Mind in Nature

Mind in Nature:

Bridging Process Philosophy and Neoplatonism

Edited by

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Aljoscha Berve
and Moirika Reker

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MICHAEL WAGNER 1952-2020

On March 11, 2020, Michael Wagner died in the Coronado Hospital in San Diego, where he was undergoing treatment for laryngeal cancer with head and neck malignancy. Michael was born in Victoria, Texas on September 29, 1952. He received his B.A. in Philosophy from Texas A&M and his M.A. and Ph.D. from Ohio State University. His dissertation was entitled *Concepts and Causes: The Structure of Plotinus' Universe*. He began teaching at the University of San Diego in 1980, where he served as an associate dean in 1988-89 and as chair of the Department of Philosophy from 1988 until 1998. He continued teaching there until he entered the Coronado Hospital in November 2019.

Michael's publications are known and used by all of us. His research centered on Plotinus, but his interests also extended to Augustine—and, of course, Plato and Aristotle. In 2008 he published *The Enigmatic Reality of Time* in the Brill series "Studies in Platonism, Neoplatonism, and the Platonic Tradition." In 2002 he edited the anthology *Neoplatonism and Nature: Studies in Plotinus' Enneads* in the series "Studies in Neoplatonism: Ancient and Modern" of SUNY Press. 1991 saw his *Moral Philosophy An Historical Introduction"* published by Prentice Hall. He has published multiple articles, including "Platonism" in the *New Catholic Encyclopedia: Ethics and Philosophy Supplement* (2013), "Plotinus on the nature of physical reality," in *The Cambridge Companion to Plotinus* and most recently "Foundations of Ecology in Plotinus' Neoplatonism" in the ISNS anthology from the 2018 Los Angeles conference, *Platonic Interpretations* (published by Prometheus Trust).

Michael Wagner had a keen interest in Process Philosophy and his expertise in Neoplatonism enhanced the many topics both philosophies share such as causality, complexity, holism, order, potentiality, multiplicities, and temporality. He participated in the Process Philosophy section in the 2014 ISNS conference which took place in Lisbon. And he organized a session on Neoplatonism and Process Philosophy in the 2017 International Whitehead Conference which took place in the Azores Islands. This session attracted a great deal of interest and gathered many original papers.

His contribution to this volume (coming from his presentation at the 2014 ISNS conference) explores some perspectives of post-mechanistic science; he tries to show that some of its metaphysical foundations, which

can also be found in Process Philosophy, draw on Neoplatonism. His views, mainly on Plotinus, set new models for new approaches to Nature, Science and Philosophy.

Michael was only 67 years old when he died. He is survived by a sister, Gayle, brother, Dennis, two nieces and a nephew, and by his beloved Sue Higgins. His body was cremated in San Diego, and his remains were returned to his native Texas for burial. He will be greatly missed not only by the Neoplatonic philosophical community but also by the Process Philosophy circle. His legacy of scholarship, devotion, and caring will live on.

John F. Finamore, University of Iowa
Maria-Teresa Teixeira, Universidade de Coimbra

List of Abbreviations

AE: Whitehead, Alfred North. *The Aims of Education and Other Essays*. New York: The Free Press, 1967.

AI: Whitehead, Alfred North. *Adventures of Ideas*. New York: The Free Press, 1967.

CN: Whitehead, Alfred North. *The Concept of Nature*. Cambridge: Cambridge University Press, 1964.

EPN: Whitehead, Alfred North. *An Enquiry Concerning The Principles of Natural Knowledge*. Cambridge: Cambridge University Press, 2011.

ESP: Whitehead, Alfred North. *Essays in Science and Philosophy*. New York: Philosophical Library, 1947.

FR: Whitehead, Alfred North. *The Function of Reason*. Boston: Beacon Press, 1958.

IM: Whitehead, Alfred North. *An Introduction to Mathematics*. Oxford: Oxford University Press, 1958.

MT: Whitehead, Alfred North. *Modes of Thought*. New York: The Free Press, 1968.

OT: Whitehead, Alfred North. *The Organization of Thought*. London: William Norgate, 1917.

PR: Whitehead, Alfred North. *Process and Reality: An Essay in Cosmology. Corrected edition. Edited by David Ray Griffin and Donald W. Sherburne*. New York: The Free Press, 1978.

R: Whitehead, Alfred North. *The Principle of Relativity with Applications to Physical Science*. Cambridge: Cambridge University Press, 1922.

RM: Whitehead, Alfred North. *Religion in the Making*. New York:

Meridian Books, 1960.

S: Whitehead, Alfred North. *Symbolism, Its Meaning and Effect*. New York: Macmillan, 1927.

SMW: Whitehead, Alfred North. *Science and the Modern World*. New York: The Free Press, 1967.

PREFACE

This volume is a selection of the papers presented in the section *Mind in Nature: Process Approaches to Neoplatonism* at the *International Society for Neoplatonic Studies Annual Conference*, which took place in Lisbon, Portugal, on June 16-21, 2014. The connection between Neoplatonism and modern process thought is an innovative approach to scholarship of both Neoplatonism as well as Process Philosophy.

It is also the fifth volume of the series "European Studies in Process Thought", a series designed to promote and discuss Process Philosophy across Europe in all its facets, which demonstrates the growing popularity of process thinking in Europe. To reinforce and coordinate this trend, the "European Society for Process Thought" (www.ESPT.eu) was established in 2012. The ESPT is publishing the series "European Studies in Process Thought".

The history of European scholarship in Process Philosophy has seen ebbs and flows. Even the very term "Process Philosophy" might be said to be ambiguous. While usually the term "Process Philosophy" is associated with the American tradition of Charles Sanders Peirce, William James, John Dewey and Alfred North Whitehead, from the perspective of European philosophical tradition certain German philosophers of the 19th century, most importantly Friedrich Wilhelm Joseph Schelling and Georg Wilhelm Friedrich Hegel, could also be said to have put forward systems of Process Philosophy. This ambiguity points to one of the most important characteristics of Process Philosophy: Unlike in other fields of philosophy, only a few philosophers describe themselves explicitly as being "Process Philosophers". Peirce, James, Dewey, Whitehead, Schelling and Hegel would usually first and foremost be related to other philosophical schools, such as Pragmatism, Radical Empiricism or German Idealism and not *prima facie* to Process Philosophy. A good example of this can be found in Alfred North Whitehead: Although he is usually considered the seminal representative of Process Philosophy, Whitehead himself used to refer to his philosophy as the "philosophy of organism".

