

# APPENDIX 1

## Contemporary Process-Relational Thought: A Primer

The term “process-relational” has been most closely associated with the later metaphysical writings of Alfred North Whitehead, and Whitehead’s influence on contemporary process-relational thought is undeniable. The influences of others, however, including Henri Bergson, C.S. Peirce, William James, and Gilles Deleuze, are also evident in current writing. All (though less frequently Deleuze) are sometimes included in the broader category of “process philosophers,” but this term alone does not adequately capture the centrality of *relations* in process-relational ontology. Similarly, the term “relationalism,” frequently understood to be opposed to various kinds of atomism, individualism, and “essentialism,” and more recently to object-oriented ontology, fails to adequately emphasize the *processual* nature of any and all relations. My use of the term “process-relational” is thus intended to highlight the temporal dynamism, emergent relational systematicity, and inherently creative openness of a living universe composed of interactive events characterized by some measure of perception, responsiveness, subjectivity, or “mind.”

Seen this way, process-relational philosophy overlaps in key respects with other classifications, including “panpsychism” (see especially David Skrbina’s volumes on the topic), “new materialism” (a larger and more amorphous category, which says less

about what it *is* than how it is *new*), “constructive postmodernism” (a category proposed and developed by David Ray Griffin, but which has not been taken up widely outside the Whiteheadian community), some forms of semiotic theory in the tradition of Peirce, several forms of post-Deleuzian thought (including the “assemblage theory” of Manuel DeLanda and the ever evolving work of Levi Bryant), and various network- and systems-based approaches, including developmental systems theory and other ecological approaches in the life sciences, and the post-actor-network “method assemblage” of John Law, Annemarie Mol, and others.

More generally, process-relational themes can be found scattered across a wide historical swath, and this background is relevant to the resurgence of the tradition today. In the ancient world, such themes are clearly found in some of the Greek and Hellenistic schools (most obviously in the thought of Heraclitus, fragmentary as it has come down to us, but also in Stoicism and Neo-Platonism) and in various ancient Chinese and Indian schools of thought, especially Daoism, Buddhism, and neo-Confucianism in their many stripes (sometimes the latter have been lumped together as “Asian field theories,” though the category is rather elusive). The historical thread can then be pursued to medieval Islamic thought (Suhrawardi, Mulla Sadra), the early modern thought of Bruno, Spinoza, Leibniz, and others, Romanticism in its many variations (as in Schelling, for instance), the Japanese Kyoto school of Nishida, Nishitani, and others, the American Transcendentalists and pragmatists (James and Dewey especially, alongside Peirce), and even to some key aspects of such central modern figures as Hegel, Marx, Nietzsche, and perhaps Heidegger.

Beyond the purely philosophical realm, process-relational thinking has flourished in the arts, as in the work of Coleridge, Blake, and Goethe, and it is highly resonant with many indigenous philosophies around the world, which have typically been more pragmatic “knowledge-practice complexes” than “pure” philosophies. It is clearly linked also with the mystical and spiritual writings of historical figures from Plotinus and Shankara to

Jelaluddin Rumi, Jakob Boehme, and more recently Sri Aurobindo Ghose, Pierre Teilhard de Chardin, and Ken Wilber (most of them philosophers in their own right). A simple iteration of a process-relational ontology can be found, for instance, in African-American science-fiction writer Octavia Butler's "Earthseed" tenet, which opens her futuristic-dystopian novel *Parable of the Sower*<sup>1</sup>:

All that you touch  
You Change.

All that you Change  
Changes you.

The only lasting truth  
Is Change.

God  
Is Change.

Analogous statements can be found in oral and written literatures from around the world.

