

REVIEW ARTICLE

A CONTESTED REVOLUTION

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Damian Veal (ed.), *Collapse V: The Copernican Imperative, Urbanomic, Falmouth, 2009. ISBN: 978-0-9553087-4-1*

There are few references in the history of philosophy as famous as the one made by Kant in his 1787 Preface to the 2nd edition of *The Critique of Pure Reason*, wherein he invokes the name of Copernicus for the apparent purpose of drawing an analogy to his own advances in metaphysics. While reflecting on the landmark contributions of his *Critique*—the displacement of *a priori* knowledge now de-centered from the thing-in-itself, imputing an irreducibility to observer-dependent objectivity, and a general elaboration of the transcendental conditions of possibility for the experience of reality—Kant references a ‘similar experiment’ made by the father of modern astronomy, Nicolaus Copernicus, when devising his heliocentric model. Less frequently noted, however, is that among the two passing references made to Copernicus, Kant never actually used the label ‘Copernican revolution’ when drawing his analogy [*mit den ersten Gedanken des Kopernicus*].¹ Clearly, Kant self-lauded the novelty of his own critical approach to metaphysics for, as he put it, ‘proceeding precisely along the same lines of Copernicus’ primary hypothesis.’² What remains less evident is what Kant actually meant by this? That is to say, if Kant’s claim to the Copernican legacy is that of a general *methodological* analogy (i.e. forming counterintuitive hypotheses, severing the derivation of knowledge from sensible intuition, accounting for the location of the observer as parallaxic to the observed object), then (post)Kantian philosophy may very well correctly situate itself

1. For a smart analysis of this infrequently noted irony, see Norwood Russell Hanson’s short essay, ‘Copernicus’ Role in Kant’s Revolution’, *Journal of the History of Ideas*, no. 20, 1959, pp. 274-281.

2. Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith, Palgrave Macmillan, New York, 1929, p. 22.

within an intellectual lineage that approximates a certain ‘Copernicanism’. However, if Kant’s analogy is further extended to *epistemologically* represent a dispensation with all non-correlational objectivity, the displacement of any concept of infinity by the absolute finitude of experience, and/or a substitution of formal truths with the irreducibility of subjective interpretation, then ironically, Kant’s analogy is diametrically opposed to the Copernican legacy to which he lays claim.

A subtext to the publication of the newest volume from the Urbanomic series, titled *Collapse V: The Copernican Imperative*, is that this anecdote is more than simply an ironic footnote in the history of philosophy. Indeed, one can add here that, perhaps symptomatically, nearly all post-Kantian critical philosophy is mired in a basic contestation over the significance of the Copernican revolution: for along with so many other ideas surreptitiously inherited from *The Critique*, while the approaches of thinkers as dissimilar as Freud and Popper, Lacan and Husserl, or Laplanche and Meillassoux, have followed in Kant’s footsteps by laying claim to a heritage descending from ‘Copernicus’, ‘Copernicanism’, or the ‘Copernican revolution’, the fact that each system of thought is so different from the other only confuses the issue further. As admittedly interesting the question is of ‘*who lays claim to the Copernican revolution?*’, what does laying claim to such a legacy even entail?

For example, as Damian Veal points out in his editorial Introduction to *Collapse V*, the occasional conflation of an intellectual lineage of brute empiricism with Copernicanism betrays our tendency to continue to propagate what Popper dubbed ‘the Baconian myth’—namely, the belief that scientific inquiry is rooted in observable phenomena, simple intuitions, and sense-perceptions, and only from such necessary preliminaries can thought proceed towards a theory of reality. The problem with this attribution to Copernicanism is that Copernicus himself insists in his Preface to *De Revolutionibus* (dedicated ‘To Pope Paul III, Most Holy Lord’) that it was precisely the proliferation of inconsistencies resulting from the so-called ‘self-evidence’ of the Ptolemaic system that required an approach ‘contrary to the impression of the senses.’³ And yet, as any high school astronomy student can attest, Galileo’s *Dialogue Concerning Human Understanding*—a treatise that lauds the Copernican model while disparaging ‘those who prefer what reason told them over that which sensible experience showed them to the contrary’⁴—and Kepler’s *Astronomia Nova*—which provides ‘proofs’ for the Copernican model *by rejecting* the inferences drawn from sensible experience—are both placed under the general rubric of a modern astronomical lineage that is first and foremost defined as Copernican.