The ESPT was established to explore this variety of Process Philosophy within the philosophical discourse in Europe and to further all endeavours to intensify debate on this topic, with all its inherent potential and tensions. In doing so, the ESPT can build upon the groundwork of its predecessor. As

early as 1978, a "European Society for Process Thought" was founded, and it was run for two decades by Jan van der Veken of the University of Leuven, Belgium. Its focus was mainly on the philosophy of Alfred North Whitehead. Early Whitehead-scholars, such as Dorothy Emmet, were making his philosophy popular in Europe. During the 1980s, a manifest interest in Whitehead amongst German philosophers led to conferences and accompanying proceedings, published by Friedrich Rapp, Ernst Wolf-Gazo and Reiner Wiehl, and, most importantly, the German translation of "Process and Reality" by Hans Günter Holl in 1987. In France, the French perception of Whitehead has in the first years of the millennium led to books by Bertrand Saint-Sernin and Isabelle Stengers. In addition, Michel Weber has been publishing the "Chromatiques Whiteheadiennes" in both English and French for many years.

The ESPT intends to broaden its aspirations in two ways, both of which are a reaction to changes in the landscape of philosophical discourse: Firstly, the fall of the Iron Curtain has opened up paths for collaborative philosophical discussions for the scientific communities of Eastern Europe. Process Philosophy has sparked interest in Eastern Europe: in Poland, the "Polish Metaphysical Society" is a very active community; in Bulgaria, Vesselin Petrov is working on the relevance of Milic Capek as a process philosopher from the perspective of sciences. Ella Csikós has worked on Hegel and Whitehead in Hungary. At the other end of Europe, Maria-Teresa Teixeira has presented a Portuguese translation of "Process and Reality". It is evident that the European discussion of Process Philosophy has moved well beyond the range it occupied in the past. Secondly, the notion of "Process Philosophy" has become broader in recent decades. While a discussion of Process Philosophy in the past usually concentrated on the philosophy of Alfred North Whitehead, it now also focuses on other thinkers. Vesselin Petrov's work on Milic Capek is a good example of this broadening of scope.

The mandate of the "European Studies in Process Thought" is indicated in this outline. In order to bring diverse multi-lingual philosophical communities together in a discussion of Process Philosophy the "European Studies in Process Thought" intend to be as open as possible for different endeavours in Process Philosophy. To maintain the speculative reach of process thinking, the series proposes to refrain from any attempts to simplify the topics it is dealing with, by setting or following agendas, even where a reduction of the complexity that is inherent to most of Process Philosophy could yield a handy field of application. Narrowing down the scope of process thinking to a definite, particular problem threatens to misuse a theory meant to explore the wide sweeps of abstract thought to serve a set

position within a specific debate. In doing so, the "European Studies in Process Thought" mirror the outstanding characteristics of Process Philosophy: the speculative reach that tries to abstain from dogmatic constringence, the openness for new discoveries, and the creative impulse, which sometimes even revises accepted positions.

In the current volume, this approach is used for an examination of the connection between Neoplatonism and Process Philosophy. While the study of Neoplatonism has focused not only on late antiquity, but also on medieval thought – namely, Arabic as well as Christian Scholastic philosophy –, modern scholars have come to find strong systematic connections between the Neoplatonic tradition and Renaissance philosophy. As far as modern philosophy is concerned, the influence of Neoplatonic thought on the *Cambridge Platonists* of the 17th century has been covered extensively. Since this school of thought culminates in the philosophy of Shaftesbury, the importance of some Neoplatonic figures of thought shows traces even in modern ethics.

The connection of Neoplatonism to Process Philosophy is a more recent development of scholarship in both fields and encompasses a surprising number of topics. Most obviously, since Alfred North Whitehead is often regarded to have been the author of the last comprehensive metaphysical scheme in 20th century philosophy, both the holistic dimension as well as the speculative reach of his cosmology connect directly to the scope of Plotinus' thought. The importance of time and space and the intricate interplay of unity and multiplicity are significant factors in both Neoplatonism as well as Process Philosophy. In addition to that, contemporary research shows ever more clearly that the structural parallels between both schools of thought go further in the common emphasis on the difficult relation of body and soul, the importance of mathematics for a meaningful understanding of the world and the relevance of music. Beyond the discussion of mutual structures, there are direct influences of Neoplatonic philosophy on the works of a number of process thinkers. Plotinus features prominently in the writings of Henri Bergson, who elaborates on a number of ideas from distinctly Neoplatonic origin. Another point of contact comes from Alfred North Whitehead's interpretations of the cosmological scheme presented in Plato's Timaeus. He regards Plato's dialogue not only as a convenient myth, but as a proper mode of a cosmological explanation of the world. With his own metaphysical scheme, subtitled "An Essay in Cosmology", being a serious attempt to build upon the groundwork of Plato's cosmological work, he himself exemplifies his famous quote that "[t]he safest general characterization of the philosophical tradition is that it consists of a series of footnotes to Plato."

The contributions to this volume deal with a wide and diverse area of processual thinking in Neoplatonism. *Michael F. Wagner*, in *The End of Final Causality in Plotinus' Process Understanding of Nature and Order*, extensively discusses the many implications of process on the work of Plotinus himself. With the notion of "vertical emergentism", Wagner coins a metaphor that can be used to describe the specific concepts of order, nature and soul in Plotinus from a process perspective. While the implications of the soul's teleological aspects have been covered extensively by scholarship, Wagner shows a reading of Plotinus that is both refreshing as well as fruitful.

Levan Gigineishvili undertakes an analysis of the influence of Neoplatonic thought on the tradition of Christian philosophy in his text *Uneasy Rapprochement of the Neoplatonic Eternity and Christian Historicity in the Thought of Ioane Petritsi*. He focuses his attention upon the 12th century Georgian philosopher Ioane Petrisi, who comes from a background in theology, but aims to connect the canonical Christian writers with ideas on Neoplatonism, most importantly Proclus.