While there is great diversity and divergence between these many strands of thought, focusing on their commonalities has the benefit of clarifying important differences over and against other philosophical positions. It has been argued (for instance, by David Ray Griffin, Freya Mathews, and Christian de Quincey) that process-relational thought provides an alternative to two forms of thought that have long dominated western philosophy: *materialism*, which views matter as fundamental and human consciousness or perception as a by-product or "epiphenomenon" arising out of material relations, and *idealism*, which takes perception, consciousness, thought, spirit, or some other non-material force as fundamental and material relations as secondary, if not illusory. A range of interactive and

1 Octavia Butler, *Parable of the Sower* (New York: Warner Books, 1993), 3.

dialectical philosophies have been proposed to mediate between the material and the ideal, but many of these presume the underpinning of a relatively static binary structure of one kind or another, such as matter versus spirit, idea, or mind, or, alternatively, a conception of opposites (such as the Chinese *Yin* and *Yang*), in which homeostatic balance rather than evolutionary change is considered the baseline norm. Process-relational thought, by contrast, focuses on the dynamism by which things are perpetually moving forward, interacting, and creating new conditions in the world. (Arguably, the traditional Chinese conception is process-relational even if it favors balance or a “middle way.”) Most especially, process-relational thought rejects the Cartesian idea that there are *minds*, or things that think, and *bodies*, or matter that only acts according to strict causal laws. Rather, the two are considered one and the same, or two aspects of an interactive and dynamically evolving reality. In this sense, process-relational views are clearly related to panpsychism (and to “pan-experientialism,” a term applied commonly to Whiteheadian metaphysics), that is, to philosophies that understand “mind” or “mental experience” to be not the possession of specific objects or subjects, but part of the relational expression or manifestation of all things.

At the core of process-relational thought, then, is a focus on the world-making creativity of things: on how things *become* rather than what they are, on their emergence (which may be structured) rather than on their structure alone. According to this understanding, the world is dynamic and always in process. As Søren Brier puts it, describing the ontology of C.S. Peirce, reality is a spontaneously dynamic “hyper-complexity of living feeling with the tendency to form habits.”<sup>2</sup> That is to say that reality is emergent, evolutionary, and creative — a view that, not coincidentally, finds much resonance within twentieth-century developments in physics and biology including quantum mechanics, ecology, chaos and complexity theories, and develop-

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2 Søren Brier, *Cybersemiotics: Why Information Is Not Enough* (Toronto: University of Toronto Press, 2008), 204.

mental systems theory. This resonance is especially visible in the speculative writings of theoretical physicists and biologists such as David Bohm, Ilya Prigogine, Brian Goodwin, Stuart Kauffman, Lee Smolin, and John Dupré. (See David Bohm, *Wholeness and the Implicate Order* [London: Routledge, 1980]; Ilya Prigogine, *From Being to Becoming: Time and Complexity in the Physical Sciences* [New York: W. H. Freeman & Company, 1981]; Brian Goodwin, *Form and Transformation: Generative and Relational Principles in Biology* [Cambridge: Cambridge University Press, 1996]; Stuart Kauffman, *At Home in the Universe: The Search for Laws of Self-Organization and Complexity* [New York: Oxford University Press, 1995]; Lee Smolin, *Time Reborn: From the Crisis in Physics to the Future of the Universe* [New York: Houghton, Mifflin, Harcourt, 2013]; Daniel J. Nicholson and John Dupré, eds., *Everything Flows: Towards a Processual Philosophy of Biology* [New York: Oxford University Press, 2018].)

Comparatively oriented explications of process thought include Nicholas Rescher's *Process Metaphysics: An Introduction to Process Philosophy* (Albany: SUNY Press, 1996) and *Process Philosophy: A Survey of Basic Issues* (Pittsburgh: University of Pittsburgh Press, 2000); Douglas Browning and William T. Myers's *Philosophers of Process* (New York: Fordham University Press, 1998); and David Ray Griffin's *Founders of Constructive Postmodern Philosophy: Peirce, James, Bergson, Whitehead, and Hartshorne* (Albany: SUNY Press, 1992). David Skrbina's works, as mentioned, present panpsychist philosophy in all its variations; see Skrbina, *Panpsychism in the West*, rev. edn. (Cambridge: MIT Press, 2017), and Skrbina, ed., *Mind That Abides: Panpsychism in the New Millennium* (Amsterdam: John Benjamins, 2009).