The label ‘Copernicanism’, it seems, serves less as a signpost for a singular intellectual heritage capable of providing a unanimous description of modern modes of scientific inquiry; neither is its denotation exhausted by the various homologies drawn be-

3. Nicolai Copernicus, *De Revolutionibus Orbium Coelestium*, in Thomas S. Kuhn, *The Copernican Revolution: Planetary Astronomy in the Development of Western Thought*, Harvard University Press, Cambridge, 1957, p. 138.

4. Galileo Galilei, *Dialogue Concerning the Two Chief World Systems—Ptolemaic and Copernican*, trans. Stillman Drake, University of California Press, Berkeley, 1967, p. 328.

tween cosmology and ontology, whose basic assertion is that of a de-centered subject (e.g. Kant, Laplanche, Alva Noë, et al's contestations over the *meaning* of the equation that 'consciousness is to the mind what the earth is to the solar system'). Rather, today, this label functions as the site of a series of competing polemics about the acquisition of a proper methodology capable of accounting for the significance of the de-centerment of the absolute from the infinity of its universe, or as Alexandre Koyré once put it, '[the meaning of] the disappearance, from philosophically and scientifically valid concepts, of the conception of the world as a finite, closed, and hierarchically ordered whole... and its replacement by an indefinite and even infinite universe.'⁵

To ask the question, then, of '*who lays claim to the Copernican revolution?*', may appear naïve indeed, insofar as this inquiry itself already begs the question of *what even is* the Copernican revolution? In this respect, *Collapse V* is commended for refusing the common inclination to merely lay claim to a Copernican revolution (the subtitle of the book wisely substitutes the term 'revolution' for 'imperative'), rather preferring to proceed along to the more interesting business of interrogating a point of coincidence amongst contemporary claimants of a Copernican heritage. For despite the variety of ensuing polemics over the meaning of the term 'Copernicanism'—and undoubtedly some of the finest contemporary examples of such claims are contained in *Collapse V*—the common theme uniting the volume's variety is (1) the assumption of a formal method rejecting the belief that an experience of reality *qua percipio* is ineliminable to an understanding of reality, combined with (2) an attempt to think 'the truth' of ontological de-centerment, and (3) the derivation of infinity as its consequence.

The result is an exciting recommitment to the inaugural moments of modern science, an accessible synopsis of some of the most cutting-edge cosmological, philosophical, and artistic projects of the 21st century, and the continuation of an imperative whose well-spring of inspiration is, today more than ever, drawn from that 16th century Polish astronomer whose counter-intuitive demonstrations of the orbit of planetary objects were ultimately responsible for overturning 1600 years of cosmological truths.

Like those rare musical productions in which every note is worthy of its auditory moment (e.g. Beethoven's 9th *Symphony* (1824), Miles Davis' *Kind of Blue* (1959), The Pixies' *Doolittle* (1989)), the entirety of *Collapse V* serves to justify its occurrence, several pieces of which will be considered below.

The first essay of the volume, contributed by the physicist/cosmologist, Carlo Rovelli ('Anaximander's Legacy'), explicitly draws quantum loop theory within the methodological legacy of both Copernicus, and before him, the Ancient Greek philosopher Anaximander, who, by proposing the notion of the floating earth, contradicted a millennia worth of common sense beliefs in a fixed center to a universal 'up' and 'down'. Just as the radical conclusions of Copernicus' insights were derived by severing his theory from sensible intuition, and just as 'Anaximander's willingness to reject observation-based judgments in favor of mathematical and logical considerations ... [resulted in]

5. Alexandre Koyré, *From the Closed World to the Infinite Universe*, John Hopkins Press, 1957, p. 4.

the invention of a completely new grammar ... in which the idea of *absolute direction* is abolished⁶, so too does quantum loop theory propose a re-conceptualization of our world that, Rovelli argues, promises to be as far reaching in its consequences as that of Anaximander and Copernicus. This re-conceptualization entails the abolition of our traditional conception of *time* as an independent variable, and its subsequent replacement by a theory of physical relations between variables.