Carlos João Correia takes yet another approach to Neoplatonism that leads into modern philosophy. In his text *Schopenhauer and Platonic Metaphysics. Towards a new Interpretation of the World as Will and Representation*, he compares the concept of will in the metaphysics of Neoplatonism and in German Idealism. Specifically, Schopenhauer's esoteric philosophical perspective lends itself quite clearly to an interpretation from the perspective of Neoplatonic philosophy. As Schopenhauer claims himself, he finally understood Plato's concept of *Ideas*. In the connection of will and world transcendence, Schopenhauer emerges as a true heir to the philosophical tradition from Plato to Neoplatonism.

Luca Vanzago draws a direct parallel between classical philosophy in the Platonic and Neoplatonic tradition and modern Process Philosophy in *Whitehead's Appropriation of Plato's χωρα: its meaning and effect for a philosophy of natural experience*. Because Whitehead uses Plato's concept of the chorá intermittently over his works, the systematic connection to larger metaphysical concepts remains unclear. Therefore, the title of this text is a wordplay on another concept of Whitehead rarely analysed in its relevance for metaphysics in that it mimics another title, *Symbolism. Its Meaning and Effect*. Vanzago succeeds in showing the deep structural connections between the Platonic concept of chorá and the modern process cosmology of Whitehead and the importance of this discovery for a process-based philosophy of nature.

Magda Costa Carvalho analyses the connection between Plotinus and Henri Bergson, another central author of modern Process Philosophy, in

Unity and Multiplicity: The Road to Openness. Plotinus in Henri Bergson's Thought. The focus is on Bergson's work *Creative Evolution*, in which he draws many parallels between his philosophical outlook and Neoplatonism, most importantly focused on Plotinus, whom he regards to have been "the last word of Greek philosophy". Most importantly, Bergson criticizes Aristotle for his concept of movement, whereas he regards Plotinus as important because of his philosophical intuitions. However, since Bergson still holds Plotinus to have been granted a look at the holy land without setting foot on its soil, it remains clear that, from Bergson's perspective, modern process thought still advances further than the old, yet admirable, Neoplatonic philosophy.

A similar perspective is given by *José C. Baracat Jr.* in his text *A Bergsonian Reading of Plotinus' Theory of Time.* He focuses on the comparison between the concepts of time in Plotinus and Bergson. The author makes it perfectly clear that he regards these concepts to be close to each other, but not interchangeable. Therefore, the analysis presented must maintain a certain tension between both perspectives without magnifying the differences. As Plotinus insists, time is a product of the soul. Here, the connection to Bergson's critique of overly scientific notions of time is obvious. While Bergson introduces his concepts of duration and qualitative multiplicity in connection with his concept of time, it is important to point out that his notion of consciousness is thoroughly modern and does not compare easily to the notion of soul in Plotinus.

Moirika Reker gives an application of Plotinus to practical modern aesthetical concepts in her contribution *The unity between Beauty and Good: Ethics of Contemplation and the Creation of Gardens*, which begins with the works of Rosario Assunto and shows how Plotinus extends the thoughts on an ethics of contemplation to a more comprehensive philosophical perspective. Since the notions of Beauty, Good and Truth do not only form the basis of Platonic and Neoplatonic thought, but also of the earliest system program of German Idealism, the argument brought forth by Assunto relates to a multitude of philosophical backgrounds. It is specifically the connection between beauty and usefulness that shows the implications of these traditional concepts for thoroughly modern applications.

Maria-Teresa Teixeira in her contribution *Infinity and Unity: From Eriugena to Whitehead* delivers another perspective on the connection between old philosophy and modern Process Philosophy. She discusses the connection between Johannes Scotus Eriugena and Whitehead with a focus on the metaphysical notions of Infinity and Unity. Both Eriugena and Whitehead not only consider themselves, amongst other things, as philosophers of nature, but both see the need to complement their concept

of nature with a notion of God immanent in a process of creation. Since both Eriugena and Whitehead focus their models of explanation on the core concept of the Monad, showing the connections between both philosophical outlooks carries obvious value.

Alex Haitos takes a similar approach in his text *The World 'Hangs Together': Nature, non-being, and infinity in John Scotus Eriugena and Alfred North Whitehead*, which discusses not only the concept of infinity, but also the complex philosophical notion of non-being in both Eriugena and Whitehead. Throughout his entire work, Eriugena emphasizes the necessity to conceive of nature as divided. The connecting factor is his comprehensive notion of God, permeating all of nature and enabling its infinity. However, this also means that God is an immanent force in the becoming of nature. Here, the connection to the processual notion of God in Whitehead's cosmology suggests itself. Between the notions of creation and creativity, the argument for a common thread running from Eriugena to Whitehead cannot be overstated.

The connection between Christian theology and modern Process Philosophy also informs *God and Creation in A.N. Whitehead and Dionysius the Areopagite*, the contribution of *Helmut Maaßen*. For scholars, the most difficult concept to understand in Whitehead has always been the notion of the actual entity. Its structure is a direct legacy of Whitehead's work as a mathematician, most importantly within the field of mereology. Taken together with the idea of the immanence of past and future in the present moment of actualization, there is a connection to the ideas of Dionysius the Areopagite, whose notion of trinity entails the interdependence of God, nature and creation in a continuing process of becoming, quite akin to modern Process Philosophy.

In a similar vein, *Ana Rita Ferreira* discusses the importance of the concept of numbers compared with Process philosophy in *Saint Augustine's numerical aesthetics in the light of process metaphysics*. In his discussion of creation, Augustine famously addresses the problem of the free will of man as creations of God. The idea that imbues all of Augustine's argument is that creation is never finished, but that there is a constant relation between God and himself as well as his creation. Understanding the nature of the triune God requires a mereological approach to nature that links all things in the diversity of their parts to the unity of the whole.