The rapidly evolving dialogue between different processual and relational positions is evident in many books of the last two decades. Listed chronologically, these include Catherine Keller and Anne Daniell, *Process and Difference: Between Cosmological and Poststructuralist Postmodernisms* (Albany: SUNY Press, 2002); Guy Debrock, ed., *Process Pragmatism: Essays on a Quiet Philosophical Revolution* (Amsterdam: Rodopi, 2003); Michel Weber, ed. *After Whitehead: Rescher on Process Metaphysics*

(Frankfurt: Ontos, 2004); Anne Fairchild Pomeroy, *Marx and Whitehead: Process, Dialectics, and the Critique of Capitalism* (Albany: SUNY Press, 2004); Janusz Polanowski and Donald W. Sherburne, eds., *Whitehead's Philosophy: Points of Connection* (Albany: SUNY Press, 2004); Keith Robinson, ed., *Deleuze, Whitehead, Bergson: Rhizomatic Connections* (Basingstoke: Palgrave Macmillan, 2008); Steven Shaviro, *Without Criteria: Kant, Whitehead, Deleuze, and Aesthetics* (Cambridge: MIT Press, 2009); William Connolly, *A World of Becoming* (Durham: Duke University Press, 2011); Roland Faber and Andrea Stephenson, *Secrets of Becoming: Negotiating Whitehead, Deleuze, and Butler* (New York: Fordham University Press, 2011); William S. Hamrick and Jan Van der Veken, *Nature and Logos: A Whiteheadian Key to Merleau-Ponty's Fundamental Thought* (Albany: SUNY Press, 2011); Roland Faber and Andrew Goffey, eds., *The Allure of Things: Process and Object in Contemporary Philosophy* (London: Bloomsbury, 2014); Steven Shaviro, *The Universe of Things: On Speculative Realism* (Minneapolis: University of Minnesota Press, 2014); Christopher Vitale, *Networkologies: A Philosophy of Networks for a Hyperconnected Age — A Manifesto* (Washington: Zero Books, 2014); Erin Manning and Brian Massumi, *Thought in the Act: Passages in the Ecology of Experience* (Minneapolis: University of Minnesota Press, 2014); Levi Bryant, *Onto-Cartography: An Ontology of Machines and Media* (Edinburgh: Edinburgh University Press, 2014); Brian G. Henning, William T. Meyers, and Joseph D. John, eds., *Thinking with Whitehead and the American Pragmatists: Experience and Reality* (London: Lexington, 2015); Manuel DeLanda, *Assemblage Theory* (Edinburgh University Press, 2016); and Catherine Keller and Mary-Jane Rubenstein, eds., *Entangled Worlds: Religion, Science, and New Materialisms* (New York: Fordham University Press, 2017).

On Whitehead's process-relational metaphysics more specifically, the best sources are of course his magnum opus *Process and Reality: An Essay in Cosmology*, rev. and corr. by David Ray Griffin and Donald Sherburne (New York: Free Press, 1978), and the more elegant synopsis found in Part Three of *Adventures of Ideas* (New York: Free Press, 1933/1967). His writing from *Sci-*

*ence and the Modern World* (New York: Macmillan, 1925) onward reflects variations on the processual metaphysics that he took many years developing. C. Robert Mesle's *Process-Relational Philosophy: An Introduction to Alfred North Whitehead* (West Conshohocken: Templeton Foundation Press, 2008), while a simplified introduction to his thought, makes clear why the titular term is appropriate. Other concise and accessible introductions to Whiteheadian metaphysics include Philip Rose's *On Whitehead* (Belmont, California: Wadsworth/Thomson, 2002) and Pierfrancesco Basile's *Whitehead's Metaphysics of Power: Reconstructing Modern Philosophy* (Edinburgh: Edinburgh University Press, 2017). More extended and rigorous treatments include recent works by Leemon McHenry (*The Event Universe: The Revolutionary Metaphysics of Alfred North Whitehead* [Edinburgh: Edinburgh University Press, 2015]), Didier Debaise (*Speculative Empiricism: Revisiting Whitehead* [Edinburgh: Edinburgh University Press, 2017]), Steven Shaviro, and others.

