Method and System

Right through *Modes of Thought* , Whitehead never gives up the claim of a philosophic system. The history of philosophy is full of systems, which, according to Whitehead, fail because of their absolute claims or their closedness. For Whitehead, Plato and Hume are examples of such failure for while they stress the necessity of system for rational thought they lack openness:

> Plato and Hume illustrate that system is essential for rational thought. But they also illustrate that the closed system is the death of living understanding. In their explanations they wander beyond all system. They thus illustrate in their own procedures that our primary insight is a mixture of clarity and vagueness. The finite focus of clarity fades into an environment of vagueness stretching into the darkness of what is merely beyond. The partly comprehended forms of succession dimly illuminate this environment within experience. (MT 83)[19]

Philosophy, therefore, should start with experience to avoid narrowness. Whitehead does not grow weary of praising William James for having opened up the horizon for philosophy through the emphasis he placed on experience, which made him, according to Whitehead, a modern man.[20]

Of course system is important. In Whitehead's words, "It is necessary for the handling, for the utilization, and for the criticism of the thoughts which throng into our experience" (MT 2). Probably referring to Gödel, Whitehead states that

> even Logic itself is struggling with the discovery embodied in a formal proof, that every finite set of premises must indicate notions which are excluded from its direct purview. Philosophy can exclude nothing. Thus it should never start from systematization. Its primary stage can be termed 'assemblage'. (ibid.)

B. Creativity

According to Whitehead, science lacks creativity because it cannot grasp the fullness of the evidence provided by human experience.[21] It is inherent in its methodology. Science only grasps rules of succession. Laws of nature are habits of nature, without any trace of necessity. The concept that laws of nature are inherently necessary has prevailed since Descartes.[22] Philosophy has to irradiate this opaqueness to experience. Philosophy has to deal with the "oceans of fact" (MT 18). Only in such a way it can provide the realm in which novelty can emerge. The similarities to Peirce, even taking up the term habits of nature, are perplexing. Peirce would use a similar method to overcome this lack in science:

> It is sufficient to go out into the air and open one's eyes to see that the world is not governed altogether by mechanism. . . The endless variety in the world has not been created by law. It is not of the nature of uniformity to originate variation, nor of law to beget circumstance. When we gaze upon the multifariousness of nature we are looking straight into the face of a "living spontaneity." (Peirce 1965, 372 of vol. 6)

C. Experience, Prehension and Novelty

The focus on experience ensures that Whitehead's metaphysics is grounded. Otherwise the narrowness of approach would only culminate in sterile measurement. This becomes especially evident with regard to the science of history. Whitehead gives a lucid example of such 'sterile measurement' lacking the immediacy of experience. "Consider, for example, the scientific notion of measurement. Can we elucidate the turmoil of Europe by weighing its dictators, its prime ministers, and its editors of newspapers? The idea is absurd, although some relevant information might be obtained" (MT 18).

The wealth of experience leaves us with the problem of how to cope with it. Selection of data is required. This selection is done by a value judgment—the judgment of importance. Although Whitehead opposes the dichotomy of the two notions 'importance' and 'matter of fact (MT 5), it is still necessary to distinguish grades and types of importance (MT 7) which enables us to structure our experience, to focus it.[23] Therefore, we not only need judgment but the process of concrescence implicitly requires an aim. Whitehead explains that "By this term 'aim' is meant the exclusion of the boundless wealth of alternative potentiality and the inclusion of that definite factor of novelty which constitutes the selected way of entertaining those data in that process of unification" (MT 152). The other idea that underlies experience is "matter of fact."[24] By stressing the "alien character" of feeling that enters into the privately felt feeling of an occasion (PR 212), Whitehead is able to distinguish the responsive and the supplemental stages of concrescence. The responsive stage being a purely receptive phase, the latter integrating the former 'alien elements' into a unity of feeling. The alien factor in the experiencing subjects saves Whitehead's concept from being pure Spirit (Geist) in a Hegalian sense. There are more similarities between Hegelian thinking and Whitehead's thought than his own comments on Hegel may suggest. But, his major criticism could probably be stated with Peirce, who wrote that "The capital error of Hegel which permeates his whole system in every part of it is that he almost altogether ignores the Outward clash."[25] Whitehead refers to that clash as matter of fact. Although, even there, one has to keep in mind that matter-of-fact is an abstraction.[26]

Whitehead clearly keeps the notion of prehension in his late writings as developed in *Process and Reality*. Just to give one example, to support my point:

> I have, in my recent writings, used the word 'prehension' to express this process of appropriation. Also I have termed each individual act of immediate self-enjoyment an 'occasion of experience'. I hold that these unities of existence, these occasions of experience, are the really real

things which in their collective unity compose the evolving universe, ever plunging into the creative advance. (MT 150-151)

Process needs an aim in *Process and Reality* as much as in *Modes of Thought*:

> We must add yet another character to our description of life. This missing characteristic is 'aim'. By this term 'aim' is meant the exclusion of the boundless wealth of alternative potentiality, and the inclusion of that definite factor of novelty which constitutes the selected way of entertaining those data in that process of unification. The aim is at that complex of feeling which is the enjoyment of those data in that way. 'That way of enjoyment' is selected from the boundless wealth of alternatives. It has been aimed at for actualization in that process. (MT 152)

D. God and Contingency

The world consists of a world of activity, which emphasizes the multiplicity of finite things: it is the creative world, the world of origination (e.g. ESP 87). There is also the world of value, which emphasizes persistence (e.g. ESP 87). To put it differently: "The basic elements in the World of Fact are finite activities; the basic character of the World of Value is its timeless co-ordination of the infinitude of possibility for realization" (ESP 99). The main function of God, according to Whitehead in his late work, is the essential unification of the universe (ibid.). Whitehead continues almost exactly as in *Process and Reality* and describes the function of God as "persuasive co-ordination." God can be perceived "as persuasive towards an ideal co-ordination" (ESP 98), but God also becomes a factor "in each of the many personal existences in the World of Change" (ibid.). Needless to say, this description of the twofold function of God is precisely what he calls the primordial and consequent nature of God in *Process and Reality*.[27] Therefore, contingency becomes part of God in a two ways: through the ingression of actual entities into God's consequent nature and through God's own creative act as an actual entity.

4. Conclusion

To sum up: the key notions in Whitehead's thought in *Process and Reality* and his later writings remain the same despite the fact that novelty and contingency are key elements in his metaphysics. The old notions of natural laws, causality, and freedom have to be refined.[28] Pure chance is the ingression of reality into human experience (Hampe 2007a, 192). It is possible, therefore, to play and get thrilled and surprised by play. To think that there are rules that govern "pure chance" would not only take the fun away from play, but also be

in contradiction to every day experience as much as to a philosophical system, such as the one of James, Peirce and Whitehead.

NOTES

1. For a detailed and witty treatment of Zufall (Chance) see: Hampe (2007a).
2. See Stoellger (2000, 84 85).
3. "Omne possibile exigit existere, et proinde existeret, nisi aliud impediret, quod etiam existere exigit et priori incompatibile est" (Leibniz 1686/1965, 176).
4. "The decade around 1660 is the birthtime of probability" (Hacking 1975, 1).
5. E.g. Gataker (1619/1621)
6. Pascal (1660, §233):
". . . Let us then examine this point, and say, 'God is, or He is not.' But to which side shall we incline? Reason can decide nothing here. There is an infinite chaos which separated us. A game is being played at the extremity of this infinite dis tance where heads or tails will turn up. What will you wager? According to rea son, you can do neither the one thing nor the other; according to reason, you can defend neither of the propositions.

Do not, then, reprove for error those who have made a choice; for you know nothing about it. 'No, but I blame them for having made, not this choice, but a choice; for again both he who chooses heads and he who chooses tails are equal ly at fault, they are both in the wrong. The true course is not to wager at all.'

Yes; but you must wager. It is not optional. You are embarked. Which will you choose then? Let us see. Since you must choose, let us see which interests you least. You have two things to lose, the true and the good; and two things to stake, your reason and your will, your knowledge and your happiness; and your nature has two things to shun, error and misery. Your reason is no more shocked in choosing one rather than the other, since you must of necessity choose. This is one point settled. But your happiness? Let us weigh the gain and the loss in wa gering that God is. Let us estimate these two chances. If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is."
7. This has been stressed by several others like Emmet, Hampe, Lotter and James Bradley. See Bradley (1994).
8. So far only a German edition of Peirce's Writings on Philosophy of Religion is available (Peirce 1995).
9. For a detailed and thorough study, see Rohmer (2000).
10. "To be causa sui means that the process of concrescence is its own reason for the decision in respect to the qualitative clothing of feelings. It is finally responsible for the decision by which any lure for feeling is admitted to efficiency. The free dom inherent in the universe is constituted by this element of self causation." (PR 88)
11. Schwartz (2000, 1318 19). Quoted from: Sensation and Perception: A Process Approach by S. David Stoney.
12. For a clear description of this matter, see: Hampe (2007a, 201).
13. For a detailed discussion, see Rohmer (2000, 132 149)
14. Eilert Herms notes with good reason though, that experience in James has a duadic structure: "'Thought with something in it,' but, at least since Charles Sanders Peirce, it is being thought of thought to have a triadic structure: the relation of

the self to itself" (Herms 1979, 501).

15. James (1907, 103): "True ideas lead us into useful verbal and conceptual quarters as well as directly up to useful sensible termini. They lead to consistency, stability and flowing human intercourse. They lead away from excentricity and isolation, from foiled and barren thinking. The untrammeled flowing of the leading process, its general freedom from clash and contradiction, passes for its indirect verification; but all roads lead to Rome and in the end and eventually, all true processes must lead to the face of directly verifying sensible experiences SOMEWHERE, which somebody's ideas have copied."

16. James (1905/1912, 62): "According to my view, experience as a whole is a process in time, whereby innumerable particular terms lapse and are superseded by others that follow upon them by transitions which, whether disjunctive or conjunctive in content, are themselves experiences, and must in general be accounted at least as real as the terms which they relate. What the nature of the event called 'superseding' signifies, depends altogether on the kind of transition that obtains. Some experiences simply abolish their predecessors without continuing them in any way. Others are felt to increase or to enlarge their meaning, to carry out their purpose, or to bring us nearer to their goal."

17. See e.g. "The world is self creative; and the actual entity as self creating creature passes into its immortal function of part creator of the transcendent world. In its self creation the actual entity is guided by its ideal of itself as individual satisfaction and as transcendent creator... These subjective ways of feeling are not merely receptive of the data as alien facts; they clothe the dry bones with the flesh of a real being, emotional, purposive, appreciative. The miracle of creation is described in the vision of the prophet Ezekiel: 'So I prophesied as he commanded me, and the breath came into them, and they lived, and stood up upon their feet, an exceeding great army'"(PR 85, citing Ezekiel 37:10).

18. See also Peirce (1892) in Peirce (1965, vol. 6, 86): "I have begun by showing that tychism must give birth to an evolutionary cosmology, in which all the regularities of nature and of mind are regarded as products of growth, and to a Schelling fashioned idealism which holds matter to be mere specialized and partially deadened mind."

19. Another example by Whitehead is John Stuart Mill: "For example, the mentality of John Stuart Mill was limited by his peculiar education which gave him system before any enjoyment of the relevant experience. Thus his systems were closed. We must be systematic; but we should keep our systems open. In other words, we should be sensitive to their limitations. There is always a vague 'beyond', waiting for penetration in respect to its detail" (MT 6).

20. "Finally, there is William James, essentially a modern man. His mind was adequately based upon the learning of the past. But the essence of his greatness was his marvellous sensitivity to the ideas of the present. He knew the world in which he lived, by travel, by personal relations with its leading men, by the variety of his own studies. He systematized; but above all he assembled. His intellectual life was one protest against the dismissal of experience in the interest of system. He had discovered intuitively the great truth with which modern logic is now wrestling" (MT 3).

21. "Science can find no individual enjoyment in nature: Science can find no aim in

nature: Science can find no creativity in nature; it finds mere rules of succession. These negations are true of Natural Science. They are inherent in its methodolo gy. The reason for this blindness of Physical Science lies in the fact that such Science only deals with half the evidence provided by human experience. It di vides the seamless coat   or, to change the metaphor into a happier form, it ex amines the coat, which is superficial, and neglects the body which is fundamen tal" (MT 154).

22. "Descartes is responsible for this blindness of Science. In one sense the abstraction has been a happy one, in that it has allowed the simplest things to be considered first, for about ten generations. Now these simplest things are those widespread habits of nature that dominate the whole stretch of the universe within our re motest, vaguest observation. None of these Laws of Nature gives the slightest evidence of necessity. They are the modes of procedure which within the scale of our observations do in fact prevail" (MT 93 94).

23. This is very similar to hermeneutical theories in Schleiermacher, Gadamer and Habermas: the horizon of understanding structures the data.

24. "There are two contrasted ideas which seem inevitably to underlie all width of experience, one of them is the notion of importance, the sense of importance, the presupposition of importance. The other is the notion of matter of fact. There is no escape from sheer matter of fact. It is the basis of importance; and impor tance is important because of the inescapable character of matter of fact" (MT 4).

25. "We must be in contact with our subject matter," says he in one place, "whether it be by means of our external senses, or, what is better, by our profounder mind and our innermost self consciousness." Hegel, *Encyclopedie*, sec 7. In Peirce (1992, 233).

26. "Matter of fact is an abstraction, arrived at by confining thought to purely formal relations which then masquerade as the final reality. This is why science, in its perfection, relapses into the study of differential equations. The concrete world has slipped through the meshes of the scientific net" (MT 18).

27. See e.g."The primordial created fact is the unconditioned conceptual valuation of the entire multiplicity of eternal objects. This is the 'primordial nature' of God. By reason of this complete valuation, the objectification of God in each derivate actual entity results in a graduation of the relevance of eternal objects to the concrescent phases of that derivate occasion... Thus possibility which transcends realized temporal matter of fact has a real relevance to the creative advance. God is the primordial creature; but the description of his nature is not exhausted by this conceptual side of it. His 'consequent nature' results from his physical pre hensions of the derivative actual entities (cf. Part V)" (PR 31).

28. See Hampe's outstanding books: Hampe (1996), (2007a), and (2007b).

Eleven

THE WEB OF LIFE AND THE CONSTITUTION OF HUMAN IDENTITY: RETHINKING NATURE AS THE MAIN ISSUE OF WHITEHEAD'S LATE METAPHYSICS

Regine Kather

1. Metaphysics as Synthesis of Subject and Object

In 1934 a small book with the title *Nature and Life* was published. The two lectures, which first had been held at the University of Chicago in 1933, became the third part of *Modes of Thought*, published in 1938. The new publication and the integration of the lectures in a broader frame of ideas shows that even in his late years the elaboration of a philosophy of nature, which transcends the narrow frame of science and overcomes the dualism of matter and mind as well as a materialistic reductionism, had a high priority for Whitehead. In my opinion, it is the central theme and the heritage of Whitehead's philosophy.

Already in 1920 a book with the characterizing title *Concept of Nature* was published. Though it is an epistemological interpretation of the theories of modern physics, Whitehead already carefully distinguishes philosophy of science (CN 2), which he still identifies with philosophy of nature, from the methodology and the contents of metaphysics. Nature as conceived by science "can be thought of as a closed system whose mutual relations do not require the expression of the fact that they are thought about" (CN 3). Science and the epistemological reflection on science take nature for granted and do not reflect on the knowing subject, its intentions, feelings, needs, and visions. Science is the "philosophy of the thing perceived," it is "awareness of something" (CN 28), of an object, but "we do not ask about the percipient or about the process" (CN 29). On the one hand scientific theories can be proved by everybody who applies an exactly defined methodology; they are independent of the biography of an individual, of the scientist's feelings, aims, and values. The concept of objectivity used by science is based on the complete abstraction from the subjectivity of the observer and the observed. Therefore, sciences such as physics and chemistry must systematically construct long series of experiments that allow the reproduction of the conditions of observation. Observation is mediated by technology and bound to its progress. Consequently, the instruments that measure certain properties do not simply en-

hance sensual perceptions, but transform them into quantities. Not the color red with its special effect on the human psyche and its symbolic meaning; only the wavelength can be quantified. Every experiment implies a controlled modification of the observed object. Science does not ask what and why something is; it tries to explain how something happens and which conditions and laws cause an event. Every object of scientific research, material as well as living things, is analyzed under the perspective of the third person. The perspective of the first and second person and their interplay is excluded methodologically. Science, as Thomas Nagel argues, is "a view from nowhere;" it has no centre of experience and is consequently based on the separation of being and ought. Science seems to describe mere facts, whereas values are based solely on human interests and rational argumentation (CN 5).

But if "cosmology," as Munitz puts it, "aims at articulating the universe as a whole" (Munitz 1967, 243), it has to embrace the knower and the known.[1] It is, therefore, as Whitehead writes already in *Concept of Nature*, the special task of metaphysics to embrace subject *and* object. Consequently, its range of application is wider than that of science and epistemology:

> In the philosophy of science we seek the general notions which apply to nature, namely, to what we are aware in perception. It is the philosophy of the thing perceived, and it should not be confused with the metaphysics of reality of which the scope embraces both perceiver and perceived. (CN 28)

But though Whitehead gives already a short definition of his later concept of metaphysics the focus of *Concept of Nature* remains the transformation of the key concepts of physics. First in his later work, especially in *Process and Reality* and *Function of Reason*, the relation of nature and consciousness comes to the fore. "Probably, the single most important development is the inclusion of human experience as an aspect of nature."[2] This step does not only widen the concept of nature; it also changes the basis of human identity. It cannot only be based on mental acts because humans are living beings, depending on nature. They are not an external observer outside of the universe. They are physically and mentally an integral part of it. Every action and even every thought changes the relation to other entities, and because all entities in the universe are interrelated, the whole universe changes imperceptibly, but irreversibly. Beyond this, subjectivity, the act of knowing, feeling, and perceiving, can never be described adequately from the standpoint of an external observer. It cannot be objectified. A philosophical cosmology, therefore, has to deal with the physical structure of the universe *and* with those aspects of experience that refer directly to humans as living beings. It has to deal with aesthetic dimensions, ethical values, with the origin and the final aim of human existence. In contrast to science, in art, ethics, and religion, subject and object

cannot be separated completely of each other, as the German philosopher Ernst Cassirer has demonstrated in his work *Philosophy of Symbolic Forms*. Yet, it is not sufficient to integrate the different modes of human experience. Also the different aspects of reality that they reveal have to be integrated (NL 16). Consequently, Whitehead gives a more detailed definition of the function of metaphysics in *Process and Reality: An Essay in Cosmology*, published in 1929. It has to be "one of the motives of a complete cosmology to construct a system of ideas which brings the aesthetic, moral, and religious interests into relation with those concepts of the world which have their origin in natural science" (PR xii).[3] Metaphysics must not be understood as a closed system of concepts that give a final foundation of experience, as in idealism, but as philosophical cosmology which integrates all aspects of human experiences and of reality in an ongoing process.

Still, in his late book *Modes of Thought*, Whitehead argues that science, due to its method, cannot cover aims, feelings, and values and that a new synthesis of the different aspects of human experience has to be developed (MT 154). "In this survey of the observational data in terms of which our philosophic cosmology must be founded, we have brought together the conclusions of physical science, and those habitual persuasions dominating the sociological functioning of mankind. These persuasions also guide the humanism of literature, of art, and of religion" (NL 90; MT 165).[4] The project of metaphysics as philosophical cosmology, which Whitehead first conceived in *Concept of Nature* and which he elaborated in *Process and Reality*, is not yet completed. Nevertheless we can observe a certain shift in the focus: Though Whitehead has already, in *Process and Reality*, by means of the concept of actual entity, elaborated a new synthesis of matter and mind, of efficient and final causation, and of determination and freedom, first in *Nature and Life* and *Modes of Thought*, the concept of life and its ethical and aesthetical dimensions comes to the fore. "The key notion, from which such construction [of systematic metaphysical cosmology] should start, is that the energetic activity considered in physics is the emotional intensity entertained in life" (NL 96). Consequently I will focus in this article on the different aspects of the concept of life, which is a key-concept for modern ecology as well as for the relation of science and philosophy.

2. Objects, Persons and Living Beings

During the last three hundred years the relation of humans to nature, of body to mind, and of matter to spirit was dominated either by dualism or materialistic reductionism. All material objects, the bodies of living beings included, have to be explained scientifically, from the viewpoint of an external observer. Even today a lot of philosophers of the analytical and even of the hermeneutical school argue that the whole range of entities can be classified only

by means of two categories: objects, which can be localized in space and time, and persons, which are endowed with rationality, self-consciousness, consciousness of time, and language. A famous example for this position is the work of the French philosopher Paul Ricoeur. He has the intention to show that human identity is essentially related to fellow humans. And Ricoeur would be discontent, if this relation would be interpreted in terms of functionality and efficiency only. It has to be based on ethical values, especially on the ideas of the good and of justice. Nevertheless, Ricoeur starts with an analysis of the position of the analytical tradition: For the observer even humans seem to be objects which can be localized in space and time.[5] Following the tradition of empiricism, the whole realm of bodily existing entities is interpreted scientifically. Consequently, feelings and self-consciousness are enclosed in the body as in a black box and hidden before the eyes of fellow humans. The biological identity, which is determined by physical and genetic laws, is separated from the biography of human persons, which is based on mental acts. Under these premises "it is impossible to recognize the inner life of a fellow human immediately. One's own thoughts, feelings, and moods are private. However all bodily functions of another person which can be observed are public" (Brüntrup 1996, 15). Neither the bodily expression of the inner state, nor the relation of I and you are mentioned. Yet Ricoeur develops step by step the perspective of the first person by means of the concept of action, and he distinguishes the body in its physiological functions from the lived body.[6] Nevertheless, even at the end of the very detailed analysis, human identity is based on language and self-consciousness, which are interpreted as actions that relate humans essentially to each other. But to which category belong plants and animals, babies and humans with dementia? They are neither objects nor persons. Obviously the concept of life is missing in Ricoeur's philosophy.[7]

Though Ricoeur explicitly criticizes Descartes, he does not overcome the dualism of object and person. He remains trapped in the bifurcation of nature. As object of scientific and technological exploration, nature becomes the basis for the ethical and cultural progress of humanity. Within the frame of his concepts, humans cannot understand themselves at the same time as living things embedded in nature *and* as rational and self-conscious beings. The following remark of Whitehead may be read as a commentary to the problems that Ricoeur is struggling with even today:

> At the beginning of the modern period Descartes expresses this dualism with the utmost distinctness. For him, there are material substances with spatial relations, and mental substances. The mental substances are external to the material substances. … In truth, this formulation of the problem in terms of minds and matter is unfortunate. It omits the lower forms of life, such as vegetation and the lower animal types. These

forms touch upon human mentality at their highest, and upon inorganic nature as their lowest. The effect of this sharp division between nature and life has poisoned all subsequent philosophy. (NL 56)[8]

If bodily functions are, as in naturalism, which is mostly the basis of modern neurophysiology and sociobiology, completely explained by physics and chemistry, ethical and aesthetical values are mere feelings which emerge inexplicably from the genes and from neuronal processes. Beyond this they are reduced to utilitarian goals and social traditions without any ontological foundation. "This is," as Whitehead puts it, "the grand doctrine of Nature as a self-sufficient, meaningless complex of facts. It is the doctrine of the autonomy of physical science. It is the doctrine which in these lectures I am denying" (NL 18, cf. 23). Obviously, the program of Whitehead to overcome the reduced concept of nature and of the body of living beings is still of unbroken actuality.

3. Humans as Integral Part of Nature

Yet the philosophical theories mentioned above are opposed to some of the most fundamental insights of the theory of evolution and of modern ecology. If indeed humans are, with their body and their mind part of nature, the dualism of person and object, as well as reductionism and materialism, has to be overcome. The concept of life which was very important for the cosmology of antiquity and which got lost on the background of Cartesian Dualism, has to be reintegrated into the concept of nature. It mediates between lifeless things and self-conscious persons.[9] In this respect the ideas of the German philosophers Helmuth Plessner (2002), Max Scheler (1983) and Hans Jonas (1994) converge with Whitehead's intention:

> The status of life in Nature is the standing problem of philosophy and of science. Indeed, it is the central meeting point of all the strains of systematic thought, humanistic, naturalistic, philosophic. The very meaning of life is in doubt. When we understand it, we shall also understand its status in the world. But its essence and its status are alike baffling. (NL 53)

The process of life cannot be conceived as mere mental construction; the being of an organism is based on real processes, and that means on the relation to other entities. Consequently we need, as Whitehead argues, a second Copernicanian turn: "For Kant, the world emerges from the subject; for the philosophy of organism, the subject emerges from the world" (PR 88). But the world must not be conceived as static, invariable order. Organisms have evolved, others have become extinct. In this process a being has developed

which is endowed with self-consciousness. Though embedded bodily in nature and acting in the midst of the world, humans can reflect on the universe, on themselves, and on their origin.

Yet the human body cannot be conceived as an object that can be localized exactly in space and time. It transcends itself to the surrounding by metabolism, qualitative perceptions, and intentional acts. The body is not a passive instrument of one's will and actions; it cannot be conceived as a machine which is used as means for mentally conceived goals. It is felt from within qualitatively. Therefore, no event is perceived as mere fact; it has a meaning for an organism that feels pain and pleasure, needs and wants. But sensations and feelings do not remain enclosed in the individual brain or psyche. They are expressed physically and therefore can be observed by fellow humans and other living beings. The physiological functions of the body, which can be explained scientifically, and the lived body belong inseparably together. Like the French philosopher Maurice Merleau-Ponty (1966) Whitehead also stresses the unity of body and mind (NL 76). "Our bodies lie beyond our individual existence. And yet they are part of it. … Thus we arrive at this definition of our bodies: The human body is that region of the world which is the primary field of human expression" (MT 21f; cf. MT 115; NL 79f, 81f, 85, 87, 89f). Yet Whitehead goes a decisive step further than Merleau-Ponty: Human identity also depends on the permanent interaction with the environment (MT 114). On the one hand, humans are embedded in the biosphere which is constituted by the complex interrelation of a multitude of organisms and inorganic material. Under this perspective, nature, its laws, and its history belong to the "necessary conditions of the possibility of knowledge." On the other hand, physical needs and the leading goals of culture influence the complex interplay of the multitude of organisms. As living beings, humans are, in the terms of modern biology, "open systems." Even biological self-preservation is already based on a permanent process of self-transcendence.

But again we have to take into consideration the limits of scientific definitions. Humans know immediately from their own experience that they have qualified sensations, feelings, and aims. Following the theory of evolution, the human form of consciousness did not arise in a sudden jump out of bare matter; it has developed step by step from simpler forms of consciousness, of feeling, and of sensitivity. The multitude of species, as modern biology tells us, can be derived from the simplest living organism, the cell. Humans share approximately 70% of their genes with mice, and approximately 98% of their genes with those of the great apes. Although often only three characteristics of life are mentioned, metabolism, reproduction, and the mutation of genes, most biologists add another one: irritability, the sensitivity for signals, and the capacity to steer the motions according to qualified perceptions. The cell is the first living thing that is separated from the world by a membrane, and that is at the same time related to the world by needs and the sensitivity for signals. In the words of Whitehead: "It is bipolar, it has a mental and a physical

pole. Neither can consciousness be conceived as substance in the sense of Descartes, nor is it an epiphenomenon of bare matter. It is a function of the whole organism whose life is based on the interaction of matter and mind" (SMW 241). Yet Whitehead does not violate the laws of physics and the law of the conservation of energy. For Whitehead even the inorganic sphere is, as in antiquity, conceived as bipolar. Though it is without self-consciousness, consciousness, emotions, and sensations, it has already a faint capacity to self-causation. It can grasp information from its surrounding and determine at least to a minor degree its form. Matter and mind cannot be separated.

> Scientific reasoning is completely dominated by the presupposition that mental functionings are not properly part of Nature. . . . The points that I would emphasize are: First, that this sharp division between mentality and Nature has no ground in our fundamental observation. We find ourselves living within Nature. Second, I conclude that we should conceive mental operations as among the factors which make up the constitution of Nature. Third, that we should reject the notion of idle wheels in the process of Nature. Every factor which emerges makes a difference, and that difference can only be expressed in terms of the individual character of that factor. Fourth, that we have now the task of defining natural facts, so as to understand how mental occurrences are operative in conditioning the subsequent course of Nature. (NL 71)

On the one hand every living being is separated from the world, and on the other hand it is related to it. The external world is present in the inner world as data for needs and aims. And qualified sensations are expressed in bodily motions and influence the environment (MT 163). Life is essentially based on the process of unification by permanent self-transcendence, on the interrelation with the surrounding (SMW 133, 155). Internal *and* external relations are constitutive for every organism.

Living beings which are sensitive to their needs and for dangers, feel the difference between fulfilment and failure. Therefore, the struggle for life is by no means the function of a system steered by causally generated feedback loops. It is motivated by the vital interests of an organism—its will to live. "To be or not to be" are no longer equivalent. Life is not a mere succession of physiological processes. It implies the striving for an aim, for being, and beyond this for wellbeing. "Thus," writes Whitehead, "the characteristics of life are absolute self-enjoyment, creative activity, aim" (NL 61f). Conceived as process, life has a temporal extension that reaches from the past to the future. Though the behaviour of an organism is determined by past experiences, it transcends past and present driven as it is by the expectation of the fulfilment of its needs. "The emotion transcends the present in two ways: It issues from, and it issues forward. It is received, it is enjoyed, and it is passed along, from

moment to moment. … It is the conjunction of transcendence and imma-
nence" (NL 93).[10]

Consequently the behaviour of an organism cannot be explained ade-
quately by quasi mechanical adaptation to the environment. An organism has
to distinguish between different opportunities and to concentrate on one of
them. Not only physiological fitness, but also intelligence is required. "Con-
centrated attention," Whitehead writes, "means the disregard of irrelevancies;
and such disregard can only be sustained by some sense of importance. Thus
the sense of importance (or interest) is embedded in the very being of animal
experience" (MT 9).[11] Already one−celled beings like amoebia and guardia
can adapt to the environment actively by steering their movement. And, as
modern observations have demonstrated, also plants can steer the motions of
their leaves and react on subtle differences in their environment.[12] Hand in
hand with the physiological complexity, consciousness has evolved (MT 31).
Obviously the evolution of consciousness is one of the most important charac-
teristics in the process of evolution. Therefore, living beings are not only re-
lated to each other genetically, but also by their inner life, by feelings and
aims, and by their behaviour (MT 121, 123).