Dennis Sölch discusses the subject of science in early transcendentalism in *Nature with or without Mind? – Science and the View from Nowhere in the 19th Century*. Focusing on Emerson, it is the rediscovery of pre-modern attitudes towards knowledge that gives us the most accurate insight into the approach to science employed by authors of the time. Both Goethe and

Emerson, while remembered today mostly for their work as poets, had elaborate positions on scientific theory. The immersion into nature from a perspective not of an objective observer, but of a dynamically involved human being also lead Emerson to a concept of action that is not dependent on theory, but creates the unity of nature in the mind.

Aljoscha Berve discusses the connection between the concept of language in Process Philosophy and the practice of the dialogue in Platonic philosophy in *Symbolism and Dialogue: The Language of Discovery*. At first sight, Whitehead's metaphysical system seems to be a very scientific-minded and abstract philosophy, which would not surprise if it relied upon strict terminology. Concepts such as the actual entity and prehensions seem to reinforce this idea. However, at its core Whitehead's Process Philosophy is based on an interpretation of quotidian human experience as disclosed in common language. Therefore, it is precisely the concept of symbolism that underlies the notion of propositions and connects Process Philosophy back to Plato's intuitions of good philosophical practice.

As the final piece of analysis, *Michel Weber* discusses the implications of Whitehead's concept of creativity in *The Concepts of "Creation" in the Late Philosophy of A. N. Whitehead*. Since creativity is one of the most popular concepts of Process Philosophy, it is a worthwhile scholarly endeavour to determine what function precisely Whitehead wanted creativity to perform within his comprehensive theory. Weber distinguishes between strong concepts and weak concepts of change and concurs that Whitehead's notion of creation uses the weak concept, which relates back directly to Plato. Interestingly, the notion of creativity Whitehead substitutes for creation in his later, more systematic works operates on another level and has more structural similarities with the philosophy of Plotinus than with the thought of Plato.

Taken together, these articles link together to provide a new perspective on the relation between Neoplatonic thought and modern Process Philosophy, based on a number of structural and thematic similarities. As becomes obvious, it is equally valid to focus on the elements of Neoplatonism that make it a precursor to modern thought as it is to focus on those elements of Process Philosophy that clearly make it a successor to the tradition of Neoplatonism. Philosophy is still alive.

Aljoscha Berve
Düsseldorf, October 10th, 2018

THE END OF FINAL CAUSALITY IN PLOTINUS' PROCESS UNDERSTANDING OF NATURE AND ORDER

MICHAEL F. WAGNER

The natural world seems at times conceptually and epistemically a very messy place for Plotinus. The natural world, as seen through the lens of his Neoplatonism, should be a place where rationality and order reign supreme and uncompromised. And yet, Plotinus seems at times to struggle mightily to conceive and depict it so. Indeed, he seems at times to understand it to be quite otherwise.[1] However, this divergence between the way the world "ought to be" and the way it actually is does not disappear when we look at it instead through the lens of Modern science. The natural world is conceptually and epistemically a messy place for Modern science as well.

Two examples are Galileo's law of the pendulum (which fails to describe exactly the actual behavior of any actual pendulum in the actual world)[2] and the so-called three-body problem (which challenges the computational applicability of Newton's equations for any universe with more than two physical bodies in it – hence in the actual world, too, solar and celestial orbits wiggle, and planets' axes wobble; equinoxes change and vary, and spaceships have to adjust their headings).[3] Or, for a more prosaic consideration, the convergence of reasonably premised engineering calculations, of reasonably faultless concrete and steel materials preparations, and of reasonably designed and executed construction processes required for an actual bridge actually to stay up, or for an actual skyscraper to

[1] *e.g.* II.3.12, II.3.17, III.2.7, V.7.2, V.9.10, V.9.14, VI.7.7.

[2] As James Gleick indicates, the law/actuality discrepancy may be tiny at low amplitudes of a pendulum's swing but "it is there, and it is measurable even in an experiment as crude as the one Galileo describes" [Gleick (2008), 41].

[3] This term for the (unresolvable) problem is thought to date at least to Jean d'Alembert and other Paris mathematicians in the 1740's. The seemingly stable, persistent (more or less) geometries of solar and celestial orbits, for example, are said to be "attractors" [see Gleick (2008), 139-150].

withstand an actual earthquake or a hurricane, still on occasion might just not be enough.

Information Theory, Stochasticism, Chaos Theory, Supersymmetry, Complexity Theory, Emergentism, Attractant Theory, Fractalism are just a few of the approaches and concepts one comes across in post-mechanistic attempts to confront and describe scientifically the natural world as it actually is. Here, I shall use and adapt several insights and notions from this realm of "new science" to help disentangle and explicate this troublesome aspect of Plotinus' *Enneads*, including especially my notions of ontic phase-shift, vertical emergentism, and a vertical-horizontal feedback loop in the generation and maintenance of the natural world – and, later, of order and lawfulness as expressions of symmetry. In what follows, the first two notions will help clarify and explicate the nature of the natural world's seeming messiness (indeed, why it in fact is unavoidable) and the third (and fourth) will help us understand Plotinus' response to it.

1. Sufficient Causality and Plotinus' Vertical Emergentism

All real causality for Plotinus is vertical causality – that is, it is solely exercised by and entirely explicable in terms of his three primal causal principles (the One, Intellect, and Soul) and their foundational or "underlying" existential causality (*hypostasis*).[4] By the lens of Plotinus' Neoplatonism, accordingly, I have in mind his doctrine of the *hypostases* and their vertical causality in particular of the natural world of Becoming. One way to think of Plotinus' doctrine of vertical causality is in terms of the Modern notion of *the principle of sufficient reason*, which posits that everything that exists or occurs in the natural world has a cause and its cause is sufficient to explain (to bring about, to be the cause of) that effect. In these terms, Plotinus' doctrine of vertical causality can be summarized as the thesis that the *meta*physical order of his three *hypostases* provide the needed (sufficient) explanation of everything that exists or occurs in the natural world. An important corollary of this for Plotinus is his *essentialism* – summarized by his insistence that everything here (in the natural world) is already contained there, in the vertical hypostatic order of real causes.[5]