David Ray Griffin's longstanding championing of Whiteheadian metaphysics in the "postmodern" context has been notable; see, for instance, his *Whitehead's Radically Different Postmodern Philosophy: An Argument for Its Contemporary Relevance* (Albany: SUNY Press, 2007). On Whitehead's more recent uptake within the loosely "continental" philosophical milieu, see especially Isabelle Stengers's influential treatise *Thinking With Whitehead: A Free and Wild Creation of Concepts*, trans. M. Chase (London: Harvard University Press, 2011); Nicholas Gaskell and A.J. Nocek's anthology *The Lure of Whitehead* (Minneapolis: University of Minnesota Press, 2014); and some of the comparative works listed above. For intriguing applications to physics, psychology, ecology, and neuroscience, see Timothy Eastman and Hank Keeton, eds., *Physics and Whitehead: Quantum, Process, and Experience* (Albany: SUNY Press, 2013); Michel Weber and Anderson Weekes, eds., *Process Approaches to Consciousness in Psychology, Neuroscience, and Philosophy of Mind* (Albany: SUNY Press, 2009); Ralph Pred, *Onflow: Dynamics of Consciousness and Experience* (Cambridge: MIT Press, 2005); neuropsychologist Jason Brown's *Process and the Authentic Life:*

*Toward a Psychology of Value* (Lancaster: Ontos Verlag, 2005); and Robert Ulanowicz's *A Third Window: Natural Life Beyond Newton and Darwin* (West Conshohocken: Templeton Foundation Press, 2009).

Much of the literature on Charles Sanders Peirce has focused on his significant contributions to logic and to semiotics; his work on metaphysics has often taken a back seat to these, but this has begun to change. Notable contributions include Vincent M. Colapietro's *Peirce's Approach to the Self: A Semiotic Perspective on Human Subjectivity* (Albany: SUNY Press, 1989); Carl R. Hausman's *Charles S. Peirce's Evolutionary Philosophy* (New York: Cambridge University Press, 1993); Sandra Rosenthal's *Charles Peirce's Pragmatic Pluralism* (Albany: SUNY Press, 1994); Kelly A. Parker's *The Continuity of Peirce's Thought* (Nashville: Vanderbilt University Press, 1998); and Leon Niemoczynski's *Charles Sanders Peirce and a Religious Metaphysics of Nature* (New York: Lexington, 2013). Perhaps the clearest general exposition of Peirce's philosophy is Albert Atkin's *Peirce* (New York: Routledge, 2016).

The territory between Whitehead and Peirce has been insightfully traversed by Charles Hartshorne, who studied with the former and edited the latter's manuscripts; see his *Creative Synthesis and Philosophic Method* (LaSalle: Open Court, 1970) and *Creativity in American Philosophy* (Albany: SUNY Press, 1984). Peirce's influence in semiotics, including its many cognate fields (such as biosemiotics, ecosemiotics, and zoosemiotics), is bearing interesting metaphysical fruit as well. Terrence W. Deacon's *Incomplete Nature: How Mind Emerged from Matter* (New York: W.W. Norton, 2012) presents an ambitious synthesis of Peircian semiotics and emergent systems theory. Eduardo Kohn's *How Forests Think: Toward an Anthropology Beyond the Human* (Berkeley: University of California Press, 2013) applies Peircian theory to human-ecological systems in the Amazon. For more general background, see Vinicius Romanini and Eliseo Fernandez, eds., *Peirce and Biosemiotics: A Guess at the Riddle of Life* (Jansas City: Springer, 2014). And Floyd Merrell's writings offer particularly intriguing complements to my own



suggestions for Peircian “practices” in Part 2 of this book; see, for instance, his *Change Through Signs of Body, Mind, and Language* (Prospect Heights: Waveland Press, 2000).