The ability to have qualitative perceptions is a necessary condition for
the striving for survival and wellbeing. Living beings, therefore, cannot be
described adequately only from the standpoint of an external observer. Quali-
fied perceptions of the world and of one's own state, subjectivity in a very
broad sense, are constitutive of every living being. The concept of life has to
embrace physiological processes *and* mental acts, causal reactions on the data
of the environment *and* the striving for life motivated by qualitative percep-
tions as Whitehead argues: "I find myself as essentially a unity of emotions,
enjoyments, hopes, fears, regrets, valuations of alternatives, decisions—all of
them subjective reactions to the environment as active in my nature. My unity
. . . is my process of shaping this welter of material into a consistent pattern of
feeling" (NL 90f; cf. MT 79, PR 104). In every organism causa efficiens and
causa finalis are conjoined. Whitehead refers in *Process and Reality* explicitly
to Spinoza's concept of causa sui. At least to a certain degree, for Spinoza,
everything participates in god, who is causa sui. Especially humans are situ-
ated at the intersection of efficient causation and final causation. Their striv-
ing for self-preservation leads them to discover the true nature of being. Then
they can act freely in accordance with their innermost center. Freedom is
based on the ability to act which is based on the immanence of God as causa
sui. Yet, in contrast to Spinoza, Whitehead stresses that in self-causation
something new may arise that cannot be explained by antecedent conditions.
"What has to be explained is originality of response to stimulus. This amounts
to the doctrine that an organism is 'alive' when in some measure its reactions
are inexplicable by *any* tradition of pure physical inheritance. Explanation by
'tradition' is merely another phraseology for explanation by 'efficient cause'.
We require explanation by 'final cause.' He continues a few lines later, "Ac-

tion and reaction are bound together. The characteristic of life is reaction adapted to the capture of intensity, under a large variety of circumstances. But the reaction is dictated by the present and not by the past" (PR 104f).[13]

The striving for survival, and, beyond this, for a good and better life, is by no means blind and directionless. Every organism has, at least to a certain degree, the ability to transcend the past conditions. Therefore, the concept of freedom, which Kant had reserved for beings endowed with reason, is already rooted in the most simple organisms. "If we stress the role of the environment, this process is causation. If we stress the role of my immediate pattern of active enjoyment, this process is self-creation" (NL 91). If nature were completely determined by causal reactions, it would be dead (MT 62). The process of life is not based on the mere exchange of different states and entities. It is based on the process by which the many perceptions are again and again unified in one organism (MT 151). Therefore, life is an ongoing process of self-creation that aims at growing physical and mental complexity. Life implies a tendency to growing consciousness and emotional intensity (NL 95).

Yet novelty can arise only out of the background of a multitude of beings that have existed in the past and which are coexisting in present. On the one hand, the past restricts the frame of possibilities; on the other hand, it is the basis for new decisions that irreversibly influence the conditions of future beings. The great chain of being is not only a vertical hierarchy, as in Antiquity and the Medieval Ages; it reaches from the past to the future and relates the single cell with humans. Therefore, humans who can reflect on their intentions and actions are responsible for them and, beyond this, for the conditions of life of future generations. In integrating past and present in a new decision, every organism obtains a universal dimension, but it selects and integrates the data under its very special point of view. Therefore, it is, in its universality, irreplaceably unique (NL 31; cf. already in: PR 45, SMW 72). Life is, as Hans Jonas puts it a few decades later, "self-centred individuality" (Jonas 1992, 20). In this manner, the ongoing process of decision and integration creates both the unity of an individual and the "connexity of the world" (MT 165). No living being can be conceived as an isolated substance (MT 163f). It is embedded in a very special environment; it depends on it, and transforms it.

While qualitative perceptions are useful for the struggle for life and for genetic reproduction, every organism also has an intrinsic aim: its being and well-being. If the subjective dimension of life is taken into consideration, the concept of being changes and the separation of being and ought which has arisen on the background of empirical science, can be overcome (NL 58).

Yet, we still have to deal with a problem that is very often discussed in epistemology: We only know firsthand what it means to feel pain and pleasure, to be motivated by interests, and to be disappointed about their failure. The qualities felt by fellow humans or other living beings (a bat, for instance) cannot, according to the dominant opinion, be directly felt by a third party.

Nevertheless, for Whitehead—and Cassirer, Jonas, Scheler, and Plessner share his arguments—the knowledge concerning the inner life of fellow creatures is not based on mere analogy. It is essential for every living being to express its inner life more or less directly by motions, gestures, voice, or gaze (Cassirer 1994, 51-53, 75f; Scheler 1983,12). "Expression," Whitehead writes,

> is essentially individual. … Expression is the diffusion, in the environment, of something initially entertained in the experience of the expressor. No conscious determination is necessarily involved; only the impulse to diffuse. This urge is one of the simplest characteristics of animal nature. (MT 21)

Expression, therefore, reveals, if something is alive and what an organism feels. In his words again, "Wherever there is a region of nature which is itself the primary field of expressions issuing from each of its parts, that region is alive" (MT 22; see also 28). Feelings and emotions are not only perceived by the perspective of the first person. They are expressed bodily. The physical appearance of an organism represents a meaning that can be understood emotionally or even mentally by other living beings that respond to it by their behaviour. The bodily expression of the inner life is the necessary condition for the communication between different individuals of the same species and even between the members of different species. Language is only a very special form of expression that is bound to symbols (MT 27).

Organisms are related to each other by physical and mental interaction. They exchange information, learn from each other, and pass their knowledge down to the next generation. Even in this respect the concept of simple location has to be overcome. It cannot be denied that living beings must struggle for life and that resources may be scarce; nevertheless, it would be one-sided to conceive of life as a permanent fight "with claws red from blood." Every organism depends on the activities of a multitude of fellow creatures. Cooperation is often far more important than competition—an insight that modern ecology approves. Whitehead argues, "Those organisms are successful which modify their environments so as to assist each other" (SMW 256). The interdependence of every organism in the network of life bans a strictly hierarchical evaluation of living beings. Though humans have, at least on this planet, the highest form of consciousness, their life depends on the restless and highly organized activity of a variety of tiny and completely unimpressive organisms.

If we add the subjective dimension of life, the dynamic of nature includes meaning and aim. The insight that they are completely independent of human interests transforms the relation of humans to nature and their self-understanding. Humans share a lot of needs and emotions with other living

beings and can at least, to a certain degree, communicate with them. We and our fellow creatures are embedded in nature as a meaningful process (PR 4). In Whitehead's words, "We find ourselves in a buzzing world amid a democracy of fellow creatures" (PR 50). Under these premises, ethics cannot remain anthropocentric; it has to embrace the intrinsic value and the interests of the fellow creatures. As members of the great community of life they have to be respected for their own sake, they have, as Jonas puts it, their own dignity.[14]

4. A Hierarchy of Living Beings

Although mind and matter are integrated in every being, they can interact in different degrees of complexity (NL 95; see also PR 229). The concept of prehension, which has already in *Process and Reality* replaced the concept of matter and of invariable substance, offers the opportunity to explain continuity *and* discontinuity in the growing complexity of life. On every level of organization, physical and mental aspects are intertwined and influence each other. The mental state influences the physiological functions and vice versa (MT 160; see also PR 56, 102). Nevertheless, every organism is an inseparable unity in the multitude of the different functions. It is a whole which cannot be dissected into its parts. On the one hand, every organism shares a lot of its components with its predecessors; on the other hand, it combines them into a unique whole. Though all types of beings are interrelated, they differ clearly from each other. The scope of behaviour increases with the degree of central control. While the motion of a stone can be explained causally by the law of gravitation, the human hand can move intentionally and express a complex symbolic meaning with a single gesture. Even between animals and humans the horizon of action and cognition widens abruptly. Whitehead argues: "The distinction between men and animals is in one sense only a difference in degree. But the extent of the degree makes all the difference" (MT 27; see also 23, 24f, 27f, 28). We have to take into consideration continuity and discontinuity at once: Though the human form of consciousness is by no means completely different from the mind of lower beings, is able to rational understanding and symbolic expression. Nevertheless the evolution of more complex entities does not imply that the less complex beings are extinct. On the contrary: They have integrated the functions of the less complex entities and still depend on their activities in their environment. Whitehead writes: "All these functionings of Nature influence each other, require each other, and lead on to each other" (NL 71f; see also FR 63f.). Humans are bodily and mentally part of the web of life which is constituted by a multitude of different organisms which also are bipolar. Therefore humans can understand themselves as part of nature and as beings endowed with reason.

5. **Nature as Process**

For Whitehead, every form of life, the order of nature and the social order, was at its very beginning a creative answer to very special demands of the environment (NL 61). Yet every new strategy of life will change the interplay of organisms and produce new demands. Therefore, organisms are interconnected with each other in a process of coevolution. "The environment automatically develops with the species, and the species with the environment" (SMW 138). Living entities and the relations that bind them to their environment mutually change each other. "Nature is a theatre for the interrelations of activities. All things change, the activities and their interrelations" (NL 35-6; see also NL 57, PR 28, 232).

Consequently nature can no longer be conceived as a machine that is composed of parts that exist independently of each other and are combined by mechanical forces by an invariable plan. Nature never can be conceived as a closed system—as totality (PR 289; see also MT 145, SMW 92). If we take the concept of life as process seriously, it is impossible to return exactly to the same state of being. The environment, in which an organism is embedded, is constituted by the interactions of a multitude of organisms and changes due to their interplay. Whitehead argues: "It is nonsense to conceive of Nature as a static fact, even for an instant devoid of duration. There is no Nature apart from transition, and there is no transition apart from temporal duration (NL 60-62). In a short comment, Cassirer points precisely at the center of Whitehead's philosophy of organism:

> Organisches Leben existiert nur, insofern es sich in der Zeit entwickelt. Es ist kein Ding, sondern ein Prozeß − ein nie ruhender, kontinuierlicher Fluß von Ereignissen. Nichts in diesem Fluß kehrt jemals in exakt identischer Gestalt wieder. Der Ausspruch Heraklits gilt für das gesamte organische Leben: ‚Man kann nicht zweimal in denselben Fluß steigen.' Bei der Beschäftigung mit dem Problem des organischen Lebens müssen wir uns zuerst und vor allem von dem freimachen, was Whitehead das Vorurteil der ‚einfachen Lokalisierung' genannt hat. Der Organismus ist niemals in einem einzigen Augenblick lokalisiert. In seinem Dasein bilden die drei Modi der Zeit − Vergangenheit, Gegenwart, Zukunft − ein Ganzes, das nicht in einzelne Elemente aufgespalten werden kann. ‚Le présent est chargé du passé, et gros de l'avenir' − ‚Die Gegenwart ist beladen mit Vergangenheit und geht schwanger mit der Zukunft', sagte Leibniz. Wir können den jeweiligen Augenblickzustand eines Organismus nicht beschreiben, ohne seine Geschichte zu beachten und ohne auf einen künftigen Zustand zu verweisen, angesichts dessen der gegenwärtige Zustand nur ein Durchgangstadium ist. (Cassirer 1990, 83f)

Even without any human impact it is impossible that nature remains in the same state. In the logic of Whitehead's philosophy, the attempt to preserve the same conditions would in the long run lead to the extinction of life. Instead, preservation of nature must focus on the preservation of the capacity of nature to regenerate and to create new forms of life (FR 26f). If, as Whitehead and modern ecology argue, every organism is interrelated with a multitude of other entities, the extinction of species decreases the grade of complexity that had already been attained. Though the process of self-creation goes on, the range of possibilities for regeneration and self-creation decreases. Therefore, preservation of nature must aim at the preservation of complexity.

6. The Intrinsic Value of Nature

As we have already seen, the separation of being and ought is overcome when the subjective dimension of life is taken into account. For Whitehead, values have three different aspects: First, every individual is striving for being and self-enjoyment. Therefore "it is the essence of life that it exists for its own sake, as the intrinsic reaping of value" (NL 24; see also SMW 116, 130). Secondly, every organism is the basis for the self-creation of other organisms. Though it has an intrinsic value, it has at the same time a function for the existence and the self-enjoyment of other living beings. It is impossible to strive only for one's own goal without taking the wellbeing of a lot of other organisms into account. The more complex the environment of an organism, the higher the grade of intensity it can attain." We are, each of us, one among others" (MT 110). Finally, every organism has also a value for nature as a whole. No living being could survive without the complex and well-structured order of nature. "All of us are embraced in the unity of the whole" (MT 110). Nature is constituted by organisms that have both an intrinsic *and* a functional value. Therefore, not only individuals and their fellow creatures, but also nature as a whole has an intrinsic and a functional value. Every organism depends on the biosphere, and the biosphere depends on the interaction of every organism. Both types of values transcend the narrow horizon of human interests and is independent of cultural tradition and consensus (MT 111).

Although values are inherent everywhere in nature, their realization depends on the complexity of an entity. The main difference between animals and humans is the grade in which values are recognized and practised consciously. "In animal experience there supervenes a process of keen discrimination of quality. …With the rise of clear sensations relating themselves to the universe of value-feeling, the world of human experience is defined" (MT 111). Human life, in particular, is no longer restricted to the struggle for life; the growing freedom from physical and emotional reactions enables a conscious striving for values (MT 29-30, 109-110, 116).

This point of view changes the basis for ethical argumentation not only in respect to fellow humans, but also to nature as a whole. Nature has an intrinsic value that has to be respected by humans who can recognize it consciously; yet nature is at the same time a means for survival and wellbeing. In transforming a famous saying of Kant we can say: Nature never should be only a means for human purposes, it should also be respected for its own sake. Again Whitehead's argumentation converges with that of Max Scheler and Hans Jonas. Especially on the background of modern environmentalism, several authors explicitly refer to Whitehead's cosmology as an important source for an ecological ethic.[15] Roderick Frazier Nash writes: "Whitehead has made it possible to think of nature as having intrinsic value and being an appropriate object of love; Cobb, one of the modern Whiteheadians, demonstrated the potential of integrating Whitehead and traditional Christianity to build an environmental ethic" (Nash 1989, 107).

7. The Beauty of Nature

Beyond its intrinsic value, nature has an aesthetical dimension.[16] The unity of every organism is based on the integration of contrasting elements. Therefore unity does not mean uniformity. On the one hand, inconsistencies would destroy the unity of an organism and cause stress and suffering; on the other hand, the lack of contrasts is a sign of the lack of complexity and intensity of life. In the process of unification a complex and dynamic synthesis of whole and parts evolves (MT 60). Yet the whole cannot be dissected into parts. It is, as a famous saying says, more than the sum of its parts. Every part has a function for the whole; it is exactly at the place where it should be. Therefore everything seems as if it were arranged intentionally, by a wise plan. "The whole precedes the details" (MT 61).

But even beauty is not static. It arises in the ongoing process of self-creation of living beings, and it vanishes when an organism dies. But beauty is not bound to the individual organism. As long as the process of nature is going on, new beautiful forms will emerge, at other places and at another time. The striving for aesthetic perfection belongs to the ongoing process of integration that pushes the process of evolution on. Nature, therefore, "cannot be divorced from its aesthetic values" (SMW 108).

Whitehead's characterization of beauty very much resembles the conception Plotinus has developed (Enn. I,6, 1-3). Beauty is not based on visible forms and mathematical proportions, but on the force that creates them. It is grounded in divine being, which is to a certain degree immanent in every finite being. Finite entities can preserve their form only by a permanent process of unification based on their striving for participation in infinite being.

Whitehead's concept of beauty is not only based on abstract physical laws and mathematical symmetries, but also on sensual qualities, on colours,

the visible interplay of forms, and sounds. Due to the theory of prehension they support, on the one hand, the stability and functioning of an organism and of the order of nature; on the other hand, it is meaningful for the self-enjoyment of a living being. "The aesthetic experience is another mode of the enjoyment of self-evidence" (MT 60). As with values, the aesthetic dimension also has both a subjective and an objective aspect (MT 120).

Neither the sensitivity for meaning and values, nor the sensitivity for aesthetical dimensions depends on the human form of consciousness. But only humans can recognize the underlying processes and participate actively in the creation of beauty (MT 77).

8. Aesthetics, Values and the Infinite

Ethical and aesthetical values have, as we have argued, two dimensions: They are useful *and* they have an intrinsic value that transcends the short-sighted advantage for the struggle for life and daily well-being (MT 119). The intrinsic value of an organism is based on its ability to strive for its own being. Yet the ability to exercise self-causation is not rooted in the single organism or in nature as a whole; it is based on the immanence of the infinite in the finite being (MT 120f, SMW 23f). Therefore, at least for humans, ethical values and aesthetical dimensions in nature become a visible sign for the inexhaustible process of self-creation in which finite entities transcend themselves to infinite being. Nature finally obtains a religious dimension (MT 102). Its contemplation guides the human spirit to the ground of being and of creativity.

> There is a unity in the universe, enjoying value and (by its immanence) sharing value. For example, take the subtle beauty of a flower in some isolated glade of a primeval forest. No animal has ever had the subtlety of experience to enjoy its full beauty. And yet this beauty is a grand fact in the universe. When we survey nature and think however flitting and superficial has been the animal enjoyment of its wonders, and when we realize how incapable the separate cells and pulsations of each flower are of enjoying the total effect—then our sense of value of the details for the totality dawns upon our consciousness. This is the intuition of holiness, the intuition of sacred, which is at the foundation of all religion. (MT 119f; see also 103)

One of the most famous American conservationists, John Muir, who is still cited everywhere in the canyons and on the mountain tops of the High Sierra in California, can be read as a predecessor to Whitehead's philosophy of nature when he writes:

Every hidden cell is throbbing with music and life, every fibre thrilling like harp strings, while incense is ever flowing from the balsam bells and leaves. No wonder the hills and groves were God's first temples, and the more they are cut down and hewn into cathedrals and churches, the farther off and dimmer seems the Lord himself. (Muir 1911/1988, 101f; see also 109f, 142)

Let me summarize: We find an astonishing continuity in the main topics of Whitehead's philosophy. Starting with a clear separation between science and metaphysics in his early works, he elaborates a highly complex system of ideas in *Process and Reality* that are the background for the more detailed and concrete analysis of the concept of life undertaken in his late essays. *Process and Reality* is the background for the more detailed analysis of the meaning of the subjective dimension of life and of ethical and aesthetical values as inherent in nature, a notion that forbids thinking of nature as mere resource for human interests and needs. On the contrary, nature itself is the basis for the development of the ethical and aesthetical sensitivity of humans and that means of culture. Especially for modern ecology, it is important, that the functional aspect of nature is not separated from its intrinsic and aesthetical values. Therefore, the beauty of an ecosystem can be interpreted as an expression of the complex interplay of a multitude of organisms. It is the basis for regeneration and ongoing self-creation. Yet, self-causation cannot be based on finite entities, but only on the immanence of the infinite.[17]

NOTES

1. Cf. Popper (1959, 15): "I, however, believe that there is at least one philosophical problem in which all thinking men are interested. It is the problem of cosmology: the problem of understanding the world including ourselves, and our knowledge, as part of the world."
2. Cf. Fowler (1976, 56).
3. Cf. Kather (1998; 2004, 175 191).
4. Cf. PR xii and FR 61, 68f.
5. Cf. Ricoeur (2005, esp. 39 139).
6. P. Ricoeur: Das Selbst als ein Anderer, op.cit. 72.
7. Cf. Henry (2004), (2005), and Kather (2003a).
8. This notion was already present in CN 30f.
9. Cf. Kather (2003b).
10. Cf. Kather (1992).
11. Cf. already Darwin and Huxley (1983, 54).
12. Cf. Koechlin (2005) and Stöcklin (2007).
13. Cf. Kather (1994).
14. Jonas (1992, 17): "In the meantime the Swiss constitution has integrated the concept of 'dignity of creature.'" Cf. Balzer, Rippe, and Schaber (1999) and Baranzke (2002).

15. A detailed discussion can be found in Grange (1997).
16. See Henning (2005).
17. Cf. Weber (2007).

Part Three

EVOCATIONS OF VALUE,
BEAUTY, AND CONCERN

Twelve

RE-CENTERING PROCESS THOUGHT: RECOVERING BEAUTY IN A. N. WHITEHEAD'S LATE WORK

Brian G. Henning

1. Introduction

In his brief preface to *Adventures of Ideas*, Whitehead provides a rare window into how he conceived of his own work. "The three books—*Science and The Modern World*, *Process and Reality*, *Adventures of Ideas*—are an endeavour to express a way of understanding the nature of things…. Each book can be read separately; but they supplement each other's omissions or compressions" (AI vii). If I am correct, one of the most important concepts in process thought is virtually absent from Whitehead's magnum opus, *Process and Reality*. I suggest that the single most important "omission" remedied by *Adventures of Ideas* is the claim that beauty is the one self-justifying aim of the universe, that "The teleology of the Universe is directed to the production of Beauty" (AI 265).[1] Creativity is in this sense "kalogenic"; it is inherently beauty generating.[2] Though there are notable exceptions, surprisingly few process scholars have recognized and embraced the significance of this claim.[3] Indeed, beauty is notable in its absence from most of the major works on process metaphysics, which tend to focus on Whitehead's *Science and the Modern World* and *Process and Reality*.[4] Perhaps fearing charges of aestheticism, those who do note the centrality of beauty have mistakenly sought either to minimize its significance or to explain it away as metaphorical embellishment.[5] The goal of this brief essay is to defend the view that process thought, particularly process ethics, will be more adequate and applicable if it is "re-centered" around the concept of beauty.

2. Harmony, Intensity, and Beauty

Whitehead defines beauty as the dual aim at harmony and intensity. The subjective aim of every occasion is at the achievement of the most harmonious and intense experience possible. Harmony, what Whitehead calls the minor form of beauty, is understood as the "absence of mutual inhibition among the various prehensions…" that constitute an experience (AI 252). The aim at harmony, then, is at maximally inclusive unity in diversity. If the inclusion is

too great, there is a "painful clash" (252) and experience risks degenerating into chaos. On the other hand, if the inclusion is too limited, the deficiency of diversity results in a "tame" monotony.

Yet, Whitehead insightfully notes, the absence of mutual inhibition is not sufficient to achieve deeply beautiful experience. Beauty requires not only the absence of conflict (harmony), but also the realization of new contrasts (intensity). It is through the realization of patterned contrasts that "new conformal intensities of feelings" are achieved (252). It is in the aim at intensity where the depth and richness of experience is purchased. "Thus the parts contribute to the massive feeling of the whole, and the whole contributes to the intensity of feeling of the parts" (252). Each occasion of experience aims at the achievement of beauty, then, in the sense that it seeks to bring the elements within its actual world together in a way that avoids the painful clash of conflicting ends (harmony) and furthermore seeks to relate these elements together in such a way as they not only avoid the conflict of mutual inhibition, but deepen the intensity of experience felt through the introduction of new contrasts.

Jazz music is an excellent illustration of Whitehead's complex conception of beauty.[6] As the composer Edward Green insightfully notes, jazz is not only an art "of entertainment," "of self-expression" and "of group solidarity," though it is all of these (Green 2008, 244). Jazz is also "a philosophic art, impelled—just as certainly as 'verbally discursive' philosophy—by the desire to tell the truth about reality. … [T]he subject matter of jazz is nothing smaller than the world itself. This world is immediate, gutsy, vernacular, and colorful. But it is also abstract—a drama of eternal philosophic opposites" (ibid.). In a great jazz composition each instrument adds its sonic shape to a harmonic whole that is at once beyond itself, yet not destructive of itself. There is a unity-in-diversity brought into a patterned contrast.

Take, for instance, the work of Duke Ellington, as we find it in *The Mooche* (1928), *Ko Ko* (1940), or *Far East Suite* (1966). As Green notes, in each of these compositions "Duke Ellington's motivic techniques depend on the simultaneity of opposites: of unity and diversity; of sameness and difference; of something remaining firmly itself while also being utterly flexible" (222). "Motivic composition depends on ability to perceive these opposites— unity and diversity, change and sameness—together. Ellington was a master of the art" (245). Surprisingly, Green does not limit his claims to jazz. Relying on the American poet and critic Eli Siegel, Green argues that "there is no fundamental difference between the structure of reality and the structure of beauty" (Green 2005, 439).[7] This is the central tenet of "Aesthetic Realism," which Siegel founded in 1941. "In Aesthetic Realism, beauty is the putting together of things that can be thought of as opposites…. All beauty is a making one of opposites, and the making one of opposites is what we are going after in ourselves" (Siegel 1961, 6-7). Using examples from music, dance, literature, and even architecture, Siegel argues that all beauty is the making

one of opposites, of unity and diversity, permanence and change, simplicity and complexity.

> Music, changing in time, insists more and more as it goes on, on the stability, justification, permanence of what it began with. Harmony is that which imposes on the differing and transitory that which will make them coherent and permanent. The pleasure from music can be put in this exclamation: "As those notes go on, and change, how something I looked for is being heard by me!" Rhythm is any instance of change and sameness seen at once. (Siegel 1962)[8]

Yet for Siegel these traditional aesthetic modes are not to be seen as exceptional; reality itself is to be seen as exemplifying this aesthetic unification of opposites. "One of the permanent, ontological situations of reality," Green writes, "is the oneness of change and sameness. Reality is changing all the time, and yet remains coherent. It is not, after all, a verbal accident that we call it a 'universe' and not a 'multiverse.' Art reflects this truth. As Aesthetic Realism sees it, all successful music is oneness of change and stability; diversity and unity; coherence and surprise. Art embodies philosophic honesty" (Green 2008, 223). As the creative unification of opposites, art reflects a truth that describes the structure of reality. In this way, Siegel and Green's Aesthetic Realism is in deep sympathy with Whitehead's own claims that aesthetic intensity of experience is the universal aim of process.

Note that, on both views, as a unique achievement of harmony and intensity, every occasion of experience is, to some degree, beautiful. The zero of beauty, as Charles Hartshorne noted, is the zero of actuality. In determining itself, every occasion necessarily achieves some degree of beauty and is, to that degree, justified in its existence. Yet, it is still very much the case that an occasion of experience can fall short of the maximally unified diversity and balanced complexity open to it. It is, in this sense, ugly.

Whitehead fully recognizes that ugliness is all too real in our finite world. Again, Siegel defends a very similar view, arguing that "Ugliness has to do with the fragmentation, fractionality, brokenness, vicissitude, subtraction, division, addition, multiplication, alteration *within* beauty as a whole, or one" (Siegel 2007d). The ugliness of violence, what Whitehead calls aesthetic destruction or discord, involves the destruction of achieved forms of beauty in the realization of new forms. As Whitehead readily notes, the great novelty and intense beauty achieved by living occasions is only possible through such violence. For this reason, although tragic, violence is preferable to the sweet, anesthetic death of experience in which an occasion embraces lower forms of beauty when higher forms are possible. This embrace of "tameness" is far more destructive in the long run for it cuts against the very "essence of the universe" in its pursuit of ever-higher forms of beauty. As the aim of the crea-

tive advance of the universe, beauty is the central category of Whitehead's system.

3. Beauty and the Ultimate

Although I will not significantly develop the claim here, a renewed focus on the aesthetic character of process provides greater depth to our understanding of the ever-enigmatic notion of Creativity. Rather than understanding the Category of the Ultimate as a sort of koan on which you are meant to meditate, we should understand the content of this central category in more explicitly aesthetic terms. Taken in the context of his discussion of beauty, the claim that "the many become one, and are increased by one" takes on greater depth (PR 21). The many contribute to a new whole whereby the intensity of each part is greater, yet this increase in intensity does not require the loss of individuality.

Indeed, there is good reason to believe that it was reflection on the beauty of great art that increasingly defined Whitehead's understanding of Creativity. According to his account in *Modes of Thought* (1938), every occasion represents the achievement of a composition whereby there is "one whole, arising from the interplay of many details" (MT 60). Like great art, the aesthetic synthesis of concrescence achieves a "miraculous balance" between the parts and the whole in which "The whole displays its component parts, each with its own value enhanced; and the parts lead up to a whole, which is beyond themselves, and yet not destructive of themselves" (MT 62). Importance, meaning, and value are achieved not in sacrificing the many parts for a more meaningful whole, but from "the vivid grasp of the interdependence of the one and the many." We trivialize experience "if either side of this antithesis, [the one or the many,] sinks into the background" (MT 60).

While I have no doubt that the study of process *metaphysics* would benefit from being "re-centered" around the concept of beauty, my main concern in this essay is the rather unfortunate effect that the omission of beauty has had on the development and defense of a Whiteheadian moral philosophy. Indeed, I will argue that much of the neglect of process ethics among contemporary moral philosophers and environmental ethicists is ultimately traceable to process scholars' refusal to recognize the kalogenic nature of process.

4. The Failure of Process Ethics

Process ethics, insofar as there is such a thing, has failed. Despite near unanimous agreement among process scholars regarding the worth of a process approach, process ethics has failed to capture the interest or attention of mainstream philosophers. Nowhere is the failure of process ethics more apparent and more disappointing than in the area of environmental ethics. Whereas a

process approach never gained significant attention from mainstream moral philosophy, process scholars were present at the very inception of environmental ethics. For instance, two of the most eloquent and insightful proponents of process thought, Charles Hartshorne and John Cobb Jr., contributed to the first anthologies dedicated to the topic in the late 60s and early 70s and their work was included in the first issues of the journal *Environmental Ethics*. Indeed, according to the journal's founding editor, the first dissertation on environmental ethics was titled "The Rights of Nonhuman Beings: A Whiteheadian Study."[9]

Despite the innovative and groundbreaking work by process scholars, it is increasingly rare to find a process perspective represented in mainstream anthologies and course texts on ethics and the environment.[10] Since I count myself among those who see process thought as an ideal basis from which to develop a rich moral philosophy, I have become particularly interested in diagnosing the cause of this systemic neglect. Why is it that, despite process scholars' insistence over the last 40 years that Whitehead's rich philosophy of organism is an ideal ground for a rich moral theory, mainstream moral philosophers roundly ignore it? What happened?