What my *feedback loop* conceit denotes as the horizontal order is the spatiotemporal universe of natural existents and their behaviors, processes, and interactions. One way to begin addressing the conundrum over the natural world's seeming messiness is to note that Plotinus' (vertical) lens at

[4] see Majumdar (2007), 78-87.
[5] *e.g.* II.4.8, 19-26; IV.3.12, 27-28; V.7.3, 10-12.

times seems insufficient[6] in particular when occluded by his *emergentism* – inasmuch as, on the one hand, it sees everything in or pertaining to the world of Becoming to be outcomes of (to be effects explained by) his essentialistic order (together with higher, more encompassing – *supra*-essentialist, we might say – principles also established by or implicit in the vertical order) while, on the other hand, it recognizes that these outcomes constitute a new and different (and spatio-*temporal*) order of existence. For, because of this, as we seek to understand the vertical order of real causes and sufficiently explain the natural order in terms of it, although everything in and about the natural world comes from (is ontically grounded in and caused by) the hypostases, an epistemic corollary of the ontic phase-shift (and resulting emergentism) that occurs when that "everything" is no longer in the vertical order but instead now constitutes the horizontal order is that, at any given time in the spatiotemporal progression of natural existence, that determination and causality can be discerned and understood to have actually determined and caused only what has actually existed and occurred until then. But, what if "now" natural things find themselves in novel relationships, existing in or amid novel environmental conditions and relationships? And this is always possible (maybe even inevitable) in Plotinus' Neoplatonism because the ontic phase-shift effecting and engendering the natural order does not somehow just add spatiotemporality to the vertical order (or its contents) but, rather, constitutes a further descent from it.

Plotinus' third hypostasis (Soul) engenders the spatiotemporal order by (or as) a final descent into multiplicity from the nonspatiotemporal order of the hypostases, a final fall which corresponds to an epistemic descent from intelligibility into sensibility. My notion of an implicit emergentism in Plotinus' understanding of Becoming is apropos inasmuch as *emergentism* denotes the possibility that as a system becomes more complex or diverse (or when a new condition is added to a system or an existing condition changes) new phenomena may manifest in the system (or it may acquire new characteristics) which were and could not have been expected (or predicted) – and so which do not seem (fully) explicable – just knowing or given the system's previous condition.[7] But, why should there be even the

[6] For a complementary perspective on these issues to the one I take here, see Wagner (2002a), 284-313. Lloyd Gerson also explicates some of the issues I address here by introducing and developing his notion, "that 'y is the logos of x' means either: 'x is virtually y' or 'y is virtually x'" [Gerson (2012), 18] and infers from his analysis in part that for Plotinus "no *logos* of anything in nature could be explanatorily adequate, since nature itself is the last in a line of *logoi* leading to the One" (*ibid.,* 29).

[7] In complex-systems theory, emergence relates to what is predictable and what

possibility of this happening in Plotinus' Neoplatonism, given its ontology wherein all (subsequent) existence comes from the One?

In one sense, at least, this occurring as a result of the hypostatic order's final engendering of the horizontal order is not as such surprising. Equally significant, even dramatic, ontic phase-shifts already occur in Plotinus' vertical order itself – most significantly when the absolutely unbounded One's existential outflow and effective potency becomes Intellect, and when the archetypal principle of order and lawfulness It thereby becomes (Intellect) engenders or becomes Soul. It lies beyond my scope here to explicate precisely how or why these two dramatic (ontic) phase-shifts occur in the vertical order of Plotinus' hypostases. My two central points here are, first, that this happening upon the One's existential outflow finally engendering or descending into sensible multiplicity (the natural order, or world of Becoming) is in fact presaged within the vertical phase of that outflow itself; and, second, that while my ontic phase-shift notion may somewhat reconceptualize what happens when for example that outflow becomes Intellect and then Soul it thereby captures what Plotinus indeed abundantly describes to happen in his accounts and descriptions of his *hypostases*. The One's outflow does not somehow just become Intellect (and then Soul). Rather, Intellect emerges from (or within) it; and such that it has its own emergent properties and character (*e.g.* its One-Many-ness) – and then likewise regarding Soul.

Conceptualizing some of what transpires in Plotinus' vertical order as ontic phase-shifts helps us understand how he is able to avoid postulating any sort of contrary principle of existence to the One, to Intellect, or to Soul. To see this, let us extend one of Plotinus' metaphors for the One's existential outflow, that of water streaming from its source [I.7.1, 16]. Suppose this water constitutes a river which as it flows down a rocky and crevassed

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actually happens. For example, a computer program qualifies as a "complex system" when it "exhibits behavior that is not predictable... behavior [that] was not programmed in from the beginning; it emerged as the program operated" [Roetzheim (2007), 5]. This does not mean that the computer is somehow not following its programming or that its programming has a "bug" in it. A subclass of computer complex-systems are ones programmed with underdeterminate rules which then through feedback adapt or improve their own programming relative to some parameter, some "success" condition; and, too, unpredictable behavior, when repeated, can forge its own pattern, even become a 'stable' feature of the system. Steven Johnson suggests that emergent behaviors "are all about living within the boundaries defined by rules, but also using that space to create something greater than the sum of its parts" [Johnson (2001), 181] – a conception not entirely unlike what I propose regarding Soul's ontic mediation between archetypal Intellect and its own instantiations and adaptively engendering "behaviors".

mountainside becomes an as it were one-many of various currents, turbulences, eddies, and tributaries (metaphorically becomes Intellect) and then spreads and washes across a wide flood plane and cascades over a high canyon rim (metaphorically becomes Soul) to fill a wide basin at its bottom (metaphorically engendering the natural order). A chief difficulty with this extended metaphor, however, is that there is no rocky and crevassed mountainside, no flood-plane or canyon rim, no basin at the canyon bottom for it to fill – that is, there are no analogues to these external things and causes – in Plotinus' vertical order. There is only the existential outflow (and its implicit powers or potency) and what *it* does, what happens to it from within it. This is why I characterize Intellect and Soul as owing their distinctness as hypostases from the One (and from each other) to *ontic* phase-shifts in the One's existential outflow.[8]