Other significant ontological engagements in a pragmatist-processual vein include those of Robert S. Corrington (*Nature's Sublime: An Essay in Aesthetic Naturalism* [New York: Lexington, 2013]; *Deep Pantheism: Toward a New Transcendentalism* [London: Lexington, 2016]), Sandra B. Rosenthal (*Speculative Pragmatism* [Amherst: University of Massachusetts Press, 1986]), James Williams (*A Process Philosophy of Signs* [Edinburgh University Press, 2016]), and John Deely, whose magisterial *Four Ages of Understanding: The First Postmodern Survey of Philosophy from Ancient Times to the Turn of the Twenty-First Century* (Toronto University of Toronto Press, 2001) deserves wider recognition. Corrington draws also on another philosopher, whose potential contributions to the objects-processes debate seem to me very promising, yet which are as yet quite untapped: that is Justus Buchler, whose “ordinal metaphysics” attempts to transcend Whitehead’s “privileging” of the real and actual over other “natural complexes” — a term that could be fruitfully compared with Harman’s notion of the “object.” See Armen Marsoobian, Kathleen Wallace, and Robert S. Corrington, eds., *Nature's Perspectives: Prospects for Ordinal Metaphysics* (Albany: SUNY Press, 1991). (I must apologize to a dear friend and helpful reader of the present book, David Brahinsky, for resisting his urges that I explore Buchler in greater depth. In time, I will, but the present book has proceeded without that exploration.)

Comparative studies of process philosophy and Asian thought, whether historical or contemporary, include Steve Odin, *Process Metaphysics and Hua-Yen Buddhism: A Critical Study of Cumulative Penetration vs. Interpenetration* (Albany: SUNY Press, 1984); Nolan Pliny Jacobson, *The Heart of Buddhist Philosophy* (Carbondale: Southern Illinois University Press, 1988); John H. Berthrong, *Concerning Creativity: A Comparison of Chu Hsi, Whitehead, and Neville* (Albany: SUNY Press, 1998); Wenyu Zie, Zhihe Wang, and George Derfer, eds., *Whitehead and China: Relevance and Relationships* (Frankfurt: Ontos Ver-

lag, 2005); Peter P. Kakol, *Emptiness and Becoming: Integrating Madhyamika Buddhism and Process Philosophy* (Delhi: D.K. Printworld, 2009); Hyo-Dong Lee, *Spirit, Qi, and the Multitude: A Comparative Theology for the Democracy of Creation* (New York: Fordham University Press, 2014); and Steve Odin, *Tragic Beauty in Whitehead and Japanese Aesthetics* (New York: Lexington, 2016). Kakol's book and Odin's latter volume are especially recommended. And for a provocative example of a "non-Western" (but Western hemisphere) philosophical system read as a form of process philosophy, see James Maffie's *Aztec Philosophy: Understanding a World in Motion* (Boulder: University Press of Colorado, 2014).

Farther afield, one finds process-relational thinking enlivening many other disciplines and discourses including science studies (Bruno Latour, John Law, Donna Haraway), anthropology (Arturo Escobar, Tim Ingold, Marisol de la Cadena), social and political theory (William Connolly, Brian Massumi, Michael Halewood, Romand Coles), environmental philosophy (Freya Mathews, Brian Henning, Robert Ulanowicz), theory and practice in the performative and media arts (Erin Manning, Mark Hansen, Steven Shaviro, Andrew Murphie, Xin Wei Sha), and the physical and biological sciences (Stuart Kauffman, Lee Smolin, John Dupré, and others already mentioned). A few of these figures are discussed in some detail in this book; to list and discuss all of the others would make this book much longer. Some are listed in the bibliography; others not.