In an important sense, process ethics has failed because it has never been developed. To be sure, many capable scholars have written essays or dedicated chapters to the topic.[11] Yet very few scholars have taken on the project of *systematically* developing a Whiteheadian moral philosophy and those who do have largely refused to recognize the central role of beauty.[12]

Too often, process scholars take a reactive approach to ethics. Instead of systematically exploring the unique contours of a kalocentric Whiteheadian approach to morality, process scholars more often ask how Whitehead's work is like or unlike existing moral paradigms. In hindsight, the effect of this tendency is predictable. Because process scholars have not positively and systematically developed a Whiteheadian approach to morality, we have allowed others to characterize it for us. The results are as diverse as they are mutually contradictory. For instance, process ethics has over the last four decades been characterized as "selfish individualism,"[13] a "moral interest theory,"[14] a "consequentialist, maximizing, and totalizing" form of utilitarianism,[15] a "deontological ethic,"[16] a "deeply ecological" ethic,[17] a land ethic,[18] and a clandestinely anthropocentric version of moral extensionism.[19]

The failure to systematically develop a Whiteheadian moral philosophy has allowed others to define it for us, with insalubrious results.[20] It isn't enough to suggest how a process position would address particular problems or to point to a few of the contours of a Whiteheadian approach. We need finally to begin the long and difficult work of systematically developing a Whiteheadian moral philosophy. The first step in doing this, I argue, is fully embracing the central role of beauty. Indeed, we will find that only by adopting a fully kalocentric approach can process thought address the root cause of

the neglect of process ethics: its embrace of a hierarchical conception of value.

5. Onto-Aesthetic Status and Moral Significance

Beyond the failure to systematically develop a coherent moral philosophy, I am convinced that much of the neglect of process ethics can be traced to its embrace of a hierarchical conception of value. Despite the unpopularity of the position, process scholars have generally been steadfast in their insistence that complex judgments of value are necessary and in fact unavoidable in the daily course of life. They rightly recognize that it is metaphysically irresponsible and ethically dangerous to refuse to recognize that there are differences in the degree of beauty and value achievable by different occasions of experience. The richness of experience achievable by the occasions defining a dandelion are significantly shallower than that achievable by a Labrador retriever. Because of the greater complexity and integration of its parts, a dog, for instance, is capable of far richer and more beautiful experience than the more diffusely organized dandelion. In continuing to recognize the moral significance of these differences, process philosophers have alienated many potentially sympathetic philosophers.

Val Plumwood is representative of those who wonder whether, in retaining a hierarchy, process scholars have truly abandoned their anthropocentrism:

> The criterion of experience builds in an anthropocentric hierarchy, since it conceives the world of nature as similar to but of lesser degree than the human mind, rather than as simply different. Such a position seems to offer little prospect of a real challenge to the thesis that the natural world is inferior to the human sphere, depending as it does on the extension in a weakened form of properties which are exemplified most fully by the human mind. (130)

Although process scholars claim to have abandoned anthropocentrism, their axiological hierarchy seems to suggest otherwise.

The refusal to repudiate hierarchical thinking has also been the chief point of contention between process scholars and deep ecologists, who otherwise maintain a fundamentally similar view of reality as an interdependent system of intrinsically valuable individuals. Deep ecologists such as John Rodman, George Sessions, and Bill Devall, claim that, by insisting on a complex hierarchy of value, a Whiteheadian moral philosophy is simply a thinly veiled anthropocentrism that will always put humans on top. "'Subhumans' may now be accorded rights," John Rodman writes of process philosophy, "but we should not be surprised if their interests are normally overridden by

the weightier interests of humans, for the choice of the quality to define the extended base class of those entitled to moral consideration has weighted the scales in that way" (Rodman 125). Process philosophy claims to move beyond anthropocentrism, but it ultimately fails because it continues to embrace a conception of values that puts humans at its peak. As Devall and Sessions put it, "This attempt to apply Whiteheadian panpsychism, while positing various degrees of intrinsic value to the rest of Nature, nonetheless merely reinforces existing Western anthropocentrism, and thus fails to meet the deep ecology norm of 'ecological egalitarianism in principle'" (Devall and Sessions 236). Deep ecologists such as Devall and Sessions insist that the only way to fully repudiate anthropocentrism is to embrace the "intuition of ecological egalitarianism," whereby every individual not only has value, but has value equally.

Responses to these criticisms have not been lacking. For his part, John Cobb has noted consistently and vehemently that it is a misinterpretation to suggest, as Plumwood does, that process thought is anthropocentric in the sense that it judges the value of an individual by its similarity to humans. The depth of value achievable by an individual is a function of the complexity of its integration, not its similarity to humans. Humans are "more valuable" because of their greater degree of complex integration, which affords them a richer form of experience. It is this richer experience, this more inclusive, harmonious, and intense experience, that makes human experience ontologically more valuable than simpler organisms. The hierarchy of value, in other words, is not constructed in terms of how similar an individual is to us.[21] While Cobb's response does address Plumwood's misinterpretation, the disagreement with deep ecology seems to run deeper. The problem for deep ecologists has to do not only with the relative location of humans within the axiological hierarchy but also the use to which this recognition is put.

In his most recent work, Griffin takes a rather creative approach to the longstanding impasse between process philosophy and deep ecology. He suggests that the intuition of "biocentric equality" that some deep ecologists are after is in fact something that process scholars can embrace alongside a hierarchical conception of value in which not all individuals have equal value. Griffin executes this impressive mental contortionism by making a distinction between "intrinsic value," which varies based on individual's complexity, and "inherent value," which is an individual's total value, taking its intrinsic and extrinsic value together. Griffin notes that, given the inverse relationship between an individual's intrinsic value and extrinsic value, those individuals that have less intrinsic value because of their diminished complexity end up having greater extrinsic value within their ecological niche. Thus, taking the individual's total intrinsic and extrinsic value together, Griffin suggests, each individual's "total inherent value" is roughly equal.[22]

Cobb's and Griffin's solutions are insightful and fully consistent with process thought. Cobb is right that is a misunderstanding to claim that process thought is anthropocentric. Judgments of value are accurate only insofar as

they accurately describe the actual depth of value achievable by an individual, not their perceived similarity to humans. He is also right to point out that deep ecologists do in practice, if not in their philosophy, make complex judgments of value and that it would be irresponsible to do otherwise. Griffin's work is also very helpful in pointing out that we must include both an individual's intrinsic value and its extrinsic value in understanding its overall worth. Despite its unpopularity among environmental philosophers and feminists, process scholars should steadfastly recognize that in fact different individuals are capable of differing degrees of experience. Not all individuals are equal in the intensity of experience open to them and it is ethically irresponsible to suggest that they are.

Despite these very valiant efforts, with which I am in significant agreement, I remain convinced that both Cobb and Griffin's interpretation of process ethics fails to properly account for the *moral significance* of these complex judgments of value. There is a reason why their accounts have failed to persuade others. The problem, I contend, is that they continue to fall short of fully addressing critics' core disagreement with process thought. What bothers Plumwood, Sessions, Devall, Rodman, and others is not merely the *recognition* that the intensity of experience across individuals varies greatly, but the use to which this realization is put. The concern, it would seem, is that recognition of this hierarchy, which puts humans at the top of the scale, inevitably reinforces and repeats the old patriarchal and anthropocentric hierarchies. Although things have value independently of humans, since they have less value, the scales are still going to be tilted in our favor. In a sense, the objection is not metaphysical; it is moral. The work of another ecofeminist, Karen J. Warren, is very helpful in understanding how we might recognize morally significant differences in value without embracing anthropocentrism or sanctioning oppression.

First she notes, with Plumwood, that one of the features common to oppressive conceptual frameworks is "*value hierarchical thinking*, that is 'Up-Down' thinking, which attributes greater value to that which is higher or Up, than to that which is lower, or Down. … By attributing greater value to that which is higher, the Up-Down organization of reality serves to legitimate inequality when, in fact, prior to the metaphor of Up-Down one would have said only that there existed diversity" (Warren 200, 46; author's emphasis). By maintaining that some individuals (e.g., animals such as humans) have greater value than others (e.g., plants such as daisies), process thought embraces a form of value-hierarchical thinking that can ingrain oppression.

Yet, contrary to Plumwood and the deep ecologists, Warren goes on to make a crucial distinction: value-hierarchical thinking is only oppressive if it is joined to what Warren calls the "logic of domination," which "assumes that superiority justifies subordination. A logic of domination is offered as the moral stamp of approval for subordination, since, if accepted, it provides a justification for keeping Downs down" (ibid., 47). This critically important

conclusion is too often omitted by value theorists. The mere claim that X has greater value than Y is logically distinct from the claim that X is justified in using or abusing Y. Warren explains this point expertly.

> Contrary to what many feminists and ecofeminisists have claimed, there may be nothing inherently problematic about hierarchical thinking (even value-hierarchical thinking), value dualisms, and conceptions and relations of power and privilege, which advantage the Ups, *in contexts other than oppression*. Hierarchical thinking is important for classifying data, comparing information, and organizing material. Taxonomies (e.g., plan taxonomies) and biological nomenclature seem to require some form of hierarchical thinking. Even value-hierarchical thinking may be quite acceptable in some contexts (e.g., in assessing the qualities of contestants or in rank-ordering participants in a contest). Responsible parents may exercise legitimate power and privilege (as Ups) over their infants (as Downs), be assigned higher prestige or value than their infants for some purposes (e.g., as logical reasoners), and yet not thereby be involved in any type of oppressive parent-child relationship. (Warren 2000, 47; author's emphasis)

Given this, the question is not whether a Whiteheadian view embraces value-hierarchical thinking or domination *simpliciter*, but whether a Whiteheadian view sanctions *unjustified* domination.

> If one describes healthy, morally permissible relationships (say between parents and infants) as relationships of domination, then justified domination occurs only where the logic of domination is in place. That is, the logic of domination falsely justifies the power and privilege of Ups over Downs in a way that keeps intact unjustified domination-subordination relationships. Child abuse is a case of unjustified domination; a parent exercising her power and privilege by forcibly removing a child's hand from a hot burning stove is not. So, if one claims that domination can be either justified or unjustified, then it is cases of unjustified domination that are of interest to ecofeminist philosophy. (ibid., 48)

It is my contention that, if we give greater weight to Whitehead's later works, such as AI and MT, and we properly understand the kalocentric nature of the creative advance, then we will see what most process philosophers have failed to recognize: *an individual's onto aesthetic status, its value, is not strictly determinative of its moral significance*. Instead of running from the kalocentric nature of a process ethic, we should embrace it. By embracing beauty as the teleological aim of every form of process, we can rightly affirm the varying degrees of beauty and value achievable by individuals but refuse

to succumb to the logic of domination and to allow this neatly to determine an individual's moral significance. In a kalocentric ethic, the ultimate justification for any action must be whether its affirmation would lead to the most harmonious and intense whole achievable in that situation, whether it affirms the most beauty possible. Or as Whitehead puts it in *Modes of Thought*, "Morality is always the aim at that union of harmony, intensity, and vividness which involves the perfection of importance for that occasion" (MT 13-14). Individually, this means that every agent ought to strive to achieve the most intense form of beauty that is available to it. When ends become mutually incompatible and there is discord, moral agents ought always and everywhere to affirm the most harmonious and intense whole that they can see. Whether this means sacrificing or satisfying the interests of one individual over another depends not on its position in an value-hierarchy, but entirely on what would achieve the most beauty in that situation. In this way, an individual's onto-aesthetic status, the depth of beauty and value it is capable of achieving, is relevant to but not strictly determinative of its moral significance. The aim of human action, like that of every form of process, is at the production and promotion of the most harmonious and intense experience possible.

In their efforts to flee from the specter of aestheticism, process scholars have abandoned the heart of a process approach to morality. In recovering beauty as a central focus of Whitehead's later work and re-centering process thought we will find that it is possible to develop a distinctive, kalocentric approach to morality that can do justice to the differences between individuals, without succumbing to an invidious logic of traditional hierarchies. Unless and until Whiteheadians recognize and embrace the kalocentric nature of process, we will fail to appreciate the truly unique nature of a Whiteheadian moral philosophy. Given their shared commitment to an aesthetic conception of reality, it is appropriate to conclude with a selection from a poem by Eli Siegel:

> Aesthetics is the science of what is,
> when that which is, is seen as opposites—
> In common language, when it's beautiful.
> How Black and white; and large and small; what's warm,
> What's cool, make deepest one—that's what, at first,
> The study of aesthetics is about.
> And then there are—ah, yes—the fancier things;
> How urgency's at one with calm; the way
> Outline and color make a one in art;
> How slowness and how speed together meet
> In varied dance, and in line of verse;
> Within a chord; and oratorio. …
> Always the surface and the depth

Of things are subtly, deeply unified
In what is made by man and beautiful
As made by man. A cool contraction and
A widening are felt at once by mind
Responding to what's pleasing by its form.
Specific is at one with general,
The playful with the grandiose; the great
With what's ridiculous; the mighty leap
With that which glides; the sternly still and one
With that which , edgy, jumps; THE PERSONAL
WITH THE IMPERSONAL; the massive *That*
With skipping *these*—all this in painting, dance,
The drama, poem; in clay, in stone, in steel,
As formed by potter, sculptor, architect.
The bronze Ghiberti used in making doors
Is dignified and lively as the lines
In sprightly poem, as motions in a dance.
That has its meaning and its vividness.
(Siegel 1957)

NOTES

1. My claim here is not that beauty first appears in Adventures. Whitehead's interest in aesthetics is apparent in some of his first post Cambridge works of philosophy. For instance, a discussion of the aesthetic character of process can be found in his 1925 Science and the Modern World (e.g., 94, 162 63, 199) and his 1926 Re ligion in the Making (e.g. 105). My claim here is that the dominant focus on Process and Reality, which does not emphasize the aesthetic character of process, has led to the neglect of beauty as a central category in process thought.

2. This elegant term was coined by Frederick Ferré. "Since intrinsically satisfying experience is what Whiteheadians mean by beauty, and since beauty is always present when self consistent actuality blooms from conflicting possibility, the process of concrescence is the process of beauty creation. Combing the Greek roots for beauty (kalós) and for creation (genesis), the acknowledgment of a valuer, achieving patterns of preferences that create moments of intrinsic satis faction, leads to the acknowledgement of kalogenesis at the heart of ethics and of actuality" (Ferré 2001, 109).

3. The most notable exceptions are Charles Hartshorne and Frederick Ferré. The for mer does much to develop Whitehead's notion of beauty. The latter makes beau ty the central category of his trilogy on metaphysics, epistemology, and ethics.

4. For instance, major representatives of the classical interpretation of Whitehead's metaphysics, such as Christian, Leclerc, and Ford, fail to appreciate fully the role of beauty in their accounts of process of metaphysics.

5. Schilpp is among the first to explicitly charge that process thought is aestheticist.

Belaief, who has written one of the few books on process ethics, explicitly ar
gues that Whitehead is being metaphorical. More recent and less supportive in
terpreters of process ethics, such as Clare Palmer, largely ignore the role of
beauty, arguing instead that Whitehead's ethics is a totalizing form of conse
quentialist utilitarianism. The most notable and most confusing position comes
from Griffin, who recognizes the central role of beauty, but then argues that it is
not the aim of morality. I argue that this interpretation is incoherent.

6. I thank Vincent Colapietro for the suggestion to include this discussion of jazz.

7. Green describes Siegel in the following manner: "After being awarded The Nation's
esteemed prize for poetry in 1925, Eli Siegel moved from Baltimore to New
York and was active in jazz circles. In 1935, he became the first coordinator of
jazz and poetry events at the Village Vanguard" (Green 2008, 221 n.20). The
Aesthetic Realism Foundation in New York City is dedicated to the study of
Siegel's work (http://www.aestheticrealism.org/). A short biography of Siegel
can be found on their website at http://www.aestheticrealism.org/Siegel
Biography.html.

8. Siegel describes dance in the following manner: "A coalition and continuity accom
panied by details in motion are what one finds in a dance. There is idea in a
dance, modern or ancient. The idea is the continuing thing, the same thing
made one, through being its lively self, by the steps, the motions, the attitudes,
the gestures, the pauses as detail. A dance, too, shows the oneness and manyness
of anything that is real; that is, of anything" (Siegel 2007c).

9. According to her website, Susan Armstrong wrote the first dissertation on environ
mental ethics in 1976. For a copy of her dissertation and defense of this claim
see: http://www.humboldt.edu/~phil/armstrong/armstrong.html.

10. A review of current environmental anthologies reveals not a single piece written by
a process scholar. See, for instance, Sterba, Pojman and Pojman, and Armstrong
and Botzler. Regarding the latter, given that she authored the first dissertation on
environmental ethics from a process perspective, it is noteworthy that such a
perspective is completely absent from her otherwise excellent anthologies on the
environment (2004) and on animals (2008).

11. See, for instance, Jones (1998) and Griffin (2001 and 2007).

12. See Gray (1983), Belaief (1984), Cauthen (1984). None of these works received
significant attention, either from process scholars or mainstream moral philoso
phers. David Griffin's work is a good example of both of these trends. To date,
Griffin has not systematically advanced a Whiteheadian moral philosophy, but
in both *Reenchantment Without Supernaturalism* (2001) and *Whitehead's Radi
cally Different Postmodern Philosophy* (2007) he dedicates a chapter to White
headian ethics. In the former, Griffin rightly notes that "satisfaction is discussed
in terms of the aesthetic criteria of beauty: harmony and intensity. Experience
that is 'aesthetic' in this sense is said to be the whole point of existence" (Griffin
2001, 301). Despite his recognition that "the whole point of existence" is the
achievement of beauty, in his more recent project, Griffin effectively omits the
concept of beauty. Yet even in *Reenchantment*, where he recognizes the impor
tance of beauty, Griffin inexplicably denies that beauty is the aim of morality.
Very similar to Lynn Belaief's incoherent claim that Whitehead's references to
beauty as the aim of morality were merely metaphorical (cf. Belaief 1996, 278),

Griffin claims that aesthetic value is the "basis for establishing the importance of morality," but that beauty is not actually the aim of morality (*Reenchantment* 301). Griffin's odd position seems to be motivated less by Whitehead's own claims, which are unambiguously in conflict with Griffin's (see, for instance, RM 105 and AI 268), than by his desire to avoid the view that Whitehead's eth ics is utilitarian. With little explanation or defense, Griffin claims that because morality aims at the maximization of importance, and not beauty, a Whitehea dian moral philosophy avoids the traditional problems associated with utilita rianism, such as justice and the role of the past. "[M]any commentators have taken Whitehead's position to be a utilitarian ethic according to which we should seek to maximize beauty in every situation. His position is certainly heavily teleological. Instead of saying that we should always seek to maximize beauty, however, Whitehead speaks of importance…" (author's emphasis; Grif fin 2001, 305). I assume that Griffin has Clare Palmer's work in mind here. However, beauty plays no significant role in Palmer's interpretation. Indeed, her characterization of process ethics as a totalizing utilitarianism has more to do with her emphasis on process theology's notion of contributionism, which at times seems to reduce an individual's value to its contribution to the divine.

13. Cf. Schindler 128
14. Cf. Schilpp 572, 589.
15. Cf. Palmer 28 29.
16. Cf. Lango 515 536.
17. Cf. Griffin 2007, 70.
18. Cf. McDaniel 94.
19. Cf. Rodman 125.
20. I have defended the view that any attempt to understand a process ethic by catego rizing it among traditional moral theories will ultimately fail. Although it will surely share features in common with traditional moral paradigms, a Whitehea dian moral philosophy will necessarily be as unique, speculative, fallible and dynamic as the metaphysical system on which it is based. Any attempt to force it into preexisting moral categories will distort its unique character. See my essay "Process and Morality."
21. Cf. "We do know that human beings are capable of remarkable scope and depth of experience, and that, accordingly, human experience often has great intrinsic value. Other creatures that are like us in relevant respects, we judge, also have rich experience and thus great intrinsic value. But our judgment is about the probable richness of experience of other animals, not about the similarity of their experience to our own. Because of our limited imagination, this judgment may be distorted by similarities. We may underestimate the richness of a dolphin's experience and overestimate that of a monkey because the latter is more like us. But this would be an error in judgment; it is not built into the basis for judg ment" (Cobb 2001b, 224 25). See also, "As a Protestant process theologian I re ject anthropocentrism in the following ways. 1. God cares for all creatures, not just for human beings, and human beings should follow in that universal care. 2. The value of other creatures is not limited to their value for us. Their value for God, for one another, and for themselves is also important. Human values should sometimes be sacrificed for the sake of others…. As a process Protestant

theologian, I retain what deep ecologists call anthropocentrism in the following respects. 1. In all probability individual human beings are the greatest embodi ments of intrinsic value on the Earth. 2. Human beings have a responsibility for other creatures in a way that is shared by no other species. … 3. In order to exer cise our responsibility well, we must make judgments of relative value about other creatures" (ibid., 227 28).

22. Cf. "The central implication of this terminological discussion is that a rough equal ity in the inherent value of the various species results from an inverse relation that exists, in general, between intrinsic value and ecological value. … [A]ssuming that this inverse correlation generally obtains throughout the ecolog ical pyramid, we can say that all forms of life have, roughly, the same inherent value." (Griffin 2007, 83). "The distinctive point of egalitarian deep ecology is, therefore, compatible with the Whiteheadian emphasis on many different levels of intrinsic value" (83).

Thirteen

THE SELF-EVIDENCE OF CIVILIZATION

Stascha Rohmer

1. Introduction

The main contention in the following is that Whitehead's metaphysics is by no means brought to completion in his main *opus*, *Process and Reality*. To the contrary, I shall argue that his metaphysics comes to fruition in his later works, especially in *Adventures of Ideas* and in *Modes of Thought*. I would like to demonstrate this using the example of his work *Modes of Thought.* In my opinion, Whitehead's *magnum opus Process and Reality* concerns, first and foremost, philosophy of nature. *Modes of Thought* demonstrates the relevance of Whiteheadian process—thought for the philosophy of culture and the understanding of the notion of civilization. One would misunderstand Whitehead's late work completely if one were assume that it solely represents a summary of Whitehead's main work, *Process and Reality*. In *Modes of Thought,* Whitehead explains more thoroughly what, according to him, the function and task of philosophy should be. According to Whitehead, the function of reason exists (as we know) to promote the art of life. Human civilization is in Whitehead's view the highest product of the art of life. As Whitehead clearly states in *Modes of Thought*, the function of reason consists in the fact that it is to serve civilization and the process of civilization. In this vein, Whitehead describes the pragmatic function of philosophy in *Modes of Thought,* which he already defined in *Adventures of Ideas* (1933), as follows: "The purpose…is to co-ordinate the current expressions of human experience, in common speech, in social institutions, in actions, in the principles of the various special sciences, elucidating harmony and exposing discrepancies" (AI 286). While *Process and Reality* dedicates itself to the coordination of the modes of expression available in various specialized studies, in *Modes of Thought* Whitehead focuses particularly on the latter task of philosophy, the one of discrepancy and contradictions in human self-evidence. Central to Whitehead's criticism are the abstraction conditions of modern natural science. "Science", according to Whitehead in *Modes of Thought,* "can find no individual enjoyment in nature: Science can find no aim in nature: Science can find no creativity in nature; it finds mere rules of succession. These negations are the true aim of natural science. They are inherent in its methodology" (MT 154). The criticism of the abstraction conditions of the methodology of modern natural science, which is only implicitly present in *Process*

and Reality, becomes completely explicit in *Modes of Thought*. The particular position of Whitehead's latest comprehensive work is not based, however, merely on the fact that Whitehead refers here particularly critically to the scientific abstractions of his time. As will be demonstrated in what follows, Whitehead approaches his subject-matter from a completely different methodological perspective in *Modes of Thought,* one opposed to the procedure we find in *Process and Reality* and his other works. As is well known, Whitehead's main work *Process and Reality* presents itself as a large-scale attempt to interpret, in the framework of a systematic cosmology, the unit of nature and history through a synthesis of those theoretical conditions upon which, in his view, nature and humanities are based. In *Modes of Thought,* however, Whitehead is not concerned with ontological foundations, but with a predominantly phenomenological analysis of the structure of those data and experience conditions upon which, in Whitehead's view, all scientific and civilizing understanding is based. Therefore the content condition, understood philosophically, does not stand here in the foreground, but rather it is the relationship in which the aforementioned understanding and recognition by themselves are the natural and historical process which it forms and of which it is a part. *Process and Reality,* on the one hand, pursues an evolutionary approach and its author attempts to think of the human being, perception and thinking in the framework of an ontological foundation and a speculatively framed concept of nature. *Modes of Thought*, on the other hand, attempts to develop upon the basis of an analysis of human thinking and perception an analysis of the *How* of thinking, a new *What* of thinking.

The self-evidence of civilization and scientific recognition are modes, of such *Hows* of thinking, which, abstractly understood, have the same world as the subject of reflection. Concretely, however, they lead to completely different results. The bifurcation of the world, into a world of values and a world of pure facts or, alternatively, into a natural world, which is *explained* by natural science, and a cultural world, which can be *understood* by humanities, can already be seen as a product of specific ways of thinking and their methodological restrictions. They may be shown, as such, to be products of history. To place the difference between natural sciences and humanities only in the contention that natural sciences deal with objective conditions, without any internal meaning, while humanities have to do with meaningful cultural conditions, must seem wrong and naive, especially in view of the incontestable historicity of all thinking and its methods.

The relevance of the approach pursued here consists in the fact that Whitehead works out the historicity of our ways of thinking and of our patterns of thought in *Modes of Thought*. If one is inclined today to include all humanities, from the science of history to aesthetics, under the fashionable term "cultural sciences," this entails not merely a useful scheme of classification, but also a judgment on the quality of the nature, the concept of which is hereby excluded from the humanities. The judgement is that mental princi-

ples, historicity, and aesthetic value perception do not play any constitutive role in nature. Such a way of thinking, however, meets resistance in view of the fact that human beings and their living environment belong to nature. Humans belong, therefore, to the framework of a certain life-continuity, and with their moral, aesthetic and religious perspective they evolve from nature. This depiction clashes completely with the assumption of objectivity. These contradictions—for instance the problem of moral responsibility in view of the determination of thought such as it is postulated by today's neurobiology—are however neither part of the cultural, nor the natural reality of human beings. Rather, following Whitehead's thesis, they are a result of the way one contemplates reality. According to Whitehead, the task of philosophy consists in overcoming the ditch that opens up between natural and cultural sciences. This implies that philosophy is not to be understood as one of many cultural sciences at least as long as one abstractly opposes cultural sciences to natural ones. According to Whitehead, philosophy is the main science of all cultural sciences and, as such, should also be the science of natural science and the theory of science. The task of philosophy is precisely—here Whitehead agrees with Hegel—the criticism of abstractions, in particular those that separate humanities from the natural sciences.[1]

Apart from the difference in method, Whitehead does not deviate in *Modes of Thought* from any fundamental conviction that he already expressed in *Process and Reality*. The rejection of the interpretation of subjectivity as substance in favor of a radically procedural view of reality, as well as the emphasis upon a comprehensive relationality of all being, within the framework of which the isolation of spheres of reality must be interpreted as the expression of misdirected abstraction: these views represent basic constants of Whiteheadian thinking, which continuously pervade *Modes of Thought*. The well-known motto of Whiteheadian philosophy, "Against Bifurcation of Nature," could indeed be adduced for this or any other Whiteheadian work after 1918 (cf. PNK). As already noted, however, in *Modes of Thought* Whitehead doesn't confront the bifurcation of humanities and natural sciences with another ontology. Instead, he examines the influence that this splitting has had on modern civilization and its self-understanding. The critical analysis of the abstraction conditions of modern natural science occurs in at least three steps in *Modes of Thought*.

First of all, Whitehead confronts the results of theoretical construction in accordance with scientific thinking with human civilizing self-evidence. The contrast of facts and values is located centrally here.

Secondly, by examining the kinds of experiences that accurate science relies upon, Whitehead asks for conditions of the possibility of modern natural science. His provocative central thesis here is that "the experiences on which accurate science bases itself are completely superficial" (MT 29). Whitehead explains:

The reason for this blindness of physical science lies in the fact that such science deals only with half the evidence provided by human experience. It divides the seamless coat—or, to change the metaphor into a happier form, it examines the coat, which is superficial, and neglects the boy, which is fundamental." (MT 154)

Therefore, Whitehead calls to extend the experiential basis from which natural science emanates *qua* exact science. That is accompanied in *Modes of Thought* with a detailed analysis of the structure of perception.

Thirdly, only such an extension of the basis of experiences from which sciences emanate is able to bring, those experience connections into view which are constitutive for human civilization. Human civilization, according to Whitehead, is not based upon the experience of clear and distinct sense-data, but the experience of a totality that can be seized only vaguely. For, in the last analysis, Whitehead holds both the order of nature and modern civilization to rest upon structures of value.

Fourthly, by means of overcoming the slim experiential basis of modern subjectivist philosophy, Whitehead succeeds in *Modes of Thought* in attaining a totally new concept of culture. Culture, in this case, is not the opposing term to nature and the cosmos. Human culture represents one form, one possibility and constitution of nature.

2. Modes of Thought

Modes of Thought is, primarily, a book about discrepancy and appropriateness. Whitehead's diagnosis of his time, which he already expressed in his famous work *Science and Modern World*, is that our thinking, aligned with the scientific ideal of exactness, is moving increasingly away from the basic sensibility of civilization. Furthermore, he explains, the values espoused by civilization and those expressed by natural science increasingly oppose each other. All of this remains pertinent to our time.