Plotinus, especially pertinent here, does not posit a preexistent material stuff or even a "receptacle" as a cause of the natural order's materiality. His preferred metaphoric imagery sees it more akin to a mirror or a darkness upon or into which soul projects its sensibly material effects – *i.e.* engenders the natural order.[9] This imagery aside, a final fall into multiplicity – and therein into differentness, other-than-ness, contrariness, unorderlyness, newness, and the like – in part *defines* the natural order in contradistinction from the vertical order. This novelty, unordinariness, or the like, does not (cannot) effect or change the vertical order of the hypostases, which rather reacts or responds to (or extends to encompass) those conditions and relationships and, in so doing, provides for their outcomes – hence, my subsequent notion of a *feedback* loop.[10]

Plotinus enjoins final causality in characterizing this adaptively inclusive extension of vertical causality to encompass horizontal conditions, phenomena, and actualities. His overarching conception is that nothing ever does happen in the natural world but that the outcome (what actually does happen) is constrained by (explicable in terms of) the One and what follows vertically from It, even if we are not always able to recognize or understand

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[8] A more prosaic illustration of the phase-shift notion is when (liquid) water becomes ice, or instead steam. At some "tipping" or "shifting" point in temperature (molecular energies) what was liquid becomes solid, or vaporous. Or, when meteorological conditions come to a tipping- or -shifting point and form into a hurricane.

[9] see section 4 below.

[10] To anticipate another notion I shall use, Steven Johnson observes that feedback "is not solely a software issue, or a device for your furnace. It is a way of indirectly pushing a fluid, changeable system toward a goal. It is, in other words, a way of transforming a complex system into a complex *adaptive* system" [Johnson (2001), 139].

this (and in what way this is the case) except retrospectively, only subsequent to our sensibly discerning and intelligibly analyzing the actual outcomes and (any) new cosmic conditions and relations which may have emerged. Relating final causality to the vertical order at all, though, may seem a non-starter inasmuch as it is standardly conceived to be entirely a horizontal causality notion, relating first and primarily to the natures or essences of natural things and (pre)determining the outcomes or "ends" of their natural development, behaviors, and interactions. But, this conception of final causality is a major source for the seeming messiness of the natural world – wherein (horizontal) final causality sometimes (perhaps even oftentimes) finds itself comparable to Galileo's aforementioned law of the pendulum in its (only loose or partial) applicability or fit to actual cases in their actual environments.[11] Rather than jettisoning final causality, however, Plotinus maintains that it must express or tell us something about the vertical order and its (exclusively real) causality, even while it does allow us to think of a natural world in which for example even the most carefully formally and teleologically conceived or engineered essence might yet (like the actual-world bridge or skyscraper in my prefatory remarks) find itself seemingly unprepared or inadequate in the face of actual conditions.

2. Archetypal Order and Final Causality in Plotinus' "On the Heavens" Trilogy

Plotinus' remarks on the natural world are not universally disconcerting. The natural world for Plotinus is overall a beautifully complex and sublime realm. He avers, for example:

> what reflection [*eikona*] of that world [the archetypal realm] could be conceived more beautiful than this of ours? What fire could be a nobler reflection of the fire there than the fire we know here? Or what other earth than this could have been modeled after that earth? And what globe more minutely perfect than this, or more admirably ordered in its course, could have been conceived in the image of the self-centered circling of the World of Intelligibles? And for a sun figuring the Divine sphere, if it is to be more splendid than the sun visible to us, what a sun it must be! [II.9.4, 26-32 MK][12]

[11] Aristotle just accepts that "clearly mistakes are possible in the operations of nature also [*i.e.* as in human art]"; and he is satisfied with empirically discerning something regarding a thing's nature just when a certain outcome seems to occur "always or for the most part" [*Physics* 199a35 & 199b24].

[12] MK = MacKenna translation. Line(s) numerations are to Armstrong's edition of

But, while this should give us pause not to read more into his seemingly contrary remarks about nature than is absolutely necessary, he is well aware of perspectives (Gnosticism, for example) which see it differently. More significantly, Plotinus seems in fact to consider one realm of the natural world an at least partial exception to its alleged messiness – *viz.* the heavenly realm consisting of the stars and planets, and their heavenly circuits. Plotinus' treatment of this realm first by itself, in which regard it seems exempt from all the messiness, and then insofar as it may be thought to have (horizontally) causal effects and influences on the sublunary realm and its denizens, in which regard it is not, says much about his overarching conception and approach to final causality.

Limiting my discussion to themes most pertinent to my topic, the first of Plotinus' trilogy of treatises on the heavenly realm (*Ennead* II.1) asserts the continuity (the ontic unity) of the heavenly and sublunary realms so that they indeed constitute a single natural order, principally by arguing for their common materiality. His main target is the Aristotelian notion of a special fifth (heavenly) matter not found in the sublunary realm, in virtue of which the heavenly bodies are in themselves immune to change, alteration, or deterioration [II.1.2, 14]. Indeed, he argues, even the atomistic notion of material bodies as, so long as they persist, continually renewing or replacing their elemental constituents is consistent with thinking this way about the heavenly bodies. Of particular relevance in his argument is his doctrine of soul as present to and operative in the organization and maintenance of natural bodies by virtue of its sustaining causality [*hyparchein*], so that the persistence of heavenly bodies is explained rather by their souls' greater, higher, purer[13] power and potency [*dynamis*] than by some special sort of matter [II.1.4, 15-17].

The second treatise in this trilogy (*Ennead* II.2) proceeds to the Hellenistic conception of the spherical cosmos and the attendant circularity of the heavenly circuits. Plotinus topic is two-fold: Why the (circular) heavenly circuits? and Why is not all sublunary motion also circular? His arguments on these questions make a couple points relevant here: First, the metaphysical relationship between a soul and its subordinated body is one of omnipresence. Just as particular bodies (including the heavenly bodies) have souls, so too does the cosmos as itself a single body (a continuous spherical mass) have a soul. This cosmic soul, accordingly, is equally present, potent, and operative everywhere (and everywhen) throughout the cosmos [II.2.1, 40-45] – so including the sublunary realm as well as the

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the Greek text.