That the rational basis of modern civilization have become unstable is evident in the conflicts caused between theories and values. I take an example from today's key science. In biology, for example, there is a heated debate between Darwinian and Neo-Darwinian views concerning the basic ethnic-social measures of democratic societies. Or, to take a related example, it is impossible to derive a normative standard from today's natural science that could function as a guide to the limits of genetic engineering. For, on the basis of science alone, genetic engineers cannot tell us what is morally advisable, only what is possible. Another example is the question that we ask ourselves today in Europe: what we actually mean as Europeans by the term "Europe". This question of how we could adequately define Europe—one of the central questions in European humanities—could be understood from the perspective

of *Modes of Thought* as the sign of a crisis which was triggered by the supremacy of abstractions of modern natural science in European thinking.

Whitehead explains the process behind this crisis of flawed abstractions. He writes, "the basis of democracy is the common fact of value experience, as constituting the essential nature of each pulsation of actuality" (MT 111). In the framework of the current natural sciences, however, such an experience of value cannot be justified rationally. Because values alone are, in Whitehead's view, the final causes that account for the striving of every living thing, the degree to which natural science abstracts all final causes and all finality from nature; it also abstracts the experience of value. The experience of value is thereby, in Whitehead's view, also one in which the substantial unity of all existing may be found. Value experience and experience of unity of all existing belong inseparably together for Whitehead. For Whitehead, as did Leibniz, describes a universal harmony of all existing, in the framework of which each existing thing takes the possibility conditions of its existence from the being of all others. This universal harmony and unity of the universe, on which is based each individual being, represents, in his view, the basis of the experience of value. By abstracting from the element of value in nature, natural science also obscures the relatedness of all being. Therefore, in Whitehead's view, the abstraction of the dimension of value in nature goes necessarily together with the solipsist conception of being, so as to erroneously imply a framework in which things exist in an isolated manner from each other.

3. Epistemological Outlook

According to Whitehead, in regard to epistemology, such a solipsist conception of existence, according to which things exist independently and in an isolated manner from each other, is based on an absolutization of pure sense perception that elevates it to the unique source of realization. For that reason, Whitehead explores in *Modes of Thought* a form of epistemology that, in his view, dominated philosophy from Descartes to Kant. His criticism contains not only the impetus of dialectic, hermeneutic and phenomenological theories, but also unfolds in *Modes of Thought* into a highly up-to-date theory of perception. Whitehead's *Symbolism* (1929) presents for the first time this theory of perception in its basic form. In *Modes of Thought*, Whitehead takes up the basis of this theory in the form of a sharp criticism of sensualistic and empiricist philosophies, without, however, articulating the concept of the symbol, or formulating the problematic term of "symbolic realization" in the sense of Goodman or Cassirer.

Central to this work is the concept of meaning, which is associated with different ways of perceiving and understanding the world, and the question as to what extent these ways of world perception and recognition shape specific

ways of world understanding. Of course, we already encounter in *Process and Reality* the basis for a theory of perception and the criticism of empiricism expressed therein (namely in Chapter VII of the second Part). But, unlike in *Modes of Thought,* Whitehead describes in *Process and Reality* neither the concrete relevance of this theory for scientific concept formation, nor does he discuss the influence of concept formation upon the process of civilization.

In this context one equally notices that Whitehead's late work *Modes of Thought* differs in this regard from *Process and Reality* and represents a treatment of crucial points of the late work of another philosopher, who likewise taught at Harvard: William James. Whitehead and James agree indeed—despite their different theoretical provenance and perspectives—on important points of their thinking. This holds primarily for their common appreciation of the importance of the phenomenon of religious perception, which they both regarded as a simple fact. Moreover, this holds for their similar criticism of the reduction of experience to the perception of distinct sense-data—a criticism that James developed in his model of "radical empiricism."[2] For both thinkers, the connections, which become introspective in the continuity of subjective self-experience, are as substantial, as data, as the distinct sense-data of the outside world. The endeavor of both philosophers is thereby the overcoming of a pure sensualism of English empiricism and in particular Hume in favor of a mode of thought that also considers the internal experience of the subject.

As James stressed, however, introspection is problematic as a method for producing knowledge. Due to the hard-to-grasp transience of its objects and its implication in bodily processes, introspective psychology in its entirety—which he contributed crucially to in founding—is "as vague as its object." In his view, all that follows from this is that introspection is subject to the same erroneous possibilities of every other scientific observation of "external" conditions. The incontestable vagueness that comes along with introspectively won realizations cannot, therefore, by itself, be a reason to devalue the method of introspection as unscientific. Likewise, in his view, as well as in that of Whitehead, continuity—which is evident in subjective self-experience and in the stream of consciousness—is an obvious fact, one which requires an analysis akin to the one applied to the outside connections manufactured by natural science. In view of the continuity and cohesion characteristic of experience, the splitting of experience into a dichotomy of observing subject and objects of observation such as we find in the train of Cartesian philosophy appears wrong. For both Whitehead and James, experience has an essentially synthetic character within the framework of which subject and object, past and future, are merged with one another. However, each philosopher granted this synthetic character of experience and its unified function a completely different significance in the framework of their respective theoretical conceptions. Whereas James sought to establish an empirical psychology which would be based on introspection as a further discipline within natural

sciences, Whitehead assumed that an adequate setting of experience in the context of a speculative metaphysics made necessary a revision of the conditions, upon which modern science is based, going back to Descartes. And while James, in the fashion of his country's dominant thinking mode—i.e. in the manner of American pragmatism and its attendant rejection of rationalistic thinking patterns—simply wanted to understand the continuity of subjective self-experience as an empirical fact, in Whitehead's view this "fact" can only be made coherent when placed in connection with the continuity that is, as a whole, characteristic of the spatio-temporal continuum. The continuity of experience can thus, in Whitehead's view, be made comprehensible only in the context of a philosophical *system*. Thus, *Modes of Thought* contains, last but not least, not only a criticism but also a justification of philosophizing in the form of a *system*.

4. Comprehensive Responsibility

Such a system, which aims at explaining the continuity of the process of experience, represents, without a doubt, Whitehead's main work, *Process and Reality*. As is well known, Whitehead—in similar vein similar to Leibniz—argues that subjectivity and self-realization represent the essential structure of nature's reality. He writes, "Self-realization is the ultimate fact of facts. An actuality is self-realizing, and whatever is self-realizing is an actuality" (PR 222). Like Leibniz, Whitehead states that every individual, every existing entity, must be understood as a synthesis of the entire universe. Every existing entity forms itself, according to Whitehead, by a grasping or "prehension" of the universe that is given to it as potential for its self-realization. Therefore, every organism, independently from its organizational stage of development, has original experiences in the *modus* of *causal efficacy*, within the framework of which it experiences its concrete unity with the world. Whitehead differentiates this *modus* from a perception of the world that has its origin in the purely conceptual activity of the subject, and is only relevant for highly developed organisms. The latter causes a representational immediacy of the world in sensory perception simultaneously with the perceptive organism. In symbolic modes of functioning, such as language, both modes of perception are merged with one another, whereby usually distinct sense-data function as symbols for the vague experiences in the *modus* of causal efficacy.[3]

In this connection and particularly in *Modes of Thought,* Whitehead defends the thesis that perceptions in the mode of causal efficacy are emotionally highly effective and full of existential importance, but formally undefined and therefore *vague*, whereas perceived sense-data are distinct and clear, but on their own abstract and empty. *Modes of Thought* is essentially a work about this vagueness and about the function that it plays within experience. In contrast to nearly the entire tradition, Whitehead states that sensory percep-

tion arises from a purely theoretical world relationship and thus is lacking any concrete sense without the massive, vague, emotional experiences in the mode of causal efficacy. In his words, "Sense perception is the triumph of abstraction in animal experience" (MT 73).

Accurate science, which is based in its one-sided nature alone on the interpretation of pure sense-data, therefore abstracts, firstly, from the emotional basis of all experience and thus from its immanent value. By ignoring, secondly, the massive experiences which humans have in the mode of causal efficacy literally in their own body, it simultaneously negates the entire creative and mediative connection of all living. In Whitehead's view this mediating connection has, due to its holistic character, the character of a comprehensive responsibility. The concrete perception of such a responsibility for oneself and others, and the insight into how self-responsibility and the taking of responsibility for others are connected, presume an insight into this comprehensive and mediating connection of the whole. Such an insight, however, can finally be obtained only through a concrete sensibility for value. In his view, it is illusory to believe that a civilization in which the basis of experience is increasingly shrunk to that of the exact sciences can maintain such a value sensibility in the long term. Wherever in the name of an ideal of objectivity all experience of value is classified as irrational, all aesthetic perception must, in the long run, eventually be extinguished. The task of philosophy must therefore be to overcome, by a critique of abstractions, the dualism of value-building and truth as it is characteristic for the drifting apart of civilizing self-evidence on one hand, and for accurate science on the other hand. Already in *Process and Reality* Whitehead says: "The task of philosophy is to recover the totality obscured by the selection" (PR 15). *Modes of Thought* can be read as a justification for this demand.

5. From Nature to Culture

As stated previously, Whitehead presents in *Modes of Thought* more than just a new theory of perception. In overcoming the narrow experiential basis of modern, subject-oriented philosophy, he also lays the foundation for the development of a new concept of culture. By explaining the structures of value as the actual fundaments for nature and culture, he is able to interpret both the forms of nature as well as human culture as aesthetic phenomena. In this perspective, human culture appears as the highest product of a creative and evolutionary process which, as a whole, is oriented to the production of beauty. Nature and culture no longer represent separate spheres of being; human culture appears, rather, as an integral part of nature. Nature transcends itself as culture, and, in turn, the process of cultivation appears as one which is nascent in nature. Through this expansion of the concept of culture, Whitehead succeeds in overcoming the narrowness of those theories of culture and socie-

ty, which more or less implicitly built upon an opposition between nature and culture (such as, for instance, "Critical Theory" or Neo-Kantianism). By integrating human reality in the reality of nature, his process philosophy also provides us with a timely contribution to the philosophy of ecology.

We must also consider, in Whitehead's view, that aesthetics and ethics may hardly be separated. Indeed, Leibniz already put forward the thesis that every natural thing can be seen as *beautiful* insofar as it expresses, in its complexity, a *coherence* that mirrors the entire universe. Leibniz thought that this coherence was derived directly from God's love of the world, and that God had devised the individual monadological realities in conformity to the whole of creation in such a way as for them to express one another. And yet, despite this assumption of the prestabilization of all creation through God's hand, Leibniz did not succeed in conceiving the beauty that the monads express together which accounts for the conception of a true connectedness and concrete interdependence amongst the monads. For Leibniz's "windowless" monads are only in an external harmony with one another.[4] Conversely, Whitehead's metaphysics is very concerned that the complexity and beauty of nature is to be understood as an expression of the "solidarity of the universe." He conceives this in such a way that solidarity itself becomes a dominant characteristic of a kind of *rationality* that is inherent in the world, and which is realized as the *connectedness* of all things in existence.[5] Thus, the "solidarity of the universe" manifests itself in his eyes in those forms of general order in which actual, individual entities transcend one another precisely in their difference and individual uniqueness in such a way that they constitute one another precisely in this relation. For the "solidarity of the universe" reflects itself as a ground and final cause of the finite existence of precisely those forms of order in which individuals harmonize with one another through their mutual contrast. As in the philosophy of Hegel, thus also in Whitehead's philosophy it is the over-coming of the opposition between singularity and generality which characterizes the transition from nature to culture.

The transition from nature to culture manifests itself in Whitehead's organic philosophy in three ways. First, as the transition from conformity into individuality and personality, together with an increase in complexity. Secondly, as the balancing of this complexity in aesthetic patterns that are potent both individually and universally. And thirdly, as the transition from raw violence and mechanically functioning causality into the feeling and knowing relationship to the self, a transition which coincides with an intensification of feeling and a deepening of mutual understanding. In the last analysis, it is the development of such an "understanding" that characterizes the transition from nature to culture in Whitehead's thought. For it is precisely in this understanding, conceived in the widest sense, that the solidarity of the universe manifests itself as such:

The hermit thrush and the nightingale can produce sound of the utmost beauty. But they are not civilized beings. They lack ideas of adequate generality respecting their own actions and the world around them. Without doubt the higher animals entertain notions, hopes, and fears. And yet they lack civilization by reason of the deficient generality of their mental functionings. Their love, their devotion, their beauty of performance, rightly claim our love and our tenderness in return. Civilization is more than all these; and in moral worth it can be less than all these. Civilized beings are those who survey the world with some large generality of understanding. (MT 4)

6. Conclusion

In conclusion we may therefore say that Whitehead developed in *Modes of Thought* not merely a new concept of culture, but that through the emphasis upon the meaning of "understanding" as the basis of civilisatory processes this work marks a hermeneutical turn in his philosophy, one which brings his thought in several respects into the vicinity of that of Dilthey, Ortega y Gasset, Heidegger and Gadamer. From this perspective, we may see Whitehead's critique of a kind of thought which takes its impetus from a system of pre-ordained axioms and principles as a sort of self-criticism which the author directs against both the earlier author of *Principia Mathematica*, as well as against the author of *Process and Reality*. At the same time, Whitehead's later thought—in which beauty over shadows truth—differs from all of European philosophy of his time in its pragmatic orientation. As we have said, the function of philosophy is, in Whitehead's view, to promote the art of life. A truly pragmatic philosophy, accordingly, is nothing more than an appeal "to the wide self-evidence of civilization, and the self-evidence of what we mean by 'civilization'" (MT 106).

In order to state wherein such self-evidence is grounded, another, more comprehensive epistemology is required than the one upon which the exact sciences are based. The epistemology of civilization—the message of *Modes of Thought*—is massive, emotional and vague. Given the vague feelings that are at its root, a philosophy based on such an epistemology must remain, in Whitehead's view, necessarily speculative. In this its speculative direction, philosophy is closely related to art, religion, and mysticism. But the purpose of philosophy is—according to Whitehead—to rationalize mysticism: not by explaining it away, but by the introduction of novel verbal characterizations, rationally coordinated. I close with Whitehead's words on the subject:

Our metaphysical knowledge is slight, superficial, incomplete. Thus errors creep in. But, such as it is, metaphysical understanding guides im-

agination and justifies purpose. Apart from metaphysical presupposition there can be no civilization. (AI 260)

NOTES

1. "It is here that philosophy finds its niche as essential to the healthy process of socie ty. It is the critic of abstractions" (SMW 75).
2. Cf. Schrag (1983, 479   494).
3. Cf. Lachmann (2000, 197 217).
4. Cf. Whitehead's criticism of Leibniz in *Adventure of Ideas*: "God and each individ ual monad were in communication. Thus there is, on this doctrine, an indirect communication between monads by the mediation of God. But each monad in dependently develops its own experience according to its character which is im posed on it aboriginally by communication with God. This Leibnizian doctrine of Law by pre established harmony is an extreme example of the doctrine of im position, capable in some ways of being mitigated by the notion of the imma nence of God. But no reason can be given why the supreme monad, God, is ex empted from the common fate of isolation. Monads according to this doctrine, are windowless for each other. Why have they windows towards God, and why has God windows towards them?" (AI 133).
5. Cf. Rohmer (2002, 509 517).

Fourteen

FACT, VALUES, INDIVIDUALS, AND OTHERS: TOWARDS A METAPHYSICS OF VALUE

Michael Halewood

1. Introduction

In order to establish whether Whitehead's later works, *Adventures of Ideas* and *Modes of Thought*, complete his metaphysics might seem to require, as a starting point, some kind of a summary of his bold cosmological vision as set out in *Process and Reality*. I intend to shirk this task and instead will come at the problem from an angle—the status and role of value within Whitehead's philosophy. Various attempts (for example Belaief (1975), Shindler (1983), George (2004)) have been made to address this question and to explain Whitehead's attempt to develop a metaphysics that moves beyond static conceptions of objects and facts. These works outline Whitehead's refusal of the scientistic model of a universe composed simply of objects, and relations between objects, and describe his challenge to that "tendency in modern Western philosophy to equate the 'actual' with the 'factual'" (Shindler 1983, 117). Yet, these accounts of Whitehead's re-introduction of value into the metaphysical scheme often seem to take for granted what is meant when he deploys the term "value." They tend to assume that value has a readily understandable meaning or that it refers to something; there is, supposedly, a specific content to value.

This chapter will contend that the radicality of Whitehead's approach is that he does not assume that there is any such specific content to value and, instead, the task that he sets himself is to account for the general status and role of value within existence. In this sense it is precisely a metaphysics of value rather than a description of what values are. On this view, to reinvigorate the object (or objective) world with value is not simply a matter of re-integrating or re-imposing already existing values (peace, sustainability, generosity, etc). The difficult task that Whitehead sets himself is, rather, to develop an account of the place of value in existence without either making value a solely human creation or readily assimilable to any pre-existing examples of value that humans might hold dear.

This chapter will also argue against the temptation to conflate value with nature (or Nature) which is to be found in some commentaries. Whitehead's

philosophy deals with the philosophy of science and its limitations but his work is not a philosophy of nature; it is a description of existence. This is not to say that there is no value in nature but that any value in nature will be a specific example of the wider notion of the value of existence; nature is not the progenitor or privileged home of value. The value of nature has to be defined, not assumed. This chapter will demonstrate how Whitehead's metaphysics involves a description of the essential role of potentiality in existence. In proposing such an approach, Whitehead does use the terms value and valuation at various points to express the integration of potentiality into actuality but he does so many fewer times and much more carefully than some of his commentators suggest. I also hope to show that Whitehead developed his thinking on value over time and that this is evident in the different emphases that are to be found in his texts. This is not to say that he changed his mind or that his texts are contradictory but it is clear that he brings different aspects of the character and role of value to the forefront on different occasions. For example, in *Religion in the Making* he attempts to situate value in relation to individuality. But such a relation, or such a description of such a relation, does not exhaust or completely delimit the scope of value within his metaphysics. Hence, in *Adventures of Ideas*, he re-approaches the status of value and seems to suggest that those actual values which seem to permeate the world do so as the outcome of the activity of the universe as opposed to being a prior or separate realm which generates such activity or against which it might be judged (as a Platonist might hold). In this way, I hope to point to the complexity but coherence in Whitehead's account and for the need not to latch on to one aspect of his discussion of value but to respond to the wider conceptual demands that it makes on us and our thinking.

To recap: rather than simply enabling us to re-assert our existing values and their content (be it in terms of generosity, selflessness, beauty, conservation, sustainability), it would seem that Whitehead develops a metaphysics of value which accounts for its role within his philosophical framework but gives no indication of what such values are or how they might be ranked. Such decisions are for us to make and take responsibility for. The point is not to confuse value with virtue.

2. Whitehead and Value

In *Concept of Nature*, Whitehead states that, "The values of nature are perhaps the key to the metaphysical synthesis of existence" (CN 5), which would seem to suggest that an account of such values will be central to that text. However, it should be noted that the next sentence is, "But such a synthesis is exactly what I am not attempting" (CN 5). *Concept of Nature* is not about the value of nature; it is about how to account for our perceptions of nature. It is not a philosophy of nature but a philosophy of that which is presented to hu-

mans in what he terms "sense-awareness"[1] (CN 5 and *passim*); in this sense it is more of a philosophy of science. It is true that he here suggests that the values of nature *might* hold a metaphysical key but he defers such an inquiry until a later date.

Concept of Nature is only a starting point for further enquiries. In Whitehead's words:

> I submit to you that among the necessary prolegomena for philosophy and for natural science is a thorough understanding of the types of entities, and types of relations among those entities, which are disclosed to us in our perceptions of nature. (CN 48)

Whitehead is clear that a distinction must be made between analyses of nature and analyses of thinking about nature. He is also clear that whilst value and nature might be related, this cannot be assumed and that much work will have to be done to provide such an account.

The next most significant development with regard to the status of values and metaphysics in Whitehead is to be found in *Religion in the Making* (1927), for it is here that he defines both values and metaphysics:

> A metaphysics is a description . . . . A metaphysical description takes its origin from one select field of interest. It receives its confirmation by establishing itself as adequate and exemplified in other fields of interest. (RM 76)

In Whitehead's use of the term, metaphysics is not so much about first principles as a generalized description which, when coherent, explains that which it purports to explain, and is confirmed by its ability to explain other fields of interest. Whitehead can here be seen as moving toward a systematic mode of thinking that is not confined to being judged in terms of its content.

With regard to his discussion of value, as set out in *Religion in the Making*, Whitehead is insistent that value must be situated *within* actuality, within individual elements. Such value is comprised by that individual element's self-experience. At this stage of Whitehead's thinking, the importance of the emplacement of value within each individual takes precedent over the need to explain the value of other things for that individual entity. The status of the relation of individuals to other individuals—the question of 'otherness'—is deferred until later works, as will be seen. For the moment, the emphasis is on the inherence of value to actuality. Hence:

> Value is inherent in actuality itself. To be an actual entity is to have a self-interest. This self-interest is a feeling of self-valuation . . . . The val-

ue of other things, not one's self is the derivative value of being ele-
ments contributing to this ultimate self-interest. (RM 87)

It is this apparent emphasis on self-interest, with others being derivative, that
led Schindler (1983, 127-8) to suggest that Whitehead's notion of value ulti-
mately fails insofar as it is unable to move beyond this apparently solipsistic
account of value. Such a conclusion appears to be too strong. Especially, as
will be seen, as it is based on a mis-reading. It assumes that when Whitehead
says "value" he means value in the sense of worth or virtue (of truth, honesty,
beauty). However, Whitehead has not defined value yet. Instead, he has simp-
ly attempted to describe the experience of an individual being itself. His defi-
nition of value comes on the next page.

> There is no such thing as bare value. There is always a specific value,
> which is the created unit of feeling arising out of the specific mode of
> concretion of the diverse elements. These different specific value-
> feelings are comparable amid their differences; and the ground for this
> comparability is what is termed here "value." (RM 90)

However, this apparent explicit definition is not as straight-forward as it
might seem. Unlike Plato, Whitehead does not want to posit an abstract and
complete realm of value. Instead, there are always only specific values. Such
values are therefore not values in themselves, rather, they are value-feelings.
So, what exists comports value but is not, in itself, value. On this view, value
is that which enables, or grounds, the differences between value-feelings as
developed by individuals. In one sense, this does seem reminiscent of a realm
of prior values as envisaged by Plato but, again, this is not Whitehead's posi-
tion. As will be seen later in this chapter, it is in *Adventures of Ideas* (1933)
that a re-positioning of such a realm of real values will be addressed with the
contention that values are results rather than the ground of action. Within *Re
ligion in the Making*, there are no values except those values (value-feelings)
that are realized in individuals. Value is simply that which enables valuation,
and*,* Whitehead asserts*,* it is God who is the ground of this ground. "The pur-
pose of God is the attainment of value in the temporal world" (RM 87). God
provides the shift from an abstract notion of value, as possible comparisons,
to the actual comparisons as individual value-feelings.

It should be remembered here that *Religion in the Making* is not in itself
a text of general metaphysics. It is a limited metaphysics in that it is a descrip-
tion of the generalized experiences concerned with that which goes beyond
the mere facticity of the world, as supposedly located in religious experience.
Accordingly, this text is only concerned with the value side of the fact-value
equation. Whitehead explains this particularity of religion when he writes,
"The peculiar character of religious truth is that it explicitly deals with val-

ues" (RM 110). It is in this respect that God is described not as the creator of values but as that which enables individual valuation to occur. Whitehead has hereby laid out the demands to be met in *Process and Reality*. If *Religion in the Making* describes religion as the systematization of the experience of value and *Science and the Modern World* (1926) has described science as the systematization of experience regarding the objects of the world, then both have, in their unique ways, been only partially metaphysical, on Whitehead's account. Neither has been able to account fully for a description of the inter-relation of these two fields of interest. This is the task of *Process and Reality* and this makes it, therefore, his general metaphysics.

3. Value and Valuation in *Process and Reality*

The first thing to notice is that the term "value" (used as a noun) appears only approximately ten times in *Process and Reality*. On two occasions it is the word "values" that occurs and is presented by Whitehead in single inverted commas to signal that he is not directly affirming the sense of the word at that point (PR 84, 104). At least four times, the reference to value comes in descriptions of his notion of "Propositions." Here he is explaining how judgments are not a question of deciding if something is true or false but are a description of their value (worth) as "elements of feeling" (PR 185; he uses value three times on this page and in the same manner on 191). Twice he uses the phrase "pragmatic value" to describe how the specific satisfactions of superjectivity qualify transcendent creativity (PR 87-88). That is, "pragmatic value" describes how completed actual entities contribute to and qualify the world. Despite this lack of reference to value, there are extensive references to valuation throughout the text. It is an important element of Whitehead's metaphysics that it is the activity of valuation that is vital and is given primacy in *Process and Reality* (as expressed in his deployment of the verbal form), rather than the notion of values as static things (nouns). So, whilst, it would clearly be a fundamental error to maintain that Whitehead's cosmology was not interested in accounting for value in some sense of quality and worth (the latter not indicating price) it is also clear that Whitehead is not interested in (indeed does not believe in) the existence of a set of (moral) values that can be elicited, described, or enumerated and against which our experiences and activities can be measured. It is precisely because of his desire to account for the very inherence of value in existence and to describe how value is not opposed to fact that Whitehead avoids the very word "value" in *Process and Reality*.

To recap, Whitehead is clear that he wants to avoid the problems associated with following Plato in separating off a static realm of value, from which present imperfect reality is derived. "Plato found his permanences in a static, spiritual heaven, and his flux in the entanglement of his forms amid the

fluid imperfections of the physical world" (PR 209). Instead, Whitehead wants the process to be the reality. But, note that Whitehead also wants to argue against the neo-Kantian position (as also evidenced in various forms of realism) where concept and reality are seen as separate so that facticity falls under the purview of science and, consequently, value becomes limited to, at best, an epi-phenomenal realm fabricated by and for humans or, at worst, a subjective creation of individual humans which merely expresses unfounded sentiment and holds back science. For Whitehead, value and facticity must not be shorn apart. Indeed, accounting for their co-habitation is one of the major tasks he sets himself. How does Whitehead account for a non-deterministic process wherein stubborn fact is both an attainment and a ground for novelty and where experience is constitutive of subjectivity and objectivity? This is the role granted to potentiality in Whitehead's universe. And in order to account for it he has to explain it and not simply label it as "value."

So, the next stage becomes, for Whitehead, to explain the how potentiality inhabits actuality without being reduced to it and without having to posit a separate realm of abstract yet existing potentials. This is the role he assigns to eternal objects which, as will be seen, perform their task by incorporating valuation into existence.

4. What is an eternal object?

Whitehead makes it clear that "eternal objects tell no tales as to their ingressions" (PR 256). So, in one sense, the question "what is an eternal object" is impossible to answer, in that eternal objects are never encountered on their own but only as aspects of those occasions in which they find ingression into a particular entity. That eternal objects do not exist in a separate realm and are only manifest in the moments that they ingress into an actual entity may distinguish them from Plato's static forms but it also makes them nigh on impossible to indicate in language (in the sense of denoting them, pointing to them, giving examples of them). This is why, although Whitehead does not state this quite so plainly, that he would seem to suggest that it is not possible to give names to eternal objects. The occasion on which Whitehead comes closes to a definition of them, is through a discussion of Locke's philosophy. Whitehead writes:

> These 'eternal objects' are Locke's ideas as explained in his *Essay (II, I, 1)* where he writes:
>
> > *Idea is the object of thinking.*—Every man being conscious to himself that he thinks, and that which his mind is applied about, whilst thinking, being the ideas that are there, it is past doubt that men have in

their mind several ideas, such as are those expressed by the words, "whiteness, hardness, sweetness, thinking, motion, man, elephant, army, drunkenness," and others. (PR 52)

Whitehead does not stop to analyze or explain this passage. He seems to take it as self-explanatory and simply moves on to a discussion of how Locke's work can help explain his notion of nexus. This leaves a rather peculiar feeling that "man," "elephant," and "drunkenness" are eternal objects! It is clear from the rest of *Process and Reality* that Whitehead does not intend this to be the case. It simply indicates his reluctance (indeed inability) to name eternal objects but his desire to elucidate nevertheless. This is not to say that Whitehead, in *Process and Reality*, is not clear as to the role, purpose, status, manner of inter-relation, of eternal objects. They have various roles.

Eternal objects are "logical variables" that underpin the whole notion of process: "each sensum shares the characteristic common to all eternal objects, that it introduces the notion of the logical variable, in both forms, the unselective 'any' and the selective 'some'" (PR 114). Eternal objects as sensa thereby perform the role of guaranteeing, at a metaphysical level, the principle of process, via the notion of potentiality, within a general system of becoming punctuated by divergent moments of individual subjects. This is sense in which they are 'logical' rather than actual. This is not to say that they do not occur, rather that they are never encountered.[2]

Eternal objects also grant definiteness to an entity by enabling pure potentiality to be actualized on given occasions (e.g. PR 149). And importantly they express the dipolarity of existence (e.g. PR 239):

Thus an actual entity is essentially dipolar, with its physical and mental poles; *and even the physical world cannot be properly understood without reference to its other side, which is the complex of mental operations.* The primary mental operations are conceptual feelings. (PR 239; emphasis added)

As opposed to the neo-Kantian separation of concept from reality and the subsequent relegation of value to a mere consequence of the human mind, Whitehead allows conceptuality to suffuse existence. This is a crucial aspect of eternal objects. "A conceptual feeling is feeling an eternal object" (PR 239). The mental and the physical are two aspects of the concrescence and the existence of a material entity. So, concepts do not find their origin in thinking; concepts are that aspect of the exterior (public) realm that constitutes the definiteness of an individual. "An eternal object considered in reference to the privacy of things...constitutes an element in the private definiteness of that actuality. It refers itself publicly; but it is enjoyed privately" (PR 290). In this way, Whitehead avoids the post-Kantian gap between reality and concept

because the conceptual is an integral aspect of reality. What is important is that Whitehead insists that conceptuality and potentiality are integral elements of all existence.

There is, however, a further step to be made that is key to this chapter and this is that the inherence of conceptuality and potentiality is displayed and explained in terms of valuation. For valuation is the mode by which eternal objects gain specific ingression and help grant individuality and definiteness to an entity. "By reason of the actuality of this primordial valuation of pure potentials, each eternal object has a definite effective relevance to each concrescent process" (PR 40. See also, PR 21, 26, 31, 32, 53, 108). But this potentiality does not have free rein; it is not existent on its own. It is always, everywhere, displayed in facts: "apart from things that are actual, there is nothing—nothing either in fact or in efficacy" (PR 40). This is his "ontological principle." Hence, to attempt to separate fact from valuation is to rip reality apart . . . . Now, an analysis of the world as if fact and value were separate may be possible, indeed desirable on occasions, in order to produce worthwhile or interesting abstractions. But, to assert that fact and value are separate in existence, or inhabit separate realms, as the neo-Kantian legacy invites us to do, is to make a serious error. It should be noted that this discussion might have appeared to have slipped from talking about valuation to value—but that is because this is what the neo-Kantian legacy makes us do, and it is precisely this that Whitehead is attempting to enable us to re-approach. That is to say, post-Kantian and positivist distinctions between fact and value have misread the character of existence. But the answer is not simply to re-assert value into fact, for the very distinction between these two does not, in itself, exist. Rather, for Whitehead, the task is to re-assert the qualitative aspect of existence through a re-description of the enactment of potentiality as an operation of valuation. This is the role of eternal objects, which, though unnameable, are a vital aspect of his philosophy of organism, of his metaphysics.

So, why does he not mention eternal objects again in *Adventures of Ideas*, or *Modes of Thought*, when he does retain other aspects of his terminology? One simple answer might be that he found that the very term itself had been unhelpful for readers.

> There is one point as to which you—and everyone—misconstrue me— obviously my usual faults of exposition are to blame. I mean my doctrine of *eternal objects*. It is an endeavor to get beyond the absurd simple-mindedness of the traditional treatment of Universals.[3] [Written on Jan 2, 1936]

Or, it could be argued that Whitehead felt that the status of eternal objects as un-nameable elements in his speculative system was not, ultimately, an adequate response to the demands of the world and of actuality considered

as a contemporary and a historical realm. He needed to do more work to substantiate his claim that philosophy must explain everything. "Philosophy may not neglect the multifariousness of the world—the fairies dance, and Christ is nailed to the cross" (PR 338). This is where a distinction between the philosophical and the metaphysical aspect of Whitehead's work may be of use. The task of metaphysics is to provide generalized descriptions. The tack of philosophy is to describe everything. These are related but distinct enterprises. And the adequacy of the metaphysics can only be assessed in its confirmation by the philosophical descriptions it engenders (RM 76; PR 8). So, despite the unnameability of eternal objects, in their role of explaining the inherence of potentiality in fact, Whitehead understands that it is still a requirement to describe how valuation operates and has operated in the world (historically speaking). It is to this that he turns in his "sociology" at the beginning of *Adventures of Ideas*.

5. Whitehead's Sociology

If *Process and Reality* has systematically outlined a universe comprised of the facticity of value through the incorporation of potentiality into fact as that valuation enacted through the ingression of eternal objects, then Whitehead is aware that this is just the first, abstract step. What is now required is an account of how, historically speaking, such potentiality and facticity have played themselves out. This is what he means by "sociology" in *Adventures of Ideas*. And, it is, perhaps, telling that he chose to give this text this specific title, for, in many respects, in contradistinction to *Process and Reality*, there is a definite focus on the role, status, and activity of ideas within it. That is to say, now that Whitehead has completed his abstract systematization in which value was unnameable, he now goes about, with zeal, providing an outline of how value has actually operated and, toward the end of the text, how value might proceed. In this respect, *Adventures of Ideas* would seem to represent Whitehead at his most Platonic. This is not to say that Whitehead, in this text, has converted to idealism. It is clear that physical purpose and prehensions still hold sway. But there is a shift in his account of that which enables there to be a difference between the mere physical and the mere conceptual. That is to say, as discussed above, whilst he does not want the realms of fact and value to be distinct he certainly does not want to reduce one to the other.

In *Process and Reality*, it is God's one-off conceptual valuation "'infinite' in Spinoza's sense . . . [which is] an inescapable condition characterizing creative action" (PR 247). But, at the same time, he is clear that "God . . . does not create eternal objects; for his nature requires them in the same degree that they require him" (PR 257). In *Adventures of Ideas,* this role is explicitly given to Eros in terms of "the valuations involved in the Primordial Nature of God, here also termed the Eros of the universe" (AI 326), "Eros…which en-

dows with agency all ideal possibilities" (AI 270). In one sense, this Eros is no more than another expression of the innate creativity that characterizes all existence in *Process and Reality*, but in this text there is more of Spinoza's conatus about it. There is more of an urgency, more of a striving. But, there does also seem to be a different slant to the term as deployed here; a definite Platonic stance. Not only is it, after all, one of the seven factors that Whitehead borrows from Plato and the inter-weaving of which he claims, "All philosophical systems are endeavors to express" (AI 203)—the others being The Ideas, The Physical Elements, The Psyche, The Harmony, The Mathematical Relations, The Receptacle. But, perhaps the ultimate question that Whitehead wants to answer is posed in terms of Eros, namely: "we have to ask whether nature does not contain within itself a tendency to be in tune, an Eros towards perfection" (AI 323). Or, to put it another way, does the universe, does existence, have a purpose? And here, Whitehead wants to answer "yes."

In this way, the question concerning the status of value has shifted with *Adventures of Ideas*. Having completed the difficult philosophical task in *Process and Reality*, of outlining the actuality of potentiality and the potentiality of actuality, and thereby placing valuation at the center of all existence, he uses this text to provide a history of the development of specific values.[4] The first section of the text, titled "Sociology," traces the development of Western "civilization" (in terms of the development of ideas—some might say values—such as: freedom, persuasion, Christianity). In the final section he addresses the possibility that values, whilst not inhabiting a prior, separate realm, may come about, may be created. There is a feeling within this text that Whitehead wants to invert the historicity of Plato's forms. That is to say, values will come to exist, subsequent to their creation as a result of the individual actualizations of the universe as an on-going process. In this way, the universe has a purpose, a genuine teleology. This purpose is not the maintaining or passing on of value (the vector character of feeling that dominates *Process and Reality*) but the creation of a more "harmonized" value, that Whitehead appears to maintain is, in and of itself, more valuable. Whitehead has moved from the demand that he set himself in *Religion in the Making* and which he elaborated in *Process and Reality* namely, the demand to establish a metaphysical framework whereby value was enmeshed in actuality. The task in *Adventures of Ideas* is not simply to repeat such a formulation but to extend it. Here the question becomes one of what have been, are, and will be, those generalized values which surround and inhere in the on-going activity of the universe and within which we are situated and implicated. His answer comes from a re-engagement with Plato which so actively engages with the animus of the latter's concepts that it ends up as a re-casting of them and produces a true reversal of Plato and his Ideas.

This Platonic stamp is evident throughout *Adventures of Ideas* (especially in Part 1 in Chapter V's title "From Force to Persuasion"): "The creation of the world—said Plato—is the victory of persuasion over force. The worth of

men consists in their liability to persuasion. They can persuade and be persuaded by the disclosure of alternatives, the better and the worse" (AI 105). This would seem to sit well with Whitehead's previous insistence on eternal objects and propositions as having the role of presenting potentiality in terms of alternatives and real possibilities. But, there also seems to be a much more traditionally Platonic aspect of *Adventures of Ideas*, perhaps best summed up as follows:

> After all, societies of primates, of animals, of life on the earth's surface, are transient details. There is a freedom lying beyond circumstance, derived from the direct intuition that life can be grounded upon its absorption in what is changeless amid change. This is the freedom at which Plato was groping. (AI 86)

Here, there is a definite attempt to outline a quality that has often been seen as a value, namely freedom, as that which is beyond the mere facticity of the contemporary (physical) social world. This search for and willingness to name, values that are beyond our immediate experience is developed in the final section of *Adventures of Ideas*, titled "Civilization" and is distinct from the approach to value exhibited in *Process and* Reality. So, "a society is to be termed civilized whose members participate in the five qualities—Truth, Beauty, Adventure, Art, Peace" (AI 367). It should be noted that Whitehead does not use the word value here. And he is precise in adopting the word quality instead. However, it would seem clear that his intention is to describe those qualities that are associated with the western notion of value. For example, he states that: "Beauty is the mutual adaptation of the several factors in an occasion of experience" (AI 324). In this account, beauty is an outcome of a physical arrangement; it does not precede the arrangement. It is not a pre-existing category or class. However, Whitehead clarifies: "The teleology of the Universe is directed to the production of Beauty. Thus, any system of things which in any wide sense is beautiful is to that extent justified in its existence" (AI 341). Beauty is not simply self-enjoyment but justified self-enjoyment will be beautiful. Moreover, Beauty itself is an outcome; it is produced. The reason for beauty is not the beautiful; rather beauty is an outcome of the purpose of the universe. In this account, Whitehead has invoked the "teleology of the universe" to underpin his definition of beauty. But this is not yet a sufficient account of that quality. Indeed, it transpires that he needs to invoke a further quality, harmony, in order to explain his argument: "the whole heightens the feelings for the parts, and the parts heighten feelings for the whole, and for each other. This is harmony of feeling; and with harmony of feeling its objective content is beautiful" (AI 344). There is a slippage here, as there is throughout this section, with one term being defined in terms of another and each remaining unsubstantiated. This inability to substantiate

might be a necessary outcome of his contention that quality and value do not inhabit a separate, exterior, prior realm, and as such are extremely hard to define, or name. As he puts it, the quality of peace is "hard to define and difficult to speak of" (AI 367). Furthermore: "The experience of Peace is largely beyond the control of purpose. It comes as a gift" (AI 368).

So, why does Whitehead want to shift from the philosophic refusal to name value in *Process and Reality* to an insistence on naming values, many of them? One answer might be that Whitehead felt that, as distinct from the generalized descriptions of metaphysics (and yet in order to confirm its descriptions), philosophy must provide a limited description and response to the needs of thought, experience, life, and the world. That is to say, history intervenes in our speculations and it demands that we respond and attempt to understand. Giving us an example, Whitehead writes, "The crash of the Great War marked its [the 19th century's] end, and marked the decisive turn of human life into some new direction as yet not fully understood" (AI 358). He further explains that "the misery of the great war was sufficient for any change of epoch" (AI 359).

Without wishing to personalize the matter, Whitehead's loss of a son in World War I would have been one factor that sharpened his awareness of the need to account for the technological, social, economic, and political upheavals that surrounded him. In this sense, his attempt to name values is an honest and rigorous response both to the demands of his philosophy and to the demands of the world. The adequacy of a philosophy's response to such demands will both rely upon and confirm the adequacy of its metaphysics. *Adventures of Ideas* is, therefore, a test that Whitehead set himself after *Process and Reality*.

However, it would also seem clear that any such attempt to name qualities and values will, and must, fail. This is what makes the last section of *Adventures of Ideas* so poignant. Whitehead seemed to know that he had set himself a necessary but impossible task. *Science and the Modern World* and *Religion in the Making* set the demand for a cosmology which fused fact and value: *Process and Reality* set out this metaphysical framework. Yet metaphysics is not, in and of itself, a solution or answer. As already mentioned, he makes it clear that metaphysics 'receives its confirmation by establishing itself as adequate and exemplified in other fields of interest.' *Adventures of Ideas* can, therefore, perhaps be seen as an attempt to confirm, with real examples, the historical and social integration of facts and values. Yet this confirmation will only confirm that value is inherent in fact it will not validate, sanction or condone those values which are cited as confirmation. That is to say, the instances of a value are its instances which, important as they are, are not, themselves, metaphysical arguments. Perhaps this is why, he introduces the new terms of "Youth" and "Tragedy" in the very last lines of *Adventures of Ideas*. Not as final explanations in themselves but as the final explanation that there are no final justifications or values. Yet, we must nevertheless strive

to describe such values and to live them. If we do not we will fall back into the passive reception and repetition of vegetal life.

> At the heart of the nature of things, there are always the dream of youth and the harvest of tragedy. The Adventure of the Universe starts with the dream and reaps tragic Beauty . . . . The immediate experience of this Final Fact, with its union of Youth and Tragedy, is the sense of Peace. In this way the World receives its persuasion towards such perfections as are possible for its diverse individual occasions. (AI 381)

Yet, to describe *Adventures of Ideas* as a failure is much too strong. It may fail in its attempt to name values, and it may recognize that this is a necessary failure. There would also seem to be other important shifts made in this text that demonstrate a changing attitude in Whitehead to a fundamental notion. As such, there is also a shift in his metaphysical emphasis. This is evidenced in the introduction of the other as constitutive in self-identity that mirrors the intense interest that Whitehead displays in the relation of past, present and future in *Adventures of Ideas*.

It will be remembered that Whitehead is clear that eternal objects are concerned with offering variables as alternatives. In *Adventures of Ideas*, this aspect does not disappear but is given a new slant. It now involves the question of the "other." Hence, he explains, "it belongs to the essence of each occasion of experience that it is concerned with an otherness transcending itself" (AI 231).

However, and perhaps more importantly, this inclusion of otherness as constitutive, and hence as contributing to the value of an individual, also introduces the question of temporality:

> Yet the present occasion while claiming self-identity, while sharing the very nature of the bygone occasion in all its living activities, nevertheless is engaged in modifying it, in adjusting it to *other* influences, in completing it with *other* values, in deflecting it to *other* purposes. The present moment is constituted by the influx of *the other* into that self-identity which is the continued life of the immediate past within the immediacy of the present. (AI 233; emphasis in the original)

This emphasis on otherness may not be a huge metaphysical shift in terms of Whitehead's philosophy. But, the terminological shift is an important one. For here, Whitehead would seem to offer himself a way out of the conundrum that he placed himself in when trying to name those values that expressed the purpose or teleology of the universe (be it in terms of creativity or Eros). For the introduction of the other into self-constitution is an introduction of the ethical, in that responsibility for being a self, refers to other selves:

> Thus its own constitution involves that its own activity in *self*-formation passes into it activity of *other*-formation. It is by reason of the constitution of the present subject that the future will embody the present subject and will re-enact its patterns of activity. (AI 248)

And it is this necessary implication of the other within the past and future self that provides the manner, purpose and morality of existence. Hence, in Whitehead's words, "the occasion arises as an effect facing its past and ends as a cause facing its future. In between there lies the teleology of the Universe" (AI 249).

As opposed to the reading of Shindler (1983) who focuses on the self-enjoyment of becoming individual as the founding of value, such quotations seem to signal a shift from the notion of value in *Religion in the Making* as the ground of comparison of individuals, and the notion of valuation as central, to the general metaphysical account of potentiality and becoming in *Process and Reality*. In *Adventures of Ideas*, although not fully developed, there is a change of approach so that the purpose of existence is not the simply the immediate self-enjoyment of an individual's individuality but requires an orientation to the other of the past and present as inherent and integral.

If *Process and Reality* is an account of the value-ridden character of existence, which hardly mentions value, then *Adventures of Ideas* is an attempt to name those values that have and will characterize human social life. Technically speaking, however, the un-nameability persisted and what was left was witness to Whitehead's developing insistence on the need for philosophy to explain more than just the philosophical. As such, there is a focus on purpose and teleology that could be developed around a conception of the other of the past and future, as involved in the present. To clarify, this is not an other of the dialectic—this is not the other of Hegel, Levinas or Žižek. Admittedly, Whitehead has not given a very full account of quite what the role of the other is. However, it is clear that it signals a shift in his metaphysics, which is taken up in his last major work *Modes of Thought* (1938).

6. Modes of Thought

As opposed to *Process and Reality*, this text commences by claiming that systematization can only follow from a more basic form of analysis—which Whitehead terms "assemblage" (MT 2). Interestingly, and as distinct from *Adventures of Ideas*, this involves an attempt to outline some qualities immediately, that is, to start with some general terms that encapsulate the primary factors of experience. In his words, "We should appeal to the simple-minded notions issuing from ordinary civilized social relations" (MT 17).

The procedure here is different from the naming of historical values and values which are to become. In this instance, Whitehead is simply trying to

catch hold of that which, ultimately, matters. In order to accomplish this, Whitehead fixes on the terms Importance, Expression and Understanding.

The breadth of the notion of Importance can be seen in the claim that "morality, logic, religion, art" are, according to Whitehead's account, "subordinate species" of Importance (MT 16). Here, Whitehead is not trying to assign value but attempting to emplace value within experience without reducing it to a category. The salient point is that the emphasis of this text has shifted from the Platonic seeming sheen of *Adventures of Ideas*, to a focus on the individual—on fact, and such facticity is not limited to objects. Moreover, value is not limited to (human) subjects. "Whatever exists," Whitehead explains, "is capable of knowledge in respect to the finitude of its connections with the rest of things" (MT 58).

There could, therefore, be various histories. That which humans call history is simply "the record of the expressions of feelings peculiar to humanity" (MT 37). It becomes clear in *Modes of Thought* that Whitehead envisages philosophy as having a purpose that is distinct from that of metaphysics. He remains faithful to his definition, in *Religion in the Making*, that metaphysics is a description but one that "receives its confirmation by establishing itself as adequate and as exemplified in other fields of interest" (RM 76).[5] Again, there is a need, according to Whitehead's own position, for an exemplification of the general metaphysics of *Process and Reality* in philosophy. That is to say, metaphysics is philosophical but it is not all of philosophy. And philosophy can be metaphysical but also needs to be and do more than that. For Whitehead, metaphysics and philosophy require each other to demonstrate adequacy and provide exemplification. Philosophy must provide meaningful or at least adequate accounts which are more than mere systems or over-elaborate abstractions.

In these terms, *Adventures of Ideas* can be seen as Whitehead's philosophy of history, social history, and of human life. The task he sets philosophy, and himself in *Modes of Thought* is to provide *one* self-evident truth:

> [P]hilosophy, in any proper sense of the term, cannot be proved. For proof is based upon abstraction. Philosophy is either self-evident or it is not philosophy. The attempt of any philosophic discourse should be to produce self-evidence. (MT 67)

And it is this lack of abstraction, this attention to facticity and the individuality of facticity which permeates *Modes of Thought*. For example: "The potentialities in immediate fact constitute the driving force of process" (MT 136-7). And: "Fact includes in its own nature something which is not fact, although it constitutes a realized item within fact. This is the conceptual side of fact. But, as usual, the philosophic tradition is too abstract. There is no such independent item in actuality as "mere concept" (MT 167). No longer is Whitehead

trying to account for such conceptuality in terms of eternal objects (as is the case in *Process and Reality*), nor is he trying to name those concepts and values such as Beauty, Peace, and Harmony towards which existence apparently aims. The task he sets himself in this text is different and distinct. *Modes of Thought* seeks to disclose that which is self-evident. This is now the point of philosophy. And it would seem that the kernel of this is the value of value:

> There must be value beyond ourselves. Otherwise everything experienced would be merely a barren detail in our own solipsist mode of existence. We owe to the sense of Deity the obviousness of the many actualities of the world, and the obviousness of the unity of the world for the preservation of the values realized and for the transition to ideals beyond realized fact. (MT 140)

What is novel in this approach to Deity is that it is not the Deity that produces, supports, or clarifies the world but the *sense* of deity. That is to say, the ultimate value is that there is more than just an individual "I." There is something beyond us. But, this beyond is not the deity. It is not a prior realm of forms, nor is it a realm of forms or values, which are to come. This is a move that resonates with the notion of the other as developed in *Adventures of Ideas*.

In a passage that illustrates this point, Whitehead writes, "We are essentially measuring ourselves in respect to what we are not" (MT 141). What should be noted is the importance of the term "sense of" that Whitehead deploys extensively throughout this lengthy discussion of value (MT 143-161). In a particularly relevant passage, Whitehead writes:

> At the base of our existence is the *sense of* "worth." Now worth essentially presupposes that which is worthy. Here the notion of worth is not to be construed in the purely eulogistic sense. It is the *sense of* existence for its own sake. (MT 149; emphasis added)

Whitehead clarifies that the basis of our existence is not worth. It is the sense of it. And this account indicates that such sense of worth is not value. It is worthy; it is an aspect of the individual valuation which make up that moment of experience. It is worthwhile, but it is not necessarily valuable—that will come later. As such, existence for its own sake (or the sense of existence for its own sake) is *not* a value on its own.

To emphasize Whitehead's deployment of the term "sense" is not to reduce his account to a phenomenological one. Rather, it is to situate this text within his ongoing concern to provide accounts that do not transcend our experience. And, as opposed to some of the more extravagant claims of phe-

nomenology, the only conclusion that Whitehead can draw from experience is that:

> Our enjoyment of actuality is a realization of worth, good or bad. It is a value-experience. Its basic expression is—Have a care, here is something that matters! (MT 159)

From the whole edifice of *Process and Reality*, through the historical sweep of *Adventures of Ideas*, Whitehead finally fixes on his point: "Something matters."

If there is to be a value in the world, then this is it: That something matters. However, it is important not to run too quickly from this point and simply re-assert that which we already consider valuable into our accounts of existence. This would seem to betray the extent of the conceptual re-appraisal that Whitehead is asking of us. The demand that Whitehead makes is that we consider the role and the weight that we give to the notion of value within our thinking and acting. He demands that we consider why and how value matters or can be made to matter in specific instances, occasions or institutions. It is easy to say that we want justice; it is harder to ascertain how we make both justice and a lack of justice matter here and now in this particular case. The requirement to make such determinations is the demand that Whitehead makes of us. He provides us with the tools for rethinking the concept of value but, quite rightly, he does not attempt to dictate what such determinations of value might actually be). Whitehead's makes this demand in often subtle and elegant phraseology which might belie the depth of its implications:

> The main point of this description is the concept of actuality as something that matters, by reason of its own self-enjoyment, which includes enjoyment of others and transitions towards the future. (MT 161)

It is in the relation of self-enjoyment to otherness, with others as constitutive of the existence, that value is seeded and the individual both validated and superseded. But, again, this is not a theory of value.

When Whitehead does turn to the status of value it is not a direct discussion but is posited in terms of an exemplification. Whitehead is still insistent on describing that which can be accounted for and developed out of our experience. Two important elements of this are that "'actuality' is in its essence composition" and, he continues, "Power is the compulsion of composition" (MT 162-3). It is these two factors—that the world is composite and that there must be a power to enable composition—that, Whitehead argues, move us beyond solipsism (and the solipsism of self-contained self-enjoyment) to the "*sense of* externality" (MT 163). It is the analysis of this composition that "discloses factors in the composition . . . two types of factors" (MT 163). One

factor is the many entities which could be composed into a new unity. The other is, in Whitehead's words, "that factor disclosed in our *sense of* the value, for its own sake, of the totality of historic fact in respect to its essential unity. There is a unity in the universe, enjoying value and (by its immanence) sharing value" (MT 164; emphasis added). And this is the role and status of value. Values do not exist (they never have in Whitehead, despite his seeming attempts to name values that might come to be, in *Adventures of Ideas*). There is, however, a *sense of* value. This is not to dismiss value as mere subjective interpretation; rather it situates value experience as primary[6] but only as an experience of a "totality of a historic fact." So it is the facticity of individuality that incorporates potentiality, which is the basis of value, rather than the valuation itself. For such individuality is both the enjoyment of something being itself and sharing itself; value is the enjoyment of and the sharing (immanence) of the composition of individuality. This is Whitehead's philosophy encapsulated in the phrase "something matters."

However, there has been a tendency for Whitehead scholars to move from this passage to the following sentence without noticing the important caesura that Whitehead introduces. The statement that "There is a unity in the universe, enjoying value and (by its immanence) sharing value" continues as follows:

> For example, take the subtle beauty of a flower in the isolated glade of a primeval forest. No animal has ever had the subtlety of experience to enjoy its full beauty. And yet this beauty is a grand fact in universe. When we survey nature . . . our sense of the value of the details for the totality dawns upon our consciousness. This is the intuition of holiness. (MT 164)

Despite appearances to the contrary, this passage does not describe that there is an inherent value in nature. What is often missed out of interpretations of this passage is that is only an example, not a description of Whitehead's philosophical position. The words "For example" should be taken as a warning that what immediately follows is not philosophy but illustration of a philosophical point. As such, Whitehead's statement that there is a "subtle beauty" to the flower is meant to lure us in to his way of thinking of fact as unity enjoying value. It is not to make the philosophical claim that flowers are beautiful. Furthermore, Whitehead quickly moves on from this point to one about the analysis of the powers of enjoyment of humans as distinct from those of animals. At this point our "sense of" value of the relation of part to the whole produces an "intuition of holiness." The discussion has moved beyond an emplacement of value to wider considerations (and perhaps back to the concerns of *Religion in the Making*). However, the point remains: this is not an account of the value of nature, it is an example.

Those readings of Whitehead which claim that he states that the nature of value lies in the value of nature is perhaps compounded by the following two chapters of *Modes of Thought* namely those titled "Nature Lifeless" and "Nature Alive." These were originally published in a small stand-alone text in 1933, *Nature and Life*. They thereby pre-date by four years the chapters that they follow in *Modes of Thought* (see MT vii). So, within *Modes of Thought*, they are clearly related to the discussion of value and facticity as analyzed above but they are not a development of it and are not to be taken as an extension of his notion of value as applied to nature. Rather, they are a restatement, subsequent to *Adventures of Ideas* of some of the concerns raised in *Concept of Nature*. Hence, once again, it is a very specific notion of nature that is under discussion. "'Nature,' in these chapters, means the world as interpreted by reliance on clear and distinct sensory experiences" (MT 174). The discussion in these chapters is, therefore, not metaphysical, but is concerned with how philosophy and science have misunderstood and misrepresented the character of our experiences of the world. As such, these chapters have the same function as the *Concept of Nature*, in this regard, but are presented in the light of Whitehead's later metaphysical descriptions. So, whilst the previous chapters of *Modes of Thought* do analyze the value laden character of fact, these later chapters do not account for or describe the value of nature.

This is not to argue that there is no value in nature, rather, it is to problematize our very conception of nature. Nature, for Whitehead, consists in those elements of experience or awareness that science has taken to itself but often misunderstood or misrepresented (see Halewood 2005). From *Concept of Nature* to *Modes of Thought*, Whitehead is quite clear on this point. Elsewhere, and in other texts, he is interested in the wider notion of existence, which he is more likely to refer to in terms of the universe, not nature.[7] Again, this is not to say there is necessarily no value in nature. It is, instead, to argue that there is value in fact but this is a different kind of value to the usual (human) conception of value. More work will have to be done to establish what and why these values are, and to describe their involvement in that portion of the history of existence with which we are concerned and which some call "nature."

7. Conclusion

The metaphysical kernel of *Modes of Thought* is the deceptively simple claim that "something matters." Within this phrase lies the emphasis on the duality of value within each fact whereby value comprises both self-enjoyment and the immanence of others to all existence. It is this that shows the shift in metaphysical emphasis in Whitehead's work from *Process and Reality*. Some evidence of this shift is apparent in *Adventures of Ideas* but it only comes to

fruition in *Modes of Thought*, even if the editorial arrangements of this latter text might provoke readings which skim over its importance or promote fallacious interpretations.

To claim that the phrase "something matters" is a metaphysical one might seem like a rather weak point, but it is not. Given the history and influence of the fact-value distinction, which has dogged philosophy and social theory, it was never going to be as simple as just declaring that fact and value are not really separate. The bifurcation of nature (as exemplified in the fact-value dualism) cannot be rectified or healed simply by saying it is not so or "it isn't like that." Whitehead's "something matters" is that moment of condensation of his philosophy to the inclusion of fact to value and value to fact. As has been alluded to, this might involve some kind of a return to the concept of teleology as purposiveness. But, this purposiveness is not based on that which precedes existence and establishes its purpose (Forms or God) nor is it envisaged as that ultimate value to which we or the universe aims (communism, peace etc.). Purpose is rendered simply as there being something beyond ourselves as we are now. There is a future and a past and there are other things, and this otherness is part of what we are. But, this is not a constitutive otherness in the mould of dialectics or psychoanalysis. It is otherness as the beyond from which and to which we return and to which we contribute. There are other things that share in this process. This is the value of matter and the matter of value.

> The basis of democracy is the common fact of value-experience, as constituting the essential nature of actuality. Everything has some value for itself, for others, and for the whole. (MT 151)

NOTES

1. I am very grateful to Didier Debaise for bringing this important point to my attention.
2. There is a crucial distinction between eternal objects considered as sensa and complex eternal objects which are linked with some notion of sense data through their relations with conceptual feelings. More complex eternal objects are referred to, by Whitehead, as "relational;" "qualities, such as colors, sounds, bodily feelings, tastes, smells, together with the perspectives introduced by extensive relationships, are the relational eternal objects" (PR 61). The distance of such definitions from any kind of 'thing' is furthered in that the terms 'sensum' and 'sensa' are intended by Whitehead precisely to differentiate them from the notion of sense perception. Even more complex eternal objects, and more complex relations between them, are to be found in Whitehead's account of propositions (especially PR 184 208, 256 265).
3. Whitehead, from a letter to Charles Hartsthorne (cited in Kline 1963, 199).
4. I am aware that I am not providing a definition of value here and I am assuming that notions such as "Peace," "Harmony," etc. are indicative of "values" in some

sense   and probably in a relation or reaction to a Platonic sense of forms here.

5. He here cites *Science and the Modern World a*s exemplifying this point.

6. As has been the case in Whitehead's thought from *Religion in the Making.*

7. A re consideration of Whitehead's usage of the term nature might be worth explor ing. On a related topic, an important explanation of the specificity of White head's usage of the term society is to be found in Debaise (2006).