[13] *katharon kai pantos hameinonon*: II.1.4, 9. See also II.1.5, 17.

heavenly. Secondly, Plotinus argues that this same cosmically omnipresent soul also provides for the material unity (continuity) of our cosmos by effecting a universal "intertwining" of all its parts and constituents [II.2.3, 1-3], further establishing that the two realms indeed constitute (are but two parts of) a single causal order.

Plotinus' adaptations of and references to diverse (Classical) scientific notions in various contexts – above, for example, the atomist replenishment theory of bodies, and the (perhaps Stoic) notion of a universal cosmic property or condition grounding horizontal causality – is itself a significant point. Though Plotinus' thesis that the immediate hypostatic underly of the natural order consists of soul-potency(ies) preferences an essentialist approach in his understanding of the natural order, his conception of sensible materiality allows for a diversity of scientific conceptions of that materiality and for a diversity of conceptions of horizontal causality and its lawfulness.[14] But this, too, is grounded in Plotinus' *Enneads* in his treatment especially of his hypostatic (archetypal) principle conjointly of human understanding and of natural order and lawfulness, (Intellect), inasmuch as while explications of Plotinus' Neoplatonism tend to focus on the One as "beyond Being" – beyond human understanding and conceptualization – Plotinus' Intellect is in its own way quite mysterious and opaque to human cognition and understanding (even while it underlies and guides it).[15]

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[14] see Wagner (1996), 164-167. Arguably, Plotinus' preferred conception of horizontal causality or causal relations relies on the Stoic notion of cosmic *sympatheia* as he grounds this vertically in the nature and powers of soul [see Gurtler (1988), Chapter 3; also Rappe (2002), 79-81]. Still, given the diversity of ways in which Plotinus allows us to analyze or investigate sensible materiality, sensibly material bodies, and their causality and relations, I propose elsewhere we think of sensibly real things as 'metaphysically polymorphic' in Plotinus' Neoplatonism [Wagner (2002b), 33].

[15] For exegetes and commentators, of course, Intellect's mystery and opacity begins with Plotinus' own statements and discussions regarding it. Apart from his discussions of the Dyad and the five Platonic genera (which are hardly narratively self-evident themselves), and Its being-from and contemplation-of the One, when it comes to Its actual contents Plotinus tells us mainly that "the Intellectual-Principle is all and therefore its entire content is simultaneously in that identity... an identity well pleased, we might say, to be as it is; and everything, in that entire content, is Intellectual-Principle and Authentic-Existence" [V.1.4, 21-27; *cf.* also VI.4.11, 15-17]. Intellect's one-many-ness also must somehow be the source of not only soul but therein also of the plurality of souls I'll be addressing in section 4 below [IV.8.3, 7-16] and such that insofar as a sensibly material body instantiates a certain form *everything* about that body is contained in and determined by its Reason-Principle [II.4.8, 19-26]. As I have mused elsewhere, Plotinus' remarks on Intellect's various and somehow diverse contents overall leaves one unsure whether to think of them

Plotinus' own preferred approach comes to the fore in the third treatise of his trilogy on the heavens (*Ennead* II.3). The treatise's opening argument is that the most distinctive feature of the heavenly realm is its absolute adherence to our established (*i.e.* to Plotinus' Hellenistic) understanding of the heavenly bodies' (predictable) relative positionings in and invariant circular motions through the heavens; and this cannot be explained just by appealing to the souls Plotinus' essentialism associates with each of the heavenly bodies:

> as if there were no Sovereign Unity [*heni to kurion*], standing as source of all the forms of Being in subordinate association with it, and delegating to the separate members, in their appropriate Kinds, the task of accomplishing its purposes and bringing its latent potentiality to act. This is a separatist theory, tenable only by minds ignorant of the nature of a Universe which has a ruling principle and a first cause operative downwards through every member. [II.3.6, 15-21 MK]

Plotinus just previously stated that the heavenly bodies do not find themselves in the sort of (natural) circumstances which makes them adversaries, in which they either suppress one another's natural (preestablished) behaviors or else must somehow strive to reach some sort of compromises in that regard [II.3.4, 9-13]. Plotinus' earlier argument for why not all sublunary motion is circular had been in part that, while circular motion is cosmic soul's preferred effect, the sublunary realm is just too jumbled, crowded and complex for it. On the other hand, he maintains, the heavenly realm admits of sufficient organization and an archetypal ordering of its motions so that it is patently evident that the heavenly bodies "stand to each other only as the service of the Universe demands, in a harmony like that observed in the members of any one animal form" [II.3.5].[16] In this context, the key point of Plotinus' above argument is that, while he endorses the claim that the heavenly motions and circuits can be explained in terms of the heavenly bodies behaving severally and individually just precisely as their souls' causality preestablishes for them, he insists that we not lose sight of the fact that they do so owing to a "Sovereign Unity" to which those souls, and so their bodies' motions, are subordinated.

At this point in the treatise, it is unlikely that this Sovereign Unity is the One Itself – or at least it need not be. Plotinus might have in mind the cosmic soul, given his preceding comparison of the heavenly realm to an animal

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as akin to a flight of geese (internally well-ordered in some manner) or more akin to a sack of cats (all jumbled together) [Wagner (2011), 470].

[16] In Armstrong's edition, this passage and theme is located instead in II.3.7, 19-24.

body. Even then, however, this would indirectly invite us to think of what Plotinus designates as the "archetypal cosmos" – *i.e.* Intellect – inasmuch as this Sovereign Unity does not pertain merely to the fact that the (heavenly) cosmos *is* a unity. However roomy the heavenly realm may be thought to be for however many heavenly bodies happen to reside in it, their motions and circuits must still be organized and (properly) ordered relative to one another if, for example, Venus is to stay out of Jupiter's way and Orion's Belt is to remain well-ordered as, well, Orion's Belt. And, establishing and imputing higher-level organization to lower-level causal operations is a primary function of, or is grounded in, Intellect.