Fifteen

SELF-ENJOYMENT AND CONCERN: ON WHITEHEAD AND LEVINAS

Steven Shaviro

1. Introduction

In "Nature Alive," the eighth chapter of his last book, *Modes of Thought*, Alfred North Whitehead writes that "the notion of life implies a certain absoluteness of self-enjoyment… [t]he occasion of experience is absolute in respect to its immediate self-enjoyment" (MT 150-151). In other words, life is a process of pure auto-affection. It involves a "self-enjoyment" that is both "immediate" and "absolute." Self-enjoyment is "immediate" in that it happens pre-reflexively in the moment itself. I enjoy my life as I am living it; my enjoyment of the very experience of living is precisely what it means to be alive. "The enjoyment belongs to the process and is not a characteristic of any static result" (152). Also, self-enjoyment is "absolute" in that it unfolds entirely in itself and for itself, without conditions. A living occasion is "absolute" in the etymological sense of this word: it is unbound, set free, released from all relation. Every moment of life is an autonomous "self-creation" (151). A living occasion must "be understood without reference to any other concurrent occasions" (151).

Just a few pages later, however, Whitehead says something quite different. He writes that "each occasion is an activity of concern, in the Quaker sense of that term… The occasion is concerned, in the way of feeling and aim, with things that in their own essence lie beyond it" (MT 167). Now, for the Quakers, *concern* implies a weight upon the spirit. When something concerns me, I cannot ignore it or walk away from it. It presses upon my being and compels me to respond. Concern, therefore, is an involuntary experience of being affected by others. It opens me, in spite of myself, to the outside. It compromises my autonomy, leading me towards something beyond myself. Concern is relational, rather than absolute, and hetero-affective, rather than auto-affective.

The distinction between self-enjoyment and concern is fundamental. Yet, at the same time, these two conditions are closely bound together. You cannot have one without the other. Concern is itself a kind of enjoyment, and it arises out of the very process of immediate self-enjoyment. For it is precisely when "engaged in its own immediate self-realization" that an occasion finds itself most vitally "concerned with the universe" that lies beyond it (MT

167). Life in its self-enjoyment "passes into a future . . . . There is no nature
apart from transition, and there is no transition apart from temporal duration"
(152). Even the most immediate self-enjoyment has the thickness of what
Whitehead (following William James) calls the "specious present" (89) and in
this "temporal thickness" it reaches out beyond itself (PR 169). It may not
have anything to do with "any other concurrent occasions," but it is deeply
involved with the antecedent occasions from which it has inherited, and with
the succeeding occasions to which it makes itself available.

Thus, self-enjoyment fills the specious present, but it is transformed into
concern, insofar as that present moment is carried away along the arrow of
time. In the midst of my self-enjoyment, I am projected towards the future,
and, thereby, I spend or expend myself. Conversely, concern or other-
directedness is itself a necessary precondition for even the most intransitive
self-enjoyment. For no present moment may be divorced from the pastness
out of which, or against which, it emerges. The absolute self-affirmation of
the living occasion arises out of "a complex process of appropriating into a
unity of existence the many data presented as relevant by the physical
processes of nature" (MT 151). This process of appropriation is not always
benign—Whitehead reminds us that "life is robbery" (PR 105)—but without
it, there would be no "creative advance."

Concern and self-enjoyment are so closely connected because both are
movements (or pulsations) of *emotion*. On the most basic level, Whitehead
says, "life is the enjoyment of emotion, derived from the past and aimed at the
future. It is the enjoyment of emotion which was then, which is now, and
which will be then" (MT 167). The emotion felt by a living being always
comes from somewhere else, and it is always going somewhere else. "It issues
from, and it issues towards. It is received, it is enjoyed, and it is passed along,
from moment to moment" (167). Emotion arises out of the very "process of
appropriation" (151); it is enjoyed in the immediacy of the specious present,
only to be "passed along" in the very next instant. Life is a passage through
time, whose midpoint is the self-enjoyment of the immediate present and
whose extremes are the concern that I feel for the past and the concern that I
give myself about the future. An occasion is self-constituted and self-reflexive
in that it does not refer to, and is not concerned with, "any other concurrent
occasions." But it *does* refer to, and it *is* concerned with, the occasions that
precede it and that follow it. Such is the "vector character" of all experience
(167).

2. A different manner

The contrast between self-enjoyment and concern is not, in itself, anything
new in Whitehead's metaphysics. The term *concern*, always qualified as be-
ing meant "in the Quaker sense," does not appear in *Process and Reality*. But

when it is first invoked in *Adventures of Ideas*, it is associated with concepts that are familiar from the earlier book. Whitehead uses *concern* to denote the "affective tone" that is an essential feature of any "subject-object relation" (AI 176) or of any act of perception or prehension whatsoever (180). "No prehension, even of bare sensa, can be divested of its affective tone, that is to say, of its character as a 'concern' in the Quaker sense" (180). No occasion ever prehends another occasion neutrally and impassively; the emotion it feels for the other thing, in the very process of prehending it, *is* its concern.

For its part, the term *self enjoyment* is only used sparingly in *Process and Reality*. But, its few uses are significant. Whitehead writes of the "self-enjoyment of being one among many, and of being one arising out of the composition of many" (PR 145); that is to say, the very process by which "the many become one, and are increased by one" (21) is already itself an instance of self-enjoyment. Later, he writes of the way that "an actual entity considered in relation to the privacy of things…is a moment in the genesis of self-enjoyment" (289). Self-enjoyment, in this sense, is thereby caught up in "the antithesis between publicity and privacy" that "obtrudes itself at every stage" in Whitehead's cosmology (289). "There are elements only to be understood by reference to what is beyond the fact in question, and there are elements expressive of the immediate, private, personal, individuality of the fact in question" (289). The privacy of self-enjoyment and the publicity of what will come to be called concern are both dimensions of every single occasion. *Modes of Thought*, therefore, is not really saying anything new about the antithesis between self-enjoyment and concern—except that it expresses the distinction far more clearly and emphatically than was the case in Whitehead's earlier texts.

What changes, then, in Whitehead's later thought? I would like to suggest that the difference between *Process and Reality*, on the one hand, and *Modes of Thought*, on the other, is precisely a difference of emphasis, which is to say that it is a rhetorical difference. But, this does not mean that the difference is insignificant or merely apparent. The very fact that language, for Whitehead, "is not the essence of thought" (MT 35) and that "each phraseology leads to a crop of misunderstandings" (AI 176) means that linguistic variations need to be handled with the utmost care. To my mind, the *specificity* of Whitehead's late writing lies not in any actual change of doctrine but precisely in a difference of phraseology, tone, or literary style. *Adventures of Ideas*, *Modes of Thought*, and "Immortality" express Whitehead's metaphysics with a different rhetoric, and in a different *manner*. And, that makes all the difference.

Gilles Deleuze credits Whitehead, like the Stoics and Leibniz before him, with inventing a *mannerism* in philosophy, a way of thinking "that is opposed to the essentialism first of Aristotle and then of Descartes" (Deleuze 1993, 53). A philosophy of processes and events explores manners of being rather than states of being, "modes of thought" rather than any supposed es-

sence of thought, and contingent interactions rather than unchanging substances. It focuses, you might say, on adverbs instead of nouns. It is as concerned with the *way* that one says things, as it is with the ostensible content of what is being said. Even if the facts, or data, have not themselves changed, the manner in which we entertain those facts or data may well change. "In fact, there is not a sentence, or a word, with a meaning which is independent of the circumstances under which it is uttered" (Imm 699). It all comes down to the *aim* of the living occasion in question, which Whitehead defines as the manner in which one particular "'way of enjoyment' is selected from the boundless wealth of alternatives" (MT 152). A mannerist philosophy has to do with the multiplicity and mutability of our ways of enjoyment, as these are manifested even in the course of what an essentialist thinker would regard as the "same" situation.

3. Opposed elements in mutual requirement

Whitehead concludes *Process and Reality* with a grand vision of "God and the World." In the course of this, he works through "a group of antitheses," expressing the "apparent self-contradictions" that characterize experience in its entirety (PR 348). These antitheses consist of "opposed elements" that nonetheless "stand to each other in mutual requirement" (348). Such is the case with God and the World themselves, as ultimate terms in Whitehead's cosmology. But, it is also the case, on a smaller scale, with self-enjoyment and concern as I have been describing them. In such an antithesis, each of the terms would seem to exclude the other. And yet, Whitehead requires us to think them together, and, further, he requires us to think them without having recourse to the subterfuges of dialectical negation and sublation, on the one hand, and without abandoning them as unsurpassable aporias or blocks to thought, on the other.

How is it possible, then, to resolve such antinomies? (I use the word "antinomies" advisedly, in order to recall Kant's Antinomies, which also have to be resolved without recourse to dialectical subterfuge). The answer comes from Whitehead's understanding of process. God and the World, the two ultimate terms of each antithesis, must be maintained in a "unity" (PR 348), even as they "move conversely to each other in respect to their process" (349). This means that the relation between the conversely-moving processes will alter in terms of strength, or degrees of difference, from one moment to the next. In any concrete situation, the opposed processes may either "inhibit or contrast" one another to varying degrees (348). Whitehead, therefore, asks an evaluative question: are we faced with a situation of "diversities in opposition," producing inhibition or of "diversities in contrast" forming an affectively compelling pattern (348)? The resolution of the antithesis comes about when the latter alternative is chosen or, better, when, through a creative act,

the former is transformed into the latter. This is accomplished—not theoretically but practically—through "a shift of meaning which converts the opposition into a contrast" (348).

The injunction to convert oppositions into contrasts is a leitmotif of Isabelle Stengers's great reading of Whitehead (2002). I would like to extend Stengers's argument by suggesting that this injunction is the founding impulse behind Whitehead's later writings. *Adventures of Ideas*, *Modes of Thought*, and "Immortality" begin precisely at the point where *Process and Reality* ends: with the conversion of seemingly intractable conceptual oppositions into what *Adventures* describes as an aesthetic design of "patterned contrasts" (AI 252). In *Adventures*, after recapitulating, with subtle modifications, the argument of *Process and Reality* (Part III, "Philosophical"), Whitehead goes on to an entirely new discussion of the complex relationship between Truth and Beauty (Part IV, "Civilization"). Aesthetic questions only hinted at in the earlier work now become a central speculative focus. Whitehead states that "Beauty is a wider, and more fundamental, notion than Truth" (AI 265). He asserts that "Beauty is . . . the one aim which by its very nature is self-justifying" (266), so that "any system of things which in any wide sense is beautiful is to that extent justified in its existence" (265). With regard to humanity in general, he proposes that "consciousness itself is the product of art" and that "the human body is an instrument for the production of art in the life of the human soul" (271). And, most outrageously and hyperbolically of all, Whitehead insists that "the teleology of the Universe is directed to the production of Beauty" (265).

Such assertions pose a challenge to our twenty-first-century sensibilities. In our current condition of late (or post-) modernity, we tend to be deeply suspicious of the claims of aesthetics. We are still frightened by the specter of what Walter Benjamin, writing at the very same time that Whitehead was completing *Modes of Thought*, denounced as the fascist "aestheticizing of politics" (Benjamin 2003, 270). Today, even if we do not reject aesthetics altogether, we do not assign a teleology to it. We tend, at best, to subordinate aesthetics to ethics and to politics. And, even within the aesthetic realm, we value the sublime over the beautiful. What are we to make, then, of the rampant and unapologetic aestheticism of the late Whitehead? I think that this question can only be answered by working through Whitehead's own specific accounts of the aesthetics of "patterned contrasts." The polarity between self-enjoyment and concern in *Modes of Thought* is, quite precisely, such a patterned contrast: which is to say that it is beautiful, and productive of beauty. But what does it mean to read the economy of self-enjoyment and concern aesthetically, rather than ethically?

4. A comparison to Levinas

I can best approach this question by comparing Whitehead with Emmanuel Levinas, whose thought has been so crucial for the "ethical turn" in recent humanistic studies. Levinas' first major work *Totality and Infinity* precedes its discussion of ethics with an extended analysis of enjoyment, or of what Levinas calls "living from . . ." (Levinas 1969, 110-114). Levinas equates enjoyment with a primordial sensibility, and with an openness to the world. He describes it as a process of *nourishment*: "the transmutation of the other into the same . . . an energy that is other . . . becomes, in enjoyment, my own energy, my strength, me" (111). Through this movement, "enjoyment is a withdrawal into oneself, an involution" (118). Despite the vast differences in vocabulary and rhetoric, this analysis has much in common with Whitehead's description of self-enjoyment arising out of a process of appropriation. Both Whitehead and Levinas insist that our experience is in the first instance physical, corporeal, and embodied. They both say that, while nourishment initially comes from elsewhere, its consumption is entirely immanent and self-directed. In Levinas' words, "The act nourishes itself with its own activity" (Levinas 1969, 111). In Whitehead's words, "what was received as alien, has been recreated as private" (PR 213). Whitehead and Levinas both emphasize the *satisfaction* that comes with the sheer fact of being alive. "Life loved is the very enjoyment of life, contentment . . . . The primordial positivity of enjoyment, perfectly innocent, is opposed to nothing, and in this sense suffices to itself from the first" (Levinas 1969, 145). Whitehead and Levinas both find, in this experience of sufficiency and satisfaction, a pre-cognitive, pre-reflexive mode of subjectivity: an "I" that does not take the form of the Cartesian *cogito*.

But, everything changes when Levinas moves on to his great subject: the encounter with radical exteriority, with the Other, or with the Face. The appearance of the Other "introduces a dimension of transcendence, and leads us to a relation totally different from experience in the sensible sense of the term" (Levinas 1969, 193). The face of the Other, confronting me, "puts the I in question" (195), for it absolutely "resists possession, resists my grasp" (197). It is an otherness that I cannot take as innocent nourishment. I cannot transmute it into more of myself, more of the same, for "the face speaks to me and thereby invites me to a relation incommensurate with a power exercised, be it enjoyment or knowledge" (198). The encounter with the Other makes an ethical demand upon me, one that marks me even if I refuse it. This encounter is a kind of primordial trauma; it suspends and overwhelms the innocence of "living from…," the economy of sensibility, enjoyment, and satisfaction. The naive self-presence of primordial sensibility is dissolved and replaced with a new sort of subjectivity that is always already in default and obligated to an "idea of infinity" that "exceeds my powers" (196).

The call of the Other in Levinas' philosophy is its own authority. Once I have heard this call, I cannot escape it or ignore it. No matter how I respond to it, I still remain under its sway. Even if I reject the call of the Other, by that very act I am still acknowledging it in a backhanded sort of way. The ethical dimension of the call pulls me beyond mere satisfaction, beyond any logic of decision and self-enjoyment. For Levinas, ethics precedes ontology, and it absolutely overrides aesthetics. I am always already responsible to, and always already guilty before, the Other—even when I deny, or have no cognizance of, being in such state. There is no counterpart or equivalent in Whitehead's thought for a movement that is so overwhelming and so unidirectional. For Levinas, something like "concern in the Quaker sense" is irreducible. I cannot shake it off. It unequivocally trumps self-enjoyment. The imperious demands of ethical transcendence interrupt, exceed, and cancel the simple pleasures of aesthetic immanence. For Levinas, the passage from enjoyment to concern and responsibility is an irreversible one. It cannot be described or aestheticized, as Whitehead would wish to do, as a patterned contrast.

Is it possible to resist such a movement of transcendence? What is at stake here is not refutation and argument, but a basic *orientation* of thought. Everything in Whitehead cries out against the unilateral thrust of Levinas' vision. Levinas conceives a single grand transition: something that does not happen in time, so much as it determines and instantiates a new sort of time. The apotheosis of the Other ruptures linear, homogeneous clockwork time, and installs instead an "infinite" or "messianic" time: a "discontinuous" time of "death and resurrection" (Levinas 1969, 284-285). For Levinas, in striking contrast to Bergson, "there is no continuity in being" (284). Continuity is false because the appearance of the face ruptures it once and for all. This epiphany points to a radical anteriority: an instance that precedes and that can never be contained within the extended present time of lived duration.

Now, Whitehead also rejects Bergsonian continuity, but he does so in a very different manner and for very different reasons. "There is a becoming of continuity," he writes, "but no continuity of becoming" (PR 35). That is to say, continuity is never given in advance. "The ultimate metaphysical truth is atomism," but out of the basic atomic constituents of reality "there is a creation of continuity" (35). Both continuity in space, which Whitehead calls the *extensive continuum* (61-82), and continuity in time (Bergsonian duration) must actively be *constructed*, in the course of the "creative activity belonging to the essence of each occasion" (MT 151). In other words, continuity is approximated through a series of discrete, punctual "becomings" and "transitions." Transition is the very basis of continuity meaning that the experience of transformation is not unique but common. Concern is not the result of some sublime epiphany; rather, it is an everyday experience. For Whitehead, even death and resurrection are commonplace occurrences. Everything is subject to a rule of "perpetual perishing": "no thinker thinks twice; and, to put the matter more generally, no subject experiences twice" (PR 29). If this is so, then there

can be no single, specially privileged moment of transition, and no radical alterity such as Levinas demands. Time is irreversible and irreparable, but there is no traumatic moment in which my sensibility would be breached and my primordial enjoyment definitively interrupted.

Whitehead, therefore, rejects any grand narrative of a passage from self-enjoyment to concern or from the aesthetic to the ethical. Just as every actual occasion has both a physical pole and a mental (or conceptual) pole, so too every actual occasion evinces both self-enjoyment and concern. Indeed, this is precisely why these terms form a patterned aesthetic contrast and not an irreducible ethical opposition. Whitehead refuses to choose between concern and self-enjoyment, just as he refuses to "pick and choose" between "the red glow of the sunset" and "the molecules and electric waves by which men of science would explain the phenomenon" (CN 29). If Whitehead is on the side of aesthetics as opposed to ethics and on the side of immanence as opposed to transcendence, this is not because he would reject either ethics or transcendence. Rather, he finds an immanent place for transcendence and an aesthetic place for ethics. He insists that every occasion is already, by its very nature, a "conjunction of transcendence and immanence" (MT 167). Indeed, "every actual entity, in virtue of its novelty, transcends its universe, God included" (PR 94). But, this transcendence is just the other side of an immanent, actual fact. An object is transcendent as a process of decision or "as a capacity for determination," but it is immanent as an already realized fact or "as a realized determinant" of other objects (239).

Similarly, Whitehead gives an aestheticized account of ethics. He never provides a Kantian, categorical basis for moral duty, nor does he ever mount a Nietzschean attack upon conventional morality. Instead, he insists that fact and value cannot be cleanly separated. They are always intimately entwined since value is intrinsic to existence: "everything has some value for itself, for others, and for the whole" (MT 111). Revaluation is a basic feature of experience, since every actual occasion involves a new "valuation up" or "valuation down" of previously given elements (PR 241). But this revaluation also implies a continuing obligation: "we have no right to deface the value experience which is the very essence of the universe" (MT 111). Even amidst a Nietzschean "revaluation of all values," there cannot be, and there should not be, any "overcoming" of concern. In this sense, there is always something of an ethical relation to others. Self-determination never occurs in a vacuum.

But, if concern is inherent to every actual occasion, it is not preeminent in the way that Levinas demands. For concern still hinges upon an "autonomous valuation" (PR 248), which is the occasion's own ungrounded, aesthetic judgment regarding the *importance* of what it encounters. Whitehead insists upon "the concept of actuality as something that matters, by reason of its own self-enjoyment, which includes enjoyment of others and transitions towards the future" (MT 118). In this formulation, attention to others is itself a kind of enjoyment, and it is included within, rather than opposed to, an overall self-

enjoyment. In this way, valuation is not the response to an inexorable demand made by the Other. It is, rather, a "sense of importance" (118) arising from an autonomous, self-generated *decision* about what matters. For "the phrase 'intrinsic importance' means 'importance for itself' " (118). Thus "each unit exists in its own right. It upholds value intensity for itself" first of all—although this also "involves sharing value intensity with the universe" (111).

5. Conclusion

For Levinas, responsibility produces value. For Whitehead, it is the process of valuation that first generates any sense of responsibility. For Levinas, ethics suspends spontaneous action: when I am confronted with the face of the Other, all I can do is *respond* to its call. For Whitehead, to the contrary, ethics can only be the result of a spontaneous aesthetic *decision*. Ethics is not the ground or basis of value. Rather, it is only out of the actual process of valuation or of determining importance that "the conception of morals arises" in the first place (MT 111). This process is performed without guarantees, and without subordination by every actual occasion. Whitehead beautifully says that "the basis of democracy is the common fact of value experience" (111). Such a "common fact" itself comes first. It cannot be derived from, or subordinated to, an encounter with the Other.

From a Whiteheadian point of view, Levinas' subordination of immanence to transcendence and of self-enjoyment to concern is one-sided and reductive—just as a philosophy of pure immanence and positivity would also be one-sided and reductive. Levinas' claim for the priority of ethics is one more example of the "overstatement" that Whitehead sees as the "chief error" of so much Western philosophy: "the aim at generalization is sound, but the estimate of success is exaggerated" (PR 7). Concern is important, but it cannot be separated from self-enjoyment, much less elevated above it. Whitehead insists that "at the base of our existence is the sense of 'worth'…the sense of existence for its own sake, of existence which is its own justification, of existence with its own character" (MT 109). This means that valuation is singular, self-affirming, and aesthetic, first of all. Aesthetics cannot be superseded by ethics. "The essence of power is the drive towards aesthetic worth for its own sake. All power is a derivative from this fact of composition attaining worth for itself. There is no other fact" (119).

Sixteen

PROVOCATIVE EXPRESSION: TRANSITIONS IN AND FROM METAPHYSICS IN WHITEHEAD'S LATER WORK

Jude Jones

1. Introduction

We live in an instigating world and find ourselves instigators as one of our ways of being-in that world. For academics, teaching is itself a form of instigation or provocation—the eliciting of activity in the dynamic young minds with whom we have the privilege of sharing our philosophical lives and who provoke us in turn. Inspired in part by some of my recent teaching experiences, this paper eventually explores the intersection between systematic metaphysics and lived instigation as one way of understanding the value of Whitehead's later work.

In an undergraduate Service-Learning course on "Sustainability and Process" at Fordham University, I had the opportunity to undertake this exploration with a group of students each of whom undertook a service assignment related to sustainability in the Bronx district of New York as part of their work for the course.

In the combination of service aimed at urgent questions of our day and philosophical reflection on those questions from a process-philosophical standpoint guided by texts like *Modes of Thought*, we gave provocative voice to some truly instigating ideas.

What I will come to argue below is not only that Whitehead's late metaphysics is still metaphysics, despite its less formal structure—and, thus, that Whitehead, in fact, never did move "Beyond Metaphysics," in any eliminative sense—but that his metaphysics finds its proper conclusion in the instigative activities of moral agents. Along the way, this conclusion will gain momentum through the recognition that individuality of identity is bound up in the provocative, instigative activities of creative process. I argue that this is true for any occasion, metaphysically speaking, thus including human individuality of identity.

This essay will be structured around a passage from Whitehead's rather aphoristic and very late essay "Mathematics and the Good." This passage will serve to unfold, not only what I take to be core elements of the metaphysical

system laid out in Whitehead's prior work (especially the notion of provocative individuality), but also unfold some of the challenges to contemporary thinking and acting posed by and in that metaphysics. My ultimate claim will be that instigation (i.e. provocative expression) is the upshot of process metaphysics. My experiences with the Sustainability and Process course will help bear testimony to this claim.

In "Mathematics and the Good," Whitehead writes:

> We cannot understand the flux which constitutes our human experience unless we realize that it is raised above the futility of infinitude by various successive types of modes of emphasis which generate the active energy of a finite assemblage. The superstitious awe of infinitude has been the bane of philosophy. The infinite has no properties. All value has the gift of finitude which is the necessary condition for activity. Also activity means the origination of patterns of assemblage, and mathematics is the study of pattern. Here we find the essential clue which relates mathematics to the study of the good, and the study of the bad. (MG 674)

Packed into this densely beautiful yet somewhat mysterious passage are several things: (1) a rather cogent framing of Whitehead's decisively axiological metaphysics of creative advance; (2) a complaint about one or two of the things that have kept metaphysics from having its full payoff in human culture; (3) an expression of Whitehead's abidingly deep Platonism that is embraced (unlike other Platonic gestures in the history of philosophy) alongside an embrace of flux, passage, and finitude; and (4) a moral intuition that thinking about pattern is a fundamental and fundamentally ethical activity—an activity that links mathematical and metaphysical cogitations in a common cultural urgency that we as philosophers might address.

2. Provocation and expression

Given that this essay is one of the last things Whitehead wrote, we could, rather mundanely, conclude that Whitehead, in fact, never did move "beyond metaphysics" in the sense of not doing it any more or no longer caring about "that" kind of cogitative effort. But, our goal here is not to carbon date the evidence of Whitehead's metaphysical activity but to explore the "late" activities of philosophizing he engaged in, in order to obtain some insight into what metaphysics—as well as its "beyond"—might mean for our cogitative efforts these days.

In understanding the continuingly metaphysical character of certain aspects of *Modes of Thought* and *Adventures of Ideas,* I think it would be helpful to use this provocative passage from the very late "Mathematics and the

Good" to "assemble" and evaluate the continuingly systematic project of Whitehead's later works as well as to mark its urgent current value, treating the excerpt as a kind of distillate of what Whitehead believed metaphysics needed to do to orient itself in the world once the formal task of elucidating a system had been completed. To this end, I will try to unpack this passage and use it as a loose template for a consideration of process as "provoking" in AI and as informing the ontological dimensions of doctrine of "expression" in MT. This will lead not only to my endorsement and application of the axiological demand expressed in "Mathematics and the Good," but also to an underscoring of how the late works shed light on key categoreal elements in a manner that extends their properly 'systematic' status into the late work. Finally, the notions of "provocation" and "expression" will be used to frame a model of moral urgency, respectful of Whitehead's twilight intuitions about pattern but revved up for purposes of the ethical demands of contemporary life.

In using a late essay to explore the nature of earlier themes, I might be accused of buying into an interpretive strategy that privileges later statements over earlier ones in establishing what should be taken to be "definitive" as to Whitehead's meaning. Let me assure that this is not my goal despite my treating the passage above as a kind of guiding distillate. I am seizing on specific limited expressions for the purpose of exploring the central relevance of certain notions as having had an importance that is consistent across all phases of Whitehead's systematic period, if a bit more insistent in the later ones. My only suspicion regarding the "lateness" of these constructions is this: that in Whitehead's own mind, as evidenced in what I have called the somewhat "aphoristic" style of the late works, the elements of his system that stay in place in his texts as he left the more technical formulation of a categoreal scheme behind seem to boil down to statements about value and importance that I will highlight by exploring concepts like "provocation," "expression," and descriptions of processive transition that I will call "emphatic generation"

In the late work it appears that the technical constructions about the constitution of 'satisfactions' are supplanted by a more general but forceful focus on how events and values provoke one another in successive processes. The focus seems to be on the question of how value imposes itself and beckons a response from subjects who are instigated by it. It is almost as if the earlier work imposes itself on the later work in the mode of cumulative emphasis on creative value and responsiveness to value—creative value being designated as "intensity of satisfaction" in the systematic work per se. This is not a claim that his late thoughts are more systematically "definitive" but that they seem to be self-influenced ("emphatically generated") by—and thereby derive certain "properties" and character from—the way intensive satisfactions work in the categoreal scheme per se. There seem to be "intensive satisfactions" in the system that impose themselves on the later work underscoring their value in Whitehead's thinking.

What I am playfully suggesting is that the constructions in the later Whitehead may be expressing certain definitive dimensions of the system by deriving their "definiteness" from certain emphatic roles that creative "emphasis" plays in the earlier categoreal work, even though that earlier work was less exclusively preoccupied with such emphases as the focus was on the articulation of a coherent, categoreally integrated system. At the very least, as readers we are free to be "provoked" (a term borrowed from an important section of AI) to see it thus for the sake of our own emphases and instigations.

The passage from MG informs us, if we unravel its counterfactual tone, that existence has "properties" and "value" in virtue of the fact that it is the scene of successions of finite activities that originate the assemblage into patterns constituting the nature of "value" or "properties" per se. But, since Whitehead casts this insistence amidst, and as a denial of, the futility of the infinite about which philosophy has manifest an unhealthy obsession, the counterfactual tone is interesting and worth tarrying over in a bit of an informative digression. It shows Whitehead to be "diagnostically" oriented about the nature of thinking (its being infected by contagions that it tends not to see in itself) even as he is doing the business of description of what he considers to be actual metaphysical matters of fact.

Definiteness of properties and value are functions and expressions of patterning activity despite and even for the thinker who conceives them officially to be somehow the spawn of an infinite that has (though it cannot have) all the properties that might be disseminated to the seeming, teeming finite multitude. While of course this diagnostic casting of the matter is all part and parcel of the ongoing examination of the history of thought with which Whitehead's whole work struggles[1] in his attempt to unseat habits of thought riddled with various forms of the "fallacy of misplaced concreteness" (SMW, MT), it suggests to me, in this late essay, a sense of frustration on Whitehead's part—a frustration with the persistence of "simply located thoughts" despite the enormity of the evidence against them in the world of physics and culture in his own day.[2] The infinite so endemic to thought is nonetheless "futile," and we fail to abandon it despite its discernibly being the "bane" of our efforts. Whitehead could assert himself here as a new Copernican/Kantian revolutionary showing that the failure of the ambition of metaphysics is due not to our misconstrual of the world but of the misdirection of our ambitions beyond the form of our own experience. Our experience is shot through with the insistence of finitude and yet we try to apply these finite value assemblages to the business of painting a picture of the in-finite, which is an existential reduction worthy of the label "futility."

The value of this digression is that it underscores the urgency of getting our focus fixed where it needs to be fixed, both in terms of how the later work tells some truths about Whitehead's system that need emphasizing, and in terms of positioning us to claim that thought today is in fact still in need of a kick in the direction of moving it to the frame an urgency of conception to

rival the organic needs of our experiential situation. Whitehead's diagnostic about the futility of research into the infinite includes the claim that we are already raised above this futility by those forms of emphasis to which we turn a well or poorly attuned ear or which we wield with well or poorly trained creative skill.

"Activity means the origination of patterns of assemblage," Whitehead writes in the passage we began with, and "finitude is the necessary condition for activity." This is a simple reframing of what had been labeled as the "subjective aim at intensity" that is directive of creativity in entities in *Process and Reality*. We are told in MG that these activities are "generated by" "successive types of modes of emphasis". I find this late framing revealing, for it describes the subjective processes of finite actualities as "generated by," not a divine lure but, an insistent creative process itself. Now, I don't want to assert and certainly not defend any radical distinction between a divine lure and the insistence of creative process, which would be another distinct undertaking than the one I am about here. But, there is at least a valid conceptual distinction that licenses our bracketing the role of the divine in this analysis.   I do want to seize on this construction of "successive types of modes of emphasis" as evocative of the activities we most intimately associate with the subjective individuality of finite, non-divine entities themselves. My point here will be to revisit some earlier arguments of mine concerning what should be our view of what the subjective individuality of entities means, and to claim that such individuality must be conceived "ecstatically."[3]

In *Adventures of Ideas*, Whitehead's discussion of the subject-object relation is largely cashed out in terms of differences in perspective as to what we are focusing on in considering the transitional relations among entities in process. He writes:

> The subject-object relation can be conceived as Recipient and Provoker, where the fact provoked is an affective tone about the status of the provoker in the provoked experience. Also the total provoked occasion is a totality involving many such examples of provocation. (AI 176)

In a contrast with the view (well rooted, I admit, in certain aspects of Whitehead's own discussion in PR) that "subjects" per se (as plucked out analytically in philosophical discourse) are the only places we should look for the kind of agency of becoming that Whitehead is building as his philosophy of organism, this description strongly incorporates "objects" as a significant consideration in the *activity* that is the epochal becoming in this metaphysics. The fundamentally real "facts" in this system are provoked emotional reactions about objects that are insinuating themselves ("intervening" in concrescence, to pick up some language from *Process and Reality*) in such manner as to *bring about* the concrescence in question as "subject." In other words, real

facts are "instigators." The subject is not *having* emotional *reactions to* an object but is a subject in virtue of the provoked activity of a reactive incorporation of objects in the coming to be of an entity which would not come to be unless those provocative objects were working in it. Since being a subject is nothing but being actively self-creative, then, in terms of the MG passage that is acting as our touchstone, "the active energy of a finite assemblage" is being "generated" by objects. Continuing with our MG language, "objects" are to be seen as functioning, as such, in virtue of "successive types of modes of emphasis." What all of this comes together to mean is that the energy of generating entities by objective provocation and the generative activity of entities as subjective self-creators is the *same* energy. Emphatic generation is self-creation (though neither dimension of this identity is limited to what we consider it as from the perspective of the either dimension—I will elaborate on the undermining of standard forms of identity claims below).

3. Ecstatic intensity

It has long been my view that the way to understand the "identity" of these energies is to carefully restrict our consideration of the ontology of entities to terms concerning the "intensity" that is sought in and achieved by concrescence. Strictly speaking, there is in "actuality," as Whitehead describes it, nothing but intensities arising successively in the "vibratory" events that are the atomic and yet completely relational "fundamentally real things" (paraphrasing PR) in the cosmos. It is quite clear and completely uncontroversial that the central office of "subjective aim" in the PR system is about the achievement of "intensity," since subjective aim is introduced in the Category of Subjective Intensity (PR 27). What has been less clear, in the general characterization of Whitehead's model of actuality, is that the central conceptual role of "intensity" means thinking about atomic individuality (as well as "identity") in a radically "ecstatic" way. It is my view that the ideas Whitehead chooses to emphasize in the late work—being so much about "emphatic generation" ontologically—endorse an ecstatic reading of intensive actuality, and that reading in turn unfolds a deeper metaphysical work ongoing in the late, stylized, and sometimes puzzling essays.

To begin with, we must remember the basic fact that the Category of Subjective Intensity describes the seeking of intensity in the present and in "the relevant future," and the "relevant future" is defined as those events felt with anticipatory intensity in the present occasion in virtue of the "real potentiality for them to be derived from itself" (PR 27). So subjective aim is concerned with the transcendent role of the subject (as object) in the future, and this transcendent (proto-ecstatic) aim of the entity as "superject" is felt in the present qua subject. In this way, the agency of the entity is rather unproblematically associated with the felt lure of subjective aim as directed at the fu-

ture entity in its self-imposition on actualities in becoming in the future. Feelings are directed *at* the feeler/subject (the subject does not underlie the feelings) as we are reminded in PR. Subjectivity is bound up with a superjectivity, and there is no meaningful reference to a subject absent a reference to its superjection. A superject is nothing more than the satisfied entity whose present agency is closed up so as to be appearing in subsequent agencies, and a satisfied entity is nothing but a certain intensity of feeling. A satisfaction/superject is some mode of active feeling together of diverse feelings under conditions of contrast productive of the overall intensity that has become possible just here and just now in the creative universe, and does not mean the *demise* but the *relocation* of the activity of patterning contrast originating in that subject whose superject it is.

If we couple the fact that subjectivity looks forward in being a present energy with the fact that much of the causal story of Whitehead's system (including the later works) is bound up with defending and articulating the feelings of "derivation" from the past characterizing experience (both in generic metaphysical experience and in human experience), we can render the notion of subjective aim somewhat bi-directional.

There is subjective activity in any given present just because there is superjection into that present by entities occupying the "past" temporal cone of that present. Furthermore, there is subjective activity in any given present in part because there is directedness to superjection. One entity's superjective intensity is a piece of another entity's derivation from past entities. Since subjective activity is intensive patterning, and superjection is the imposition of intensive pattern, and since that pattern of feelings is aimed at the subject and not from it we can conclude that intensive pattern is everywhere ontologically energetic in the same—i.e. identical—manner (in the special sense of identity that emerges in Whitehead, as we will note later).

Taking the language of AI in hand, intensity is "provocation." Intensity is how the past is provoking a present that is aimed at provoking a future. Lest we think that this characterization leaves out some ontologically separate status for the "Recipient" in the AI construction, we can recall that the Recipient, in that passage, is described as "an affective tone about the status of the provoker in the provoked" and that "the total provoked occasion is a totality involving many such examples of provocation." A threshold of provocation is reached and a novel instance of intensive unification becomes possible (in the sense of generating feelings of that possibility) and so becomes actual, qua the subjective aim at the subject that will be provocateur in turn. Intensity is a conspiracy of provocation because intensities (energies of assemblage) are showing up to be felt into unison in a new occasion. But, since any given unison of feeling is an assembly of intensities of myriad Provokers, it is never an independent unity from its contributor intensities/instigators. Thus, what we see in process is vibratory repetition of intensities of contrast from occasion to

occasion to occasion, and these insistent intensities alone make possible the discernment of any given subject amidst these transitions.[4]

Here's where our MG paragraph comes back into usefulness:

> We cannot understand the flux which constitutes our human experience unless we realize that it is raised above the futility of infinitude by various successive types of modes of emphasis which generate the active energy of a finite assemblage. (MG 674)

Flux would reduce to or be indiscernible from a characterless infinite except for "various successive types of modes of emphasis" (provocative intensities *occurring across a series* of entities). Neither experience nor the consideration of it (the description of actualities) would be possible unless intensities were expressed across series (some of which answer to the categoreal labels of 'nexus' or 'society' or 'personal order', and so forth) of what can be delineated as entities with characters. Before we return to the notion of "expression" just introduced, let us note that to "generate the active energy of a finite assemblage" can concretely mean nothing but an intensive superject showing up in another intensive subject to provoke the intensities that will define—via superjection—that subject. There are no energies spoken of here besides intensities of feeling.

> All value has the gift of finitude which is the necessary condition for activity. Also activity means the origination of patterns of assemblage. (MG 674)

MG reminds us that the agency of intensive actuality is nothing but "the origination of patterns of assemblage." Origination of pattern is generation by provocation and is aim at being provoker of future related patterns, but these two are of a piece since future provocation is in fact generation as well as being vibratorily generational (i.e. intensively repetitive from the past into the future, across a succession of occasions). It would be to fall into the fallacy of misplaced concreteness that MT seeks so insistently to avoid to think of atomic actuality as if we could think of single occasions only even as we identify them as "individual" or as identical with themselves across successive actualities in which they are immanent.

To be individual is to be intensively ecstatic—spread out across a generating past and a generated future. To think about such value-individuality (i.e. to not be sucked into the futility of the infinite) is to consider successions of value-emphasis involved in such generative, energetic, creative process.[5] As laid out in *Modes of Thought*:

Process and individuality require each other. In separation all meaning evaporates. The form of process (or, in other words, the appetition) derives its character from the individuals involved, and the characters of the individuals can only be understood in terms of the process in which they are implicated. (MT 97)

The theme of "derivation" permeates nearly every chapter of *Modes of Thought* as Whitehead unwraps a model of thinking that is also a model of processive actuality, and vice versa. The insistence of feelings of derivation and their troublesome exclusion from official philosophical conception is appealed to again and again as part of the systematic undermining of the Fallacy of Misplaced Concreteness that the book attempts. Beginning the book with a chapter on "Importance," Whitehead signals that the quality of self-insinuation is the feature of actuality that should seize our focus first. In the "Forms of Process" chapter from which the quotation above is taken, Whitehead continues the emphasis on forms of emphasis designated by the axiological notion of "importance" in a manner that illustrates my claims about individual actuality as intensive ecstasis. Playing out the Provoker/Recipient relation in the modified terms of "datum" and "issue" more consistent with the earlier language of PR, Whitehead writes:

Too much attention has been directed to the mere datum and the mere issue. The essence of existence lies in the transition from datum to issue. This is the process of self-determination. We must not conceive of a dead datum with passive form. The datum is impressing itself upon this process, conditioning its forms. We must not dwell mainly on the issue. The immediacy of existence is then past and over. The vividness of life lies in the transition, with its forms aiming at the issue. Actuality in its essence is aim at self-formation. (MT 96)[6]

Reorganizing this, we understand that "the process of self-determination" "lies in the transition from datum to issue." "Objects" are not passive elements of pattern in the completely immediate activity of actuality, but are actively *self imposing in* the becoming of subjects, which means they are still the intensive superjects that "subjects" also are. It is my view that what Whitehead is doing with the notions of "process" and "transition" in *Modes of Thought* (he links them in the next paragraph, thereby mitigating any sense that "transition" could or should be construed as just one of two species of process)[7] is the work of the term "ecstasis" as I am using it to highlight the intensive activity that patterns and patterning across successive occasions are all about. Patterns across successive events are the repeating intensities of actualities deriving from intensities and precipitating transcendent derivations

of intensities incorporative of prior ones, and so on. Ecstatic individuality is instigative being-becoming, provocative expression.

4. The role of the individual

In the chapter on "Expression" in MT Whitehead sets up the metaphysics of entities "impressing themselves" in the "Forms of Process" chapter in terms of the general notion of expression as a way of construing the transitions that make up organized nature. He defines expression as something that "is to be diffused throughout the environment which will make a difference" (MT 20). Anticipating the insistence about finitude met in the MG quote from which we began, he claims that expression

> is the activity of finitude impressing itself on its environment. Thus it has its origin in the finite; and it represents the immanence of the finite in the multitude of its fellows beyond itself….There is an active entity which fashions its own perspective, implanted on the world around. (MT 20-21)

Several interesting things leap from this passage: The subject of the discussion is "finitude" per se and not a traditional notion of individuals. (This may indeed hint at the rightness of the intensively vibratory and repetitive model of individuality on which I want to insist.) Process qua transition is about the continuum as individuated, not about discrete ontological facts. Finitude is "active" and manifests its activity as "impressing itself" or as "immanent" in transcendent facts. The active entity is a "perspective" (also the focus of a MT chapter), which is multiply located in the entities of "the world around." The "perspective" of any entity is defined in the chapter devoted to the topic as "What the universe is for that entity, either in the way of accomplishment or in the way of potentiality" (MT 66). In the midst of this definition of perspective, Whitehead once again goes on to emphasize the fact that entities must be identified with their self-impositions in facts transcendent of themselves, what he describes in the subsequent to the extract from the "Expression" chapter recently cited as "the impulse to diffuse" which is the "most fundamental evidence of our presupposition of the world without" (MT 21), a passage that links general metaphysical description with the elucidation of implicit features of human experience. The ecstatic intensive reading of individual actuality would render it fair to say that actuality itself is best captured in the expressive notion of "the impulse to diffuse." Since the energy of becoming is in fact the impulse to diffuse, there is simply no room for a notion of atomistic individuality that could answer to the "beads on a string" misconception often attributed to Whitehead and his conception of succession (usually by critics eager to reject his system), and that there is no room for a mod-

ified "simple location" notion of individuality creeping into a properly processive ontology (on the part of those sympathetic to the process view).

If atoms are *relationally atomic*, they are ontologically ecstatic via repetitive, insinuative, instigative intensities of pattern. Provocative impulses to diffuse expressions are all there is. Whitehead flirts with such a concession (though he perhaps lacks the language to conceive of "ecstasis") when he admits that his metaphysical vision of relationship voids the standard notions of generality and of individuality upon which standard practices of rationality depend. After claiming that "process and individuality require each other," he poses a challenge:

> A difficult problem arises from this doctrine. How can the notion of any generality of reasoning be justified? For if the process depends on the individuals, then with different individuals the form of process differs. Accordingly, what has been said of one process cannot be said of another process [unconditionally]. The same difficulty applies to the notion of the identity of an individual conceived as involved in different processes. Our doctrine seems to have destroyed the very basis of rationality.
>
> The point is that every individual thing infects any process in which it is involved, and thus any process cannot be considered in abstraction from particular things involved. Also the converse holds. Hence the absolute generality of logic and of mathematics vanish. Also induction loses any security. For in other circumstances, there will be other results. (MT 98-99)

Rather than rejecting the doctrine with such surprising results for rationality, Whitehead revises rationality. All meaningful thinking becomes, as with Hume, a matter of analogy; but unlike Hume who welcomes the shipwreck of Reason on the failure of a doctrine of analogy, Whitehead concludes that we need a robust speculative doctrine that explains the possibility of analogy given the actuality of thinking. Like Kant, Whitehead changes the question rather than embracing skepticism. There is too much at stake to conclude that rationality must abort its goals just because absoluteness has been denied not only to rationality but also to the nature of things.[8]

In framing mathematical and logical generalization and rationalization as subject to the influences of a radical doctrine of finitude, Whitehead embraces a rather unusual Platonism. He acknowledges that he is embracing the aspect of Plato that looks to "life and motion" to rescue the forms from "a meaningless void" (MT 97), which sounds a lot like the "futility of infinitude," and enlists the Platonic intuition into the central role of mathematical pattern (especially number) in understanding to underscore the potentials for

advance that have been grasped at in the life and motion of human history and culture (MT 74-85).

At the conclusion of his discussion of the role of mathematical conception in enlarging and intensifying the possibilities for selective emphasis that are definitive of and formative for consciousness, and of a description of some fundamental contrasts that should be fundamental to our approaches to analysis,[9] Whitehead recurs to some general statements about the nature of existence:

> Finally, there are two ultimate types of existence implicated in the creative process, the eternal forms with their dual existence in potential appetition and in realized fact, and realized fact with its dual ways of existence as the past in the present and as the immediacy of the present. Also the immediacy of the present harbours an appetition towards the unrealized future. How the thinker deals with these four modes of existence determines the shape of philosophy, and the influence of thought upon the practice of life. (MT 85)

What intrigues me is that both eternal objects and actual entities have parallel "dual existences" that defy ordinary logics of identity, and these dual existences (for the total of four modes of existence he refers to above) have, as the axis of their "duality," the contrast (such as it is) between fact and appetition. I say "such as it is" because, as we have seen, this axis of duality is no duality at all if we steer carefully along the contours of a discourse of ecstatic intensity and emphatic generation, though the application of such discourse to the domain of eternal objects is a long and untold story. Appetition is the becoming factual of successor appetitions, and such appetitions are the "activities" concerning "patterns of assemblage" as per our guiding MG passage.

Patterning appetition presents the fundamental challenge to us as thinkers, and in turn will shape the manner in which thought influences "the practice of life." The main question posed in moral experience is concerned primarily with the determination of the "relevant future" into which intensity will insinuate itself (echoing Whitehead's statement in the Category of Subjective Intensity).[10] This entails being able to imagine the perspectives that will constitute the emergent subjects of our objective provocations or, in other words, the ecstatic repetitions of our intensive satisfactions as they will meet and unite with other repetitions of forms of emphasis in the genetic environment of me and my future. For these repetitions of intensity in the future we are described as "derivatively responsible" in *Process and Reality* (PR 222). In fact, in PR Whitehead uses the description of moral experiences to make a rather emphatic point that links up quite nicely with the discussion of high order human experience in the midst of the living systems of nature in *Modes*

of Thought. Writing of the notion that subjects emerge from feeling rather than underlying them, he writes:

> In our relatively high grade human existence, this doctrine of feelings and their subject is *best illustrated* by our notion of moral responsibility. The subject is responsible for being what it is in virtue of its feelings. It is also derivatively responsible for the consequences of its existence because they flow from its feelings. (PR 222, emphasis mine)

I think it is fairly remarkable that the "best illustration" of the emergence of subjects *from* feelings (which is emergence into transcendent creativity as Provoker of successor entities) is said to be the experience of moral responsibility, despite there being no official moral philosophy associated with Whitehead's system. It is clear from the dominant concerns of AI and MT, however, that the domain of moral affairs (considered in its experiential contours) becomes something of a preoccupation, though still without generating an official philosophical ethics.[11]

5. Moral urgency

In thinking about "the influence of thought upon the practice of life," we come to the final concern of the present essay and may turn to framing a model of moral urgency that builds on the notions of "provocation" and "expression" that we have been discussing in metaphysical terms. Whitehead does quite a bit himself in MT to explore certain modes of ethical import that "expression" engenders, along with the attendant notion "importance." Much of what Whitehead discusses concerns the manner in which conscious experience emerges as a mode of selective emphasis engendering sometimes wildly new and transcendently creative patterns of value possibility, as well as the dark associate engendered along with these potentials, which is the *elimination* from consideration (the selective de-emphasizing) of vast swaths of existence whose importance might in fact be, well, "important" in some other perspective in our relevant future, a relevant future that will be co-engendered by both our selective emphases and the ignored importances that will nonetheless be transmitted to future entities by other factors in our environment. Earlier I mentioned that we meet transmitted "forms of emphasis" with either a well or a poorly tuned ear, and the dynamic just described is the consequence of our mode of discernment or degree of creative incorporation. These kinds of considerations are central to a complete consideration of the ethical contributions of the late work, but here I would like to move in a slightly different direction and talk about something more akin to a moral "strategy" for our times.

First, the strategy I am interested in is one of "moral urgency." Both in terms of the cultural realities demanding our response and in terms of the metaphysics of intensive ecstasies, moral affairs demand "urgency" if our concern is moral action rather than simply a reflection on the conditions or specifics of normativity. Whatever the normative claims or goals we might set, there is a degree of emphatic insistence—provocation or instigation—that comes with the experiences generating reflection on norms and with the modes of agentive action that might be engendered by our normative intuitions. Thus, the kind of urgency I would like to frame can be modeled analogically on the understanding of actuality advanced earlier. Present occasions as subject are generated or provoked by the insinuations of other actualities, and aim at their superjectivity, which is about transcendent provocation through ecstatic generative presence in other actualities. Taking our cue from this, we can crystallize two critical questions that must be posed to build a strategy of moral urgency: What are the conditions in our experience that most effectively "provoke" us into "expressive" activity? And what are the self-expressive possibilities resident in our subjectivity that might move us in the direction of acting on our moral intuitions about situations that we judge to be moral demands on our attention? Let us take each of these in turn.

The consideration of the "conditions" in our experience that have "provocative" status is multi-dimensional. All of these dimensions in some manner or another incorporate significant elements of "pattern" as it functions axiologically (i.e. provocative of value and value reflection) in us. First, by "conditions" we mean those aspects of valuational habit that have become so deeply embedded in our bodily presence in our environment as to make possible or constrain the kinds of aesthetic foci that may rise to prominence in conscious experience. The patterns constituting our physical habitus—bodily integrity, lifestyle protocols determinative of where we are and when, and in what configuration/pattern relative to the rest of the relevant things in our environment, how we spend our work and leisure time, and so forth—are undeniable factors in the receptivity to provocation that configures us morally.[12] Second, by "conditions" we also mean the mental habits of attentive discrimination whereby consciousness in us issues in modes of selective emphasis in our receptive functions, carried out successively across occasions of our experience, making for finite meaning in the flux. Here we need an examination of patterns of fixation and indifference as well as the more subtle or ordinary forms of noticing and regard that we typically engage in. In terms of the things that provoke us given a variety of the foregoing conditions, we need similar sorts of personal interrogations: what are the kinds of objects that tend to get my attention and even more importantly tend to move me to action? What are the types of events that experience teaches me tend to escape my notice? How are these provocative or neglected objects supported by the physical and mental conditions of receptivity that typify me as agent? Considerations, of conditions and objects that have provocative status in me, merge

in the crucial question: How might I leverage insight into these typically provocative energies in the interest of directing me to act? This would entail looking at instances in which I have been reflexively or purposively moved to act and conducting an in depth evaluation of the intensive patterns of value implicit in their very discernibility in their instigation of my exercise of agency—it would be an exercise in discerning the "individuals" that emerge across successions in my experience, and the kinds of "individuality" that emerge across successions in my own activity as agent.

Considering the potentials for self-expression (or generative agency in the provocation of other agents and the objects they will encounter) that constitute my subjectivity is a vast undertaking. On one level it is nothing less than an attempt to imagine the full gamut of intensive transcendent effects that I will have in virtue of my intentional as well as reflexive activities, as well as the transcendent effects of other agents, things, and moments of my own past agency in my present and future acts. It is a robust consequentialism but suffused throughout by the notions of inherent value that both conditions and consequences are made of. Doubtless we must undertake this kind of imagination in pieces, and here we get some direction for our efforts in the texts we have been considering above: One task will be to prioritize the pieces of this picture in terms of their magnitude and transformative impact. This will entail being good at imagining and effecting priorities among patterns of value and behavior. But on another level, the potentials for self-expression demand a more limited consideration of the modes of communication, relationality, and purposeful undertaking that typically constitute the trajectory of my day-to-day existence.

In this investigation I will need help, for my self-expression may be best read back to me from the experiences of others around me who are the sometime recipients of my provocations. The discernment of personality is an inherently social undertaking, since provocative expressions of personality have their ontological status in the social sphere of agencies transcendent to me, and to some extent only those agents can tell me fully what it feels like to prehend my feelings as they are transmitted (or transitioned) into others, instigative in others. Finally, the examination of my provocative agency will require the examination of the objective products of my undertakings: what is my physical and mental footprint on my surroundings? What kinds of things and agencies have I coaxed into being or extinguished with my patterns of assemblage? These are not novel questions raised only by a processive metaphysics, but they are asked emphatically—via an ontology of intensive emphasis—by that metaphysics.

6. Activism

Beyond these many questions, however, I have one more. I think one could argue that the model of provocative agency and of expressive self-imposition in this system frame Whiteheadian ethics as inherently directed towards activism. It appears from the foregoing that existence is described as fundamentally "activist" in Whitehead's organic, relational metaphysics especially as emerging in the later works. Process (as experience and as analysis) is a call to activism in being so oriented to (especially in the later works) a description of the modalities of urgency in becoming itself. By "activism" I am not mainly meaning the thronging of streets in angry protest, though that is one of the morphological possibilities of the broader activism I mean and though I think that the philosophy of affective emphasis is one of the better options for understanding the passion that fuels revolutionary zeal.

"Activism," as I see it here, is simply an intensified and self-consciously pursued posture of emphatic commitment that is attuned to the special contours and vulnerabilities of intensive values one deems insufficiently advanced or defended in culture at large. If one argues, as I would, that there are objectively identifiable urgencies in our moral environment, including but by no means limited to global warming, widespread poverty and social destabilization, the radicalization of ideology, violence against and sexual exploitation of women and children, the current global financial crisis, etc., and we do in fact grant that we are derivatively (at least) responsible for the effects of our "feelings" or "prehensions" of these and other situations, we could then further argue that the proportional response to these co-admissions is not just to "act" but to "act provocatively" in some manner determined by our answers to the foregoing litany of self-interrogations and with conscious determination. Moreover, we might argue that it is demanded that we express ourselves somehow, beyond the expression that is identical to our provocative activity itself. This is where *Modes of Thought* is so valuable for its description of the nature and role of language and other modes of expression as radically fundamental to our being as agents.

Current spaces for communication-based activism (what has come to be known as the 'netroots community' in the US) multiply the opportunities for deliberate expression through online venues as well as providing cyber-channels for insinuating oneself in the spaces of communication in the non-virtual world (newspapers, public hearings, house meetings, etc.). We need not all become bloggers (and god help us all if we did!), but we all may need to deliberately insert our voices into the functionings of the environment/community that we underwrite at any rate and which underwrite our activities in turn. As with the language of "ecstasis" here again is another axis along which process thought might do well to borrow a page from existentialism and the call to "authentic" self-imposition qua radical "choice." In a time

of "hoped for" change, the transition-focused processes of provocative agency implies that we must, indeed, "be the change we seek;" in fact, we already are and need most to own the fact that we always are already in the process of determining just what that change will look like (relative indiscernibility from the past, or radical novelty, or anything in between).

In a time of much apathy, a time in which we have also come to see the various sorts of unproductive inertia characterizing our practices in government, industry, and private life; a time of numerous conditions of distress (dwindling water supplies, world food shortage, environmental degradation, institutionalized poverty on individual and national levels, e.g.), it may be that the only moral stance that can be defended is the assertive, activist one, a mode of provocative expression that alone may affect deep enough change, as well as be open or available to the kind of mutual critique that keeps our moral intuitions honest.

Merely private moral determinations are hardly "moral" in the important sense, as well as being insulated from challenges that light up their patterns of value for more keen "disclosure."[13] The philosophy of emphatic intensity, provocative value, instigative agency available in Whitehead can create an intellectual frame for the moral undertakings pointed to by our normative intuitions but insufficiently motivated by those intuitions alone. A keen, ongoing analysis of the modes of emphasis being insinuated repeatedly or with novelty across successive occasions might attune and direct our agencies in the direction of transformation rather than what is sometimes felt as impotent disappointment with our inability to effect needed change.

It has been my privilege recently to have taught a course on "Process and Sustainability," wherein Whitehead was brought into unison of application with the classical American pragmatists (James, Dewey) to build a deepened understanding of the systems and values implicated in our unsustainable as well as our sustainable behaviors. The novelty of this course for me, beyond the topic, was that it was a "Service-Learning" course, wherein all of the students were obligated to engage in 30 hours of community service at a venue that was selected for its relevance to the subject matter at hand.

My students[14] were allocated to diverse organizations: The Norwood Food Coop, an organic food cooperative serving the urban environment of the Bronx through partnership with an upstate organic grower; the Bronx River Alliance (which is a steward organization seeking to remediate damage to as well as enhance urban enjoyment of the river that runs through Fordham's borough; the Fordham-Bedford Housing Corporation (which works to refashion dwelling spaces in an impoverished urban area using green materials, renewable energy, the retrofitting of inefficient mechanisms for heating and cooling in multi-unit dwellings, and more); and the Mosholu Preservation Corporation (a multi-dimensional activism group for our area wherein students have been tasked to work on planning for the expansion of bicycle and pedestrian pathways along or near defunct rail lines in the Bronx).

One of the central texts that we used for the understanding of cultural and natural systems and the disclosure of the sustainability contours of the service assignments, after reading some 'systems thinking' papers devoted to sustainability per se,[15] was *Modes of Thought*. It is interesting for our purposes here that despite their fierce dedication to the activist dimensions of their service commitments and the pragmatic shape of the understandings thereby facilitated (ideas being bound up in meaning with their actual lived consequences for better or worse), students found themselves demanding the bona fide system-theory of Whitehead as a necessary supplement to the philosophy of experience manifest in Dewey's late works.[16] Students found themselves wanting some kind of grounding for the felt normativity of their intuitions about sustainability, and a description of how an agent actually proceeds to effect change in deeply wrought long-term social and physical systems in which they know themselves to be always-already-implicated.

Folded into the processes of transformation by their service commitments, students struggled to find intellectual foundations and give intellectual voice to these processes and the modes of emphatic thought and experience embedded in them. The obvious good, to them, of "sustainable" living—even given the intense and obvious co-challenges in relatively poor urban communities and urbanized natural environments—provoked a need to understand in the mode of doing, and to do in a mode of understanding of the values built into the conditions their service was designed to address, as well as the transformative values being championed by the specific service venues at which they labored. Especially enlightening were moments of frustration when students saw—because they were looking so hard—how certain intensive values were marginalized or degraded by the inattention and poor attunement of some of the people in the environments of their projects or in positions of power in regard to those environments. The slow processes of insinuative destruction and the equally slow processes of insinuative remediation to which they were committed were forcibly lit by the particular intersect of metaphysics and practice afforded by the later works of Whitehead and by how a focus on emphatic provocation lit up the broad reality that our very lives are made of such emphatic provocations.

7. Conclusion

My pedagogy in this course was guided by a provocative aim, which was to trigger in students—if their modes of receptivity were properly primed, which they turned out to be—a thirst for depth of understanding as a condition for well-directed practical engagement. I am led to think—by the relevance of Whitehead's constructions to our activist course focus, by the redoubled commitment of the students to their activism upon reading our sources, and by the students' own demand for system once their appetitions were provoked

by *Modes of Thought* and their deviously instigating Whiteheadian profes-
sor—that the late work is both system and the activist beyond of system in our
times.[17] It has certainly endorsed my view that there is in fact, to return to one
of Whitehead's concerns evoked earlier as we looked at the passage from
MG, a rich payoff for metaphysics in human culture if it is engaged provoca-
tively. This does not settle the further question of the normativities that might
and should guide our provocative activities, but in cases where we experience
our normative insights to be relatively obvious this analysis points to a strate-
gy and a ground for discerning how to take the crucial next step beyond those
insights. Moreover, looked at from the core insights of the pragmatic method,
it is only if we can see how the emphatic conditions arise to which we wish to
direct our normative intuitions, and how our direction will and does find em-
phatic, ecstatic footing will we truly comprehend the normativity we claim to
intuit.