It is unclear precisely at what point in *Ennead* II.3 Plotinus intends his discussion to transition from the heavenly realm to extend to the entire cosmos, to apply also to the sublunary realm. The next couple of chapters draw some conclusions from the foregoing which surely do apply to the heavenly realm by itself; but they do so in the context of entertaining the possibility not merely of predicting celestial phenomena but of prophecy regarding future events owing to the heavenly realm's causal power(s) and its participation in the cosmos' single causal order – of predicting certain effects or influences heavenly bodies might be thought to have on individuals, life, and circumstances here on Earth.

Perhaps, then, these chapters depict what we should expect if the entire cosmos were indeed like the heavenly realm, so that:

> All things must be [causally] enchained; and the sympathy and correspondence obtaining in any one closely knit organism must exist, first, and most intensely, in the All ... so in the All each several member has its own task... Thus each entity takes its origin from one [sovereign] principle [*archein*] and, therefore, while executing its own function, works in with every other member of that all from which its distinct task has by no means cut it off. [II.3.7, 16-19, 23-25 MK]

And yet, matters are not this clear cut. For example, apart from observable phenomena which may be localized in the heavenly realm itself,[17] the sorts of affects diviners and astrologers attribute to the heavenly bodies and celestial phenomena are, Plotinus argues, more symbolic than real, and indeed "our task [as human beings] is to work for our liberation" from all such celestial influences, whether real or symbolic [II.3.9, 18-21] – and from individuals who tout and prophecy them – even though the causal unity of the cosmos implies that "we must admit some effective power in that circuit [the heavens] itself" [II.3.10, 8-9].

[17] Eclipses and the equinoxes would presumably be examples.

Plotinus explains that the lack of causal necessity regarding the heavenly bodies' affectiveness on the sublunary realm and its denizens may be partly explained in terms of a principle that (horizontal) causal influence weakens with distance from its source [II.3.11, 1-4]. But the balance of the treatise increasingly focuses, rather, on the simple fact that here (in the sublunary realm) neither the souls which his essentialism assigns to every natural body nor the collective outcomes and behaviors of those bodies seem to conform to or confirm the sort of pellucid exemplary order and causality we observe of and attribute to the heavenly realm. Plotinus depicts this as endemic to the sublunary realm, but not as due to it somehow diverging, departing, descending, or falling from the heavenly realm's seemingly more pristine archetypal cosmic condition. Rather, the sublunary realm provides us a more explicit and complete portrayal of the actual conditions and character of the natural order as such.

Plotinus does not renege on his insistence, for example, that soul only and always causally acts and, generates "on the model of the Ideas; for, what it has received from the Intellectual-Principle it must pass on in turn" but adds that in so doing it must address the conditions of materiality that distinguish and define the natural order [II.3.17, 13-14]. He, for example, just previously articulated his general conception of the natural order:

> All living [ensouled] things, then – all in the heavens and all elsewhere [in the sublunary] – fall under the general Reason-Principle [*kata logon*] of the All – they have been made parts with a view to the whole: not one of those parts, however exalted, has power to effect any alteration of these Reason-Principles [*logoi*] or of things shaped by them and to them; some modification one part may work upon another, whether for better or for worse; but there is no power that can wrest anything outside its distinct nature. [II.3.13, 35-39 MK]

Here, Plotinus also alludes to his thesis that, in addition to the distinction between cosmic soul and the various and diverse sorts of soul-essences related to particular bodies, these latter in turn admit of a vertical diversity (and of purity) with respect to their (degree of) potency or power(s).[18] Accordingly, recall his assertion in his first treatise on the heavens that the heavenly bodies are so persistent (maybe even permanent) owing to the strength or (degree of) hypostatic purity of their potency. Perhaps, though, the soul-essences of sublunary bodies are less so, or at least certain of their constitutive potencies (or power-parts) surely are; and, he adds, these are the souls or soul-potencies which seem to run afoul of the conditions of

[18] see also III.1.8 and IV.3.6.

(sensible) materiality they encounter here in our more cluttered and complicated sublunary realm [II.3.13, 4-10].

But how, then, to account for the seemingly messy circumstances and affects of those conditions, given his above conception of the absolute authoritativeness of the Reason-Principle of the All and Its subsidiary Reason-Principles? Plotinus initially suggests two possible viewpoints on this. The first in effect just embraces and ratifies the sublunary realm's seeming messiness, accepting that "down here" the many various strands of (horizontal) causes and effects engendered by the various and diverse soul-power(s) operating in the sublunary realm indeed constitute at best a very "tangled web" indeed [II.3.16, 6-13]. The second seeks to "make Soul answerable" to all that in fact comes about and happens [II.3.16, 13-18].

Plotinus chooses this second viewpoint; and explicates it more fully by switching his image of the cosmic soul's governance from that of a single cosmic animal to that of a farmer – an individual confronted daily with uncertain and changing conditions:

> The Soul watches the ceaselessly changing universe and follows all the fate of all of its works: this is its life, and it knows no respite from this care, but is ever labouring to bring about perfection, planning to lead all to an unending state of excellence – like a farmer, first sowing and planting and then constantly setting to rights where rainstorms and long frosts and high gales have played havoc. If such a conception of Soul be rejected as untenable we are obliged to think that the Reason-Principles themselves foreknew or even contained the ruin and all the consequences of flaw... And [if] here it will be objected that in the All there is nothing contrary to nature, nothing evil. Still, by the side of the better there exists also what is less good... [But] perhaps there is no need for everything to be good. Contraries may co-operate; and without opposites there would be no ordered Universe: all living-beings of the partial realm include contraries. The better elements are compelled into existence and moulded to their function by the Reason-Principle directly; the less good are potentially present in the Reason-Principles, actually present in the phenomena themselves; the Soul's power has reached its limit, and failed to bring the Reason-Principles into complete actuality since, amid the clash of the antecedent Principles, Matter had already from its own stock produced the less good. Yes, with all this, Matter is continuously overruled towards the better; so that out of the totality of things... there is, in the end, a Unity[19]. [II.3.16, 30-35 MK]

Even the most knowledgeable and skillful human farmer, of course, might not accomplish everything with and for his crops that he initially had

[19] Armstrong translates '*hen*' here simply to denote 'one universe'; but see my following gloss.