Activism may be a condition even of meaningful, disclosing discussion
of norms. In the current debate about Sustainability we see this possibility
writ large in the frustrating conversations about policy that arise from compet-
ing focuses on genuine urgencies (the possibility of climate tipping points
provoking a sense of planetary emergency in various sustainability communi-
ties, the demands of the global financial crisis provoking a sense of preca-
riousness about sustainability policy in certain economic communities, and so
forth). We will see these conversations play themselves out with increasing
attunement to the forms of value currently re-instantiated in ongoing practices
and those forms of value that might be emphasized or de-emphasized in any
given mode of provocative activism. The conversation is unlikely to settle its
instigating questions with any finality, but looking at the ethical dimensions
of the conversation with intensive provocation in mind we may at least attain
a consciousness and conscientiousness of the iterative values in play and how
we are variously implicated in them. This would at least be a healthier con-
versation than a simple conflict of normative intuitions and might yield new
possibilities for common ground and concerted action along certain axes not
currently well understood. It may, in other words, be a strategy for our labors
to be "raised above the futility of infinitude by various successive types of
modes of emphasis which generate the active energy of a finite assemblage"
(MG 674).

NOTES

1. This consistency of analysis of intellectual history across all of Whitehead's work
   should signal that metaphysics too has probably a certain persistence, in the
   same form of revisiting that characterizes the analysis of intellectual habits.
2. There are several marks of frustration with rational formulation in the MG essay, as
   well as in the late essay on "Immortality", whose last line expresses exasperation
   with philosophy that attempts to emulate the exactness of the special sciences:

"the exactness is a fake" Whitehead famously writes, closing out his corpus ra ther emphatically. Printed as a response to scholarly essays on his work in, *The Philosophy of Alfred North Whitehead, Library of Living Philosophers*, edited by Paul Arthur Schilpp (Open Court, Lasalle: 1951), p. 700

3. See my *Intensity: An Essay in Whiteheadian Ontology* (Vanderbilt University Press, Nashville: 1998).

4. I find myself eager to locate my reflections amidst the work being done on White head and Deleuze, whose Difference and Repetition is a bone fide process on tology of the sort advocated here, but that is a project for another time.

5. It is tempting to extend the Whiteheadian diagnostic of the embrace of the futile infinite as a fear of the challenges of intensive ecstasis, but that gets us into the existentialist analysis that needs to be married to Whitehead's realist sensibili ties, a subject far beyond my current objectives but to which I intend to return at another time.

6. This passage marks some ontological inconsistencies in Whitehead's system that need working out. While immediacy of becoming is in PR marked as the essen tial plane of actuality, here immediacy is stripped of the sense of vividness and value that is so frequently located in it in PR. Describing the self creative aspect of actual entities, the 23rd Category of Explanation states: "(xxiii) That this self functioning is the real internal constitution of an actual entity. It is the 'imme diacy' of the actual entity. An actual entity is called the 'subject' of its own im mediacy" (PR 25). Whitehead is struggling with the same paradoxes of a robust doctrine of immediacy that John Dewey encountered (in works like *Experience and Nature*, *Art as Experience*, the essay "Qualitative Thought", etc: the appeal of a rich description of an event theory of activity alongside an essentially rela tional/communicative model of being. It is no surprise that in the work where Whitehead turns most explicitly to issues of communication ("The account of the sixth day should be written: 'He gave them speech, and they became souls'" [MT 41]), he opts definitively for the relational doctrine of individual actuality over the strictly immediativist one, though both are completely present in PR.

7. As argued by Jorge Nobo in *Whitehead's Metaphysics of Extension and Solidarity* (Albany: State University of New York Press, 1986).

8. One could argue that Hume does not do away with Reason but simply redefines it as the product of experience (custom, habit, belief, etc.); but since he counterposes this kind of "knowledge" of "matters of fact" in the Inquiry to the modes of thought involved in the exploration of "relations of ideas" his analysis rests on an unresolved bifurcation of thinking that Whitehead rejects quite clearly in the passages we are about to explore from MT. At the very least, mathematical thinking is for Whitehead salient to the discernment of matters of fact and vice versa, rather than being a wholly different intellectual exercise from it. It is my view that if Hume meant for these two modes to be resolved he could not have ended the Inquiry in skepticism per se, though this is not to deny the value of what he is doing given the parameters of his project which rests on quite differ ent foundational descriptions of 'experience' from that found in Whitehead.

9. The three pairs of contrasts are, "Clarity and Vagueness," "Order and Disorder" (both of these pairs are, it should be noted, quite integral to several dimensions of the discussion of intensity in *Process and Reality*), and "The Good and the

Bad" (MT 75).

10. For a fuller treatment of intensity and morality, see my *Intensity: An Essay in Whiteheadian Ontology*, Chapter Five.

11. For an excellent recent study of the possibility of a Whiteheadian ethic, see Brian Henning's *The Ethics of Creativity: Beauty, Morality and Nature in a Proces sive Cosmos* (Pittsburgh: University of Pittsburgh Press, 2005).

12. This presence of the bodily life in, and its continuity with, the physical environ ment is a persistent theme in the consideration of humans in nature in Modes of Thought.

13. This construction borrows a fundamental characterization of "understanding" in *Modes of Thought* (MT 49).

14. The students in question were Alicia Corbett, Mary Gibbons, Sarika Mathur, Sean Mclaughlin, Robert Pergament, Alexandra Pugsley, Sarah Quinlan, and Emily Turek.

15. See the website of the Sustainability Institute, in particular the papers of Donella Meadows: http://www.sustainer.org/.

16. The group read two substantial chapters from *Experience and Nature*: "Existence as Precarious and Stable" and "Nature, Life and Body Mind" some of the clos est to metaphysical essays Dewey ever produced.

17. Partly as a result of the relentless focus on sustainability in our course, some of the students proposed applications for the Clinton Global Initiative University, a conference designed to train and educate students in their commitment to the fo ci of their applications. This ongoing commitment was evidence to me of the viability of the intersect of metaphysics and practice in a Whiteheadian context.

Seventeen

THE DREAM OF SOLOMON

Isabella Palin

1. Introduction

Often *Process and Reality* is considered to contain Whitehead's final philosophical system. It is not his "final" book, however, and in view of his insistence throughout his career on the unattainability of finality in philosophy, I am going to assume that the professedly philosophical works of his that come after *Process and Reality* participate—in some way or another—in the progress of his philosophical adventure. The question is, in what way?

There may be a couple of clues to be found for addressing this question in the two short chapters that make up Part V (the last part) of *Process and Reality*, which is entitled "Final Interpretation." In the first chapter of this part, which reads as an introduction to the "final interpretation," Whitehead writes: "The chief danger to philosophy is narrowness in the selection of evidence" (PR 337). And: "Philosophy may not neglect the multifariousness of the world—the fairies dance, and Christ is nailed to the cross" (PR 338). These words are a reminder of the demand for "adequacy" that Whitehead puts on speculative philosophy: the demand that *any* element of experience whatsoever must be able to be "interpreted" in terms of the philosophy.[1]

How should we understand these notions of "interpretation" and "adequacy"? With Whitehead, it is important to avoid conceiving of a scheme of thought as a sort of universal translator. Whitehead gives the terms "interpretation", "applicability" and "adequacy" precise technical meanings in *Process and Reality*. A well known passage of his runs:

> The true method of discovery is like the flight of an aeroplane. It starts from the ground of particular observation; it makes a flight in the thin air of imaginative generalization; and it again lands for renewed observation rendered acute by rational interpretation. (PR 5)

It is important to note that this "renewed observation rendered acute" is not as straightforward as it sounds, for Whitehead writes: "The success of the imaginative experiment is always to be tested by the applicability of its results beyond the restricted locus from which it originated. In default of such extended application, a generalization started from physics, for example, remains merely an alternative expression of notions applicable to physics. The

partially successful philosophic generalization will, if derived from physics, find applications in fields of experience beyond physics. It will enlighten observation in these remote fields, so that general principles can be discerned as in process of illustration, which in the absence of the imaginative generalization are obscured by their persistent exemplification" (PR 5). That is to say, the use of a scheme of thought to interpret types of experience not yet put on exhibition in terms of it "tests" the scheme. The scheme may fail the test: It may prove itself inadequate to account for certain types of experience, and it may fail to "interpret."

2. The Scheme's Adequacy to Religious and Moral Intuitions

So our question concerning the demand for adequacy that Whitehead lays on his scheme becomes, how does the test by experience operate? How does experience throw down the gauntlet to a scheme of philosophy? What makes the difference between just using the terminology of a particular system to talk about various areas of experience, and successfully interpreting experience through application of the system?

The "final interpretation" given in the last chapter of *Process and Reality* provides not only an explicit statement of what Whitehead understands by interpretation (which we will quote below), but also a concise illustration of interpretation at work. This particular interpretation relates to "somewhat exceptional elements in our conscious experience—those elements which may roughly be classed together as religious and moral intuitions" (PR 343). These intuitions, explains Whitehead, have to do with the idea that the final lot of the achievements of the present is *not* (contrary to what the scheme suggests so far) loss and disappearance as the world moves on. They contain an "insistent craving that zest for existence be refreshed by the *ever present, unfading importance* of our immediate actions, which *perish and yet live for evermore*" (PR 351, my emphasis). That is to say, it happens that we behave as though our actions might have some sort of importance beyond the "political" importance in virtue of which they are able to infect, through "canalization" and "intensification" (see PR 107), the historical order to which we belong.

The presence of this "religious and moral" type of experience continues to be felt in Whitehead's later works, and my suggestion will be that it is there given a different interpretation from the one presented here, in the last chapter of *Process and Reality*. Here, the problem thrown up by the type of experience Whitehead is concerned with is given a metaphysical formulation, implying that present actualities "live on" in some way— in some way where the "whole truth" concerning their metaphysical fate as they become involved in new processes of actualization does *not* consist of their mutual obstruction, or of the abstraction that necessarily attends their objectification in subsequent occasions (see PR 340, 342, 346).

According to Whitehead's scheme of concepts so far, "the primary meaning of 'life' is the origination of conceptual novelty—novelty of appetition" (PR 102). Certain types of society, which he terms "living" societies, promote such origination for their own preservation in respect of the otherwise destructive effects of the wider environment. In such societies, the non-social, innovative occasions are supported and protected by the properly social, repetitive (tradition-bound) organization (see PR 96-109). In Part V of *Process and Reality*, Whitehead illustrates the contrast and reciprocity between the element of novelty and the social order required for its sustenance in such cases with "the transmutation of causal efficacy into presentational immediacy":

> It is by reason of the body, with its miracle of order, that the treasures of the past environment are poured into the living occasion. […] In its turn, this culmination of bodily life transmits itself as an element of novelty throughout the avenues of the body. Its sole use to the body is its vivid originality: it is the organ of novelty. (PR 339)

But now, at the end of *Process and Reality*, Whitehead emphasizes that "life" is more than introduction of novelty:

> Yet the culminating fact of conscious, rational life refuses to conceive itself as a transient enjoyment, transiently useful. In the order of the physical world its role is defined by its introduction of novelty. But, just as physical feelings are haunted by the vague insistence of causality, so the higher intellectual feelings are haunted by the vague insistence of another order, where there is no unrest, no travel, no shipwreck […] The most general formulation of the religious problem is the question whether the process of the temporal world passes into the formation of other actualities, bound together in an order in which novelty does not mean loss. (PR 340)

There is a contrast between, on the one hand, the type of repercussion actualities have in the historical world if they succeed in infecting it with their values and, on the other, their "unfading importance" and "everlasting life", which a certain type of "religious and moral" intuition points to. It is this intuition that is to be interpreted in the last chapter of *Process and Reality*, and Whitehead announces that the interpretation will be metaphysical in nature and carried out in terms of the relationship between God and the World (PR 341).

But concerning the question occupying us for the moment, this is how Whitehead conceives of the way his scheme will be put to the test by the interpretation:

> There is nothing here in the nature of proof. There is merely the confron-
> tation of the theoretic system with a certain rendering of the facts. But
> the unsystematized report upon the facts is itself highly controversial,
> and the system is confessedly inadequate. The deductions from it in this
> particular sphere of thought cannot be looked upon as more than *sugges
> tions as to how the problem is transformed* in the light of that system.
> (PR 343, my emphasis)

So what the interpretation does in its confrontation of the scheme with a for-
eign element of experience is *suggest* how the *problem* thrown up in the con-
frontation may be *transformed*. In the case at hand, the religious problem is
formulated in terms of Whitehead's metaphysical concepts. It is made to con-
cern the metaphysical function of God and lies in the dilemma constituted by,
on the one hand, "the empirical fact that process entails loss" (the historical
fading of the past) and, on the other, the intuition that what the world achieves
in the immediate present in the way of overcoming evil—of overcoming "ob-
structive modes" of fact—is somehow *not* lost in "the whole story" of the
cosmos (PR 340). This "somehow" is what is to gain definition as a solution
to the problem.

So the way the problem is transformed in Chapter II of Part V of
Process and Reality, so as to reconcile the two horns of the dilemma consti-
tuting it (the perpetual perishing of actual fact *and* its everlasting life), consti-
tutes Whitehead's "interpretation" there of the type of experience identified in
the final part of *Process and Reality* as a locus for the experimental applica-
tion of his metaphysical scheme. This metaphysical interpretation essentially
comprises a modification to the conceptual scheme by the invention of a con-
sequent nature to God,[2] whereby God feels the actual World as it constitutes
itself historically as fact, but feels it in a "unison of immediacy" (PR 346)—
stripped of its decided incompatibilities, the wars fought between its various
orders as they rise and decay, and the claims to exclusivity of its members as
they decide on their values.

Following Isabelle Stengers's account in *Penser avec Whitehead* (2002,
second part, chapters entitled "Dieu et le Monde" and "Une aventure des
Idées"), the function God acquires through this integration[3] of a primordial
and a consequent aspect is to provide lures for feeling to occasions in the form
of historically relevant but "open" questions ("What if…?"). That is to say,
the differentiated (graded) relevance of eternal objects to each new concres-
cence establishes itself through God's physical feeling. In God, then, actuali-
ties achieve the "everlasting life" demanded by the intuition that beyond their
"transient usefulness" at a certain epoch, which fades with time and change of
epoch, they have an "unfading importance". God's conceptual appetition is a
proposition relevant to the particular nascent occasion, in its particular histor-
ical situation, faced with the particular evils (incompatibilities) of its time,

through his conceptual feelings becoming integrated with his physical feeling of the World.

In this way, the craving for "refreshment" (or the cosmological problem (PR 341) concerning the fact that we are sometimes animated by moral questions that exceed established values) is given an interpretation in terms of the metaphysical scheme without God becoming hypostasized into an agency that would decide what matters and what does not, or how the actual world presented to novel concrescence must matter to it. That is to say, it is given an interpretation without violating the ultimate metaphysical principle of Creativity.

Whitehead's interpretation emphasizes that the concepts of God and of the temporal world, for their very functioning, require each other "with equal claim to priority in creation" (see PR 347-349). Each becomes an "instrument of novelty" for the other (PR 349). Whitehead eliminates any trace of the precedence of God with respect to the temporal world, whether in terms of power (as ruler and decider of order), virtue (as provider of the best answers in particular situations), or principle (as unmoved mover) (PR 342-343). His solution to the metaphysical problem thrown up by intuitions into the cosmological effects of our actions thereby safeguards the ultimate principle to which his philosophy is bound in *Process and Reality* (PR 7), namely the principle of Creativity, according to which each actual entity is *causa sui*, the decisions and feelings of which cannot be explained by anything else.

3. A New Question Arises

Now, I would like to suggest, concerning the question of what might be going on in the books posterior to *Process and Reality*, that Whitehead's metaphysical solution to the problem of refreshment as formulated in terms of God and the World enables a new question to be asked, concerning the World's effects on God. For it is impossible now to conceive of God as an unmoved mover. God feels the World, and is affected and moved by the World. The World has become an "instrument of novelty" for God, with incidence on God's metaphysical function, which is to provide lures for feeling in the actual world.

In substance, however, the effects of the World's actualities on God are no less inscrutable than are the effects of God's lures for feeling on particular nascent occasions. For the principle of Creativity stipulates that *all* actual entities, including God, are *causa sui*. Yet (I suggest) the question lingers of how one might "use God well".[4] For the sense that decisions matter beyond "transient enjoyment, transiently useful" implies that they have *consequences* beyond such transience. That is to say, if the actual World is saved into everlastingness in God's consequent nature, it also has some *effect* there, and might one not be concerned with that effect?

My suggestion is that this question of "consequences" (of the way the World affects God) may be seen to operate in Whitehead's later works. The question constitutes a new problem in the sense that God, like all entities bound by the principle of Creativity, is inscrutable as regards the process of his functioning, and yet the religious and moral type of intuition suggests that we do on occasion concern ourselves with the cosmological effects of our actions. We cannot tell how God will use us, what precisely the effects of our actions will be on his nature, but we nevertheless feel that there is a point to the question of what we are providing for him to feel.

How does this question then operate? What type of treatment is it given, in order that the problem may be transformed through the solution found?

4. A Non-Metaphysical Question

Whitehead handles a distinction in his philosophy between metaphysics and cosmology. Throughout the passage in *Process and Reality* concerning the notion of "life" that we briefly referred to above, Whitehead reminds us that he is there "deserting metaphysical generality" (PR 96; see also PR 103). That is to say, metaphysical principles are neutral with regard to types of order, or "ideals" (PR 83-84), that evolve in fact. There is nothing in the metaphysical scheme to justify the development of this or that particular type of order. Yet the universe is not a chaos of discordant values: It has, for example, developed various societies. Cosmology accounts for this phenomenon.

For the main part of *Process and Reality*, God's primordial nature defines an ultimate principle of cosmology, which may be summarized in the following phrase: "The primordial appetitions which jointly constitute God's purpose are seeking intensity." That is to say, "the evocation of societies is purely subsidiary to this absolute end" (PR 105). Now, at the end of *Process and Reality*, the reciprocity established between God and the World would seem to imply that the World "evokes" in God, via his physical pole, the grading of the relevance of eternal objects to novel occasions, just as God "evokes" intensities from the World, via actual occasions' mental poles. The question of the World's effects on God is thus a cosmological question. That is to say, it has to do with the way things are not merely indifferent to each other's concerns, but "matter" to each other.

At the start of this discussion, I suggested that Part V of Process and Reality contains some clues as to the direction in which Whitehead's thoughts might be seen to pursue their adventure beyond the metaphysics of that book. One clue consists in the final operation in Process and Reality being, in the way described above, to improve the adequacy of his metaphysical scheme by effectively enlarging its application to a certain type of experience not yet taken account of by it. In effect, the metaphysical interpretation of the cosmological problem, involving the invention of a consequent nature to God,

enables another cosmological problem to be set, concerning the World's effects on God. With this in mind we might ask ourselves, concerning the development of Whitehead's philosophical adventures after Process and Reality, whether processes of interpretation might not be at work that are not metaphysical in nature. And if so, how might they be described?

A second clue can be found at the end of *Process and Reality* which may provide an indication of the way in which the question of the World's effects on God is treated by Whitehead in his later works. Whitehead refers in Part V of *Process and Reality* to an **"**art of progress" articulating the notion of "refreshment" with the concept of social order:

> The social history of mankind exhibits great organizations in their alternating functions of conditions for progress, and of contrivances for stunting humanity. The history of the Mediterranean lands, and of western Europe, is the history of the blessing and the curse of political organizations, of schemes of thought, of social agencies for large purposes. The moment of dominance, prayed for, worked for, sacrificed for, by generations of the noblest spirits, marks the turning point where the blessing passes into the curse. Some new principle of refreshment is required. The art of progress is to preserve order amid change, and to preserve change amid order. Life refuses to be embalmed alive. (PR 339)

I suggest that the development of the notion of an "art of progress" that can be observed in Whitehead's later works is made in response to the question of "using God well."

A. Refreshment

The "intuition" that enters the scene at the end of Process and Reality, and which we have considered to be interpreted by Whitehead in metaphysical terms by the revelation of a physical pole in the nature of God, refers to a principle of "refreshment of the zest for existence". The World is refreshed through God's propositions, and God is refreshed through the World's decisions. Or rather, the World and God are "*instruments*" (or "organs") of refreshment for each other. For refreshment is not guaranteed. To put it another way, refreshment is not one of the categoreal obligations, it is not a condition governing feelings, and one may feel without refreshment. All actual entities are bound by the principle of Creativity, and refreshment is not granted without at the same time being received by active accommodation.

The notion of refreshment is invoked regarding "the social history of mankind". That is to say, there is an "art" to refreshment insofar as the *conditions* for its "reception"—for its taking place—may stifle or encourage it. The question of the art of providing refreshment—of the "art of progress", of "us-

ing God well"—concerns the creation of such conditions conducive to pro-
voking refreshment. My suggestion is that after *Process and Reality*, White-
head develops a non-metaphysical interpretation of the religious and moral
intuition, in terms of ways in which "we," loosely understood as human be-
ings "in the West", have adjusted our social environment with regard to the
issue of progress.

The "religious and moral" question put to Whitehead's philosophy at the
end of *Process and Reality* remains present throughout the three books that
Whitehead wrote after *Process and Reality*. In *The Function of Reason*,
Whitehead speaks of the problem of making "nature" and "morals," or the
"physical" and the "mental," the subject of "science" and the subject of "phi-
losophy," coherent with each other; in *Adventures of Ideas*, of making "moral
intuitions" coherent with "the rest of things;" and in *Modes of Thought*, of
making "the final real things," viz "life" and "physical nature," cohere. It is
possible to wonder why. For was this not precisely the theme treated in great
consequence by *Process and Reality*? Perhaps this apparent similarity of sub-
ject-matter between *Process and Reality* and the following works of White-
head's, together with the absence in the later works of obviously technical
terminology, makes it tempting to see these latter works merely as a populari-
zation of the philosophy already developed.

This view would not do justice to his later works: A similarity of theme
can belie a vast difference in problems and questions treated (see Palin 2008).
To clarify this issue, we may observe a singularity of *Process and Reality*
that, when taken together with the two clues outlined above, can help us to
locate a place where novel philosophical work is being carried out with
Whitehead's later books. The singularity consists in the fact that although
Process and Reality establishes a distinction between the process of becoming
of an occasion (the subjective process of integration of feelings) and the
process of "transition" from one occasion to the next, it is concerned practi-
cally exclusively with the former. The works that come after it, on the other
hand, focus on transition.

B. Ezekiel and Solomon

This contrast may be illustrated by two quotes. The first quote epitomizes the
major problem at issue in *Process and Reality*, namely, the "miracle of crea-
tion," or the process of feeling data bound by the principle of Creativity:

> The concrescence, absorbing the derived data into immediate privacy,
> consists in mating the data with ways of feeling provocative of the pri-
> vate synthesis. These subjective ways of feeling are not merely receptive
> of the data as alien facts; they clothe the dry bones with the flesh of a
> real being, emotional, purposive, appreciative. The miracle of creation is

described in the vision of the prophet Ezekiel: "So I prophesied as he commanded me, and the breath came into them, and they lived, and stood up upon their feet, an exceeding great army." (PR 85)[5]

But if Ezekiel's prophecy of the miracle of creation corresponds to the "ultimate generality" at issue in *Process and Reality* (that is, to the basic intuition Whitehead's concepts are bound not to betray, expressed in the principle of Creativity), there is another prophecy making itself heard in *The Function of Reason*:

> An abstract scheme which is merely developed by the abstract methodology of logic, and which fails to achieve contact with fact by means of a correlate practical methodology of experiment, may yet be of the utmost importance. The history of modern civilization shows that such schemes fulfill the promise of the dream of Solomon. . . . The ultimate moral claim that civilization lays upon its possessors is that they transmit, and add to, this reserve of potential development by which it has profited. (FR 72)

In Solomon's dream—"the greatest prophecy ever made" (FR 74), according to Whitehead in *The Function of Reason*—Solomon is granted "an understanding heart" so that he may judge between good and bad (1 Kings 3).[6] It is this type of mental functioning that occupies *The Function of Reason*, and that Whitehead terms "second-order Reason."

In Solomon's dream, the "understanding heart" granted him by God subjects the two mothers in the story to a strange test, the test of the sword, regarding the consequences of their desires (appetitions) for the yet unrealized future, symbolized by the child in the story:

> And the king said, Divide the living child in two, and give half to the one, and half to the other. Then spake the woman whose living child was unto the king, for her bowels yearned upon her son, and she said, O my lord, give her the living child, and in no wise slay it. But the other said, Let it be neither mine nor thine, but divide it. (1 Kings 3:25-26)

As it turns out, Solomon does not carry out what either of the women asks. He confides the child to the mother whose "bowels yearned." What does this mean? For our purposes, it means that the "ultimate generality" at issue for Whitehead here is the concern for the future that our behavior sometimes bears witness to.

Ezekiel prophesies nothing about situations where life seems poor and senseless in its transience, a speck doomed to fade with time and disappear— enjoying intense feelings in the present, perhaps, the drama of overcoming

evil—but nevertheless wondering what difference it all will make, far into the future, and despairing that no answer comes. The question echoes alone in the universe until it too fades into nothingness. A local evil was dealt with, a passing decision made: a tiny spat in the ocean of a vast, crushing history.

Solomon's prophecy, on the other hand, is one that corresponds to the invention of a God that "saves" the World and to the questions enabled by it. In the words of *Adventures of Ideas*, the concern with the future exhibits a "reliance that fine action is treasured in the nature of things" (AI 274). That is to say, whereas in the main part of *Process and Reality* the principle of cosmology is entirely contained within "God's purpose" understood as his primordial appetitions (unaffected by his physical nature), by the end of *Process and Reality* and in Whitehead's later works God's purpose is able to be treated also as the World's concern. The experience of such concern, however, does not constitute a challenge to Whitehead's metaphysical scheme, for the scheme has already, from a metaphysical point of view, taken the "religious and moral" type of intuition satisfactorily into account (by enabling its expression in metaphysical terms without violating the ultimate metaphysical principle of Creativity, as we have seen). It does constitute a live issue to the regions of the World where such concern is entertained, on the other hand. The "art of progress" is of importance where the question of *types of order* matters. That is to say, it is important wherever questions concerning the construction of the environmental conditions for supporting particular types of experience are of issue.

What is of note to us in this paper is that in *Modes of Thought* Whitehead carries out a philosophical *generalization* of the notion of "life", which in *Process and Reality* characterizes only certain types of occasion:

> The doctrine that I am maintaining is that neither physical nature nor life can be understood unless we fuse them together as essential factors in the composition of "really real" things whose interconnections and individual characters constitute the universe. (MT 150)

That is to say, whereas in *Process and Reality* life qualifies only occasions that betray initiative in conceptual prehension, in *Modes of Thought* life "implies the absolute, individual self-enjoyment arising out of [the process of appropriating into a unity of existence then many data presented as relevant by the physical processes of nature]" (MT 150), which is to say that it qualifies *every* occasion as a process implying the problem of how to "give inheritance". Correlatively, in *Modes of Thought* Whitehead emphasizes that "forms" of order are forms of *process*. A form of process is what the occasion, in its superjective nature, gives in inheritance to the future, rather than a "decision" understood as self-satisfied and unconcerned with the future.

This generalization of the notion of life constitutes Whitehead's new principle of cosmology. As he points out, *Modes of Thought* does not set out a systematic cosmology in metaphysical terms; it is rather an indication of the "starting point" for, or of the basic intuition that gives rise to, cosmological questions.

5. Conclusion

For this paper, I wanted to assume that there was something of philosophical significance "going on" in Whitehead's works after *Process and Reality*, and to ask what sort of thing that might be. I have tried to intimate in the paper that at least one of the things "going on" is an *interpretation*—in the technical Whiteheadian sense—of the fact that we on occasion act taking account of what can loosely be brought under the rubric of "moral" questions. I have tried to show how this interpretation of the moral fact, in contrast to the one given at the end of *Process and Reality*, is not a metaphysical interpretation, for the way it transforms the problem of morality (to produce a meaning and use of morality that neither dogmatizes nor neutralizes the moral intuitions we have) is not by engaging the concepts of the metaphysical scheme in such a way as to challenge and test them.

NOTES

1. On interpretation, applicability, and adequacy see PR 3 5.
2. Whitehead points out, at the start of Section III of Chapter II, that he has not yet given consideration to the consequent nature of God, which he is now about to introduce. See also Lewis Ford (1984, 229). See also especially Isabelle Sten gers (2002, second part) in chapter entitled "Dieu et le Monde." Stengers em phasizes that Whitehead's metaphysical treatment of the problem constitutes a successful secularization of the concept of God, and explains why this is impor tant.
3. See PR 345: ". . . analogously to all actual entities, the nature of God is dipolar. He has a primordial and a consequent nature . . . . One side of God's nature is con stituted by his conceptual experience. This experience is the primordial fact in the world, limited by no actuality which it presupposes . . . . The other side ori ginates with physical experience derived from the temporal world, and then ac quires integration with the primordial side." God's primordial and consequent natures are aspects of one integral actuality, not separate processes.
4. I use this expression for formulating the question because it is able to sustain the reciprocity involved in the new God World relationship: God is affected by the World (to be used well is to be treated well) and the World is affected by God (to use well is to use profitably), both having "equal claim to priority in crea tion."
5. The biblical reference is to Ezekiel 37:10.
6. The usual translation (1 Kings 3:9) is "an understanding heart." A more literal trans lation from the Hebrew apparently gives "a hearing/listening heart."

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