This proposal appears radical indeed, albeit issued in the form of a tentative question (*Is it possible to think a world without time?*) at the end of Rovelli's essay, only to be picked up and discussed in more depth in an interview with physicist, Julian Barbour ('The View From Nowhen'). Barbour discusses his reworking of Machian kinematics—its elimination of the Newtonian reliance on notions of absolute position, closed dynamical systems, and fixed orientation, among other things—in order to theorize a radical, fully relational quantum theory of the universe based on the relative configuration of space. For Barbour, just as Copernicus' counterintuitive proposal of a moving earth forced us to rethink our entire system of planetary bodies, so also is it the case that an elimination of the notions of absolute space and time, inaugurated by Einstein's general theory and now unified with quantum mechanics, suggests that we need to dispense with our belief that time exists (i.e. our common sense impression of a temporal series of unfolding, successive moments that occur in space).

However, citing a passage from his most recent book, *The End of Time: The Next Revolution in Physics* (1999), Barbour's interviewer points out the irony that while Copernicus theorized motion where there was previously thought none existed, Barbour's theory purports that '[n]ow we must ... go further, to a deeper reality in which nothing at all, neither heavens nor Earth, moves. Stillness reigns.'⁶ In this respect, for Barbour, remaining true to the Copernican imperative—e.g. his method of rejecting sensible intuitions and the common sense impression of empirical reality in order to hypothesize a counterintuitive, formalized model of the cosmos—involves a rejection of the basic premise on which the Copernican revolution is founded: namely, a belief in the motion of planetary objects *in time*.

While *Collapse V* begins by engaging the direct cosmological descendents of a Copernican ontology, the inclusion of separate interviews with Jack Cohen and Ian Stewart ('Alien Science'), and neurophilosopher Thomas Metzinger ('Enlightenment 2.0'), indicate the editors' willingness to expand a Copernican line of inquiry beyond those well-known thinkers—like Kant, Husserl, Freud, *et al.*—who homologize a de-centering of the earth *to* the cosmos *as* what the brain/consciousness is *to* the subject/self.

For instance, Metzinger's 'self-model theory of subjectivity' (SMT) involves a rejection of the substantialist intuition of folk psychology, which understands the self as a substance; and yet also contrary to the now somewhat commonplace notion of the self as a process, Metzinger forwards a position that is simply more radical, insofar as the phenomenal content endemic to the experience of oneself *as a self* is no more than an

6. *Collapse V*, p. 103, in Julian Barbour, *The End of Time: The Next Revolution in Physics*, Oxford University Press, New York, 1999, p. 14

hallucinated *effect* generated by the brain's transparent, representational processes. As Robin Mackay ('Shadows of Copernicanism') observes when considering the work of artist Conrad Shawcross, despite their ostensibly radical insights, even Copernicus and Kepler in the end fell back on a quasi-Ptolemaic re-centerment of the sun as the center of the cosmos. In this respect, the revolutionary consequence of Metzinger's SMT for the history of philosophy—i.e. the fact that *there is no such things as a self*—takes the radical implications of the Copernican imperative yet a step further *by de-centering the subject from anything whatsoever*.

The final essays of *Collapse V*—for example, the essays by Ian Hamilton Grant ('Prospects for Post-Copernican Dogmatism'), Alberto Gualandi ('Errancies of the Human'), and Gabriel Catren ('A Throw of the Quantum Dice Will Never Overturn the Copernican Revolution')—are particularly impressive for their effortless ability to maneuver as equally amongst modern and post-modern philosophies (like that of Deleuze, Foucault, Fichte, Hegel, Heidegger, Kant, Schelling, and others), as well as within the paradigms forwarded by recent advances in the sciences.

Notably, Catren utilizes Quentin Meillassoux's trenchant analysis of the inherent limitations of the Ptolemaic counter-revolution in philosophy, as developed in his book, *After Finitude* (2008), to criticize what Catren labels the 'Kantian' or 'transcendental' interpretative framework of correlationist versions of quantum mechanics. Contrary to the self-imposed impasse of restricting its pursuit to a description of correlations between physical systems—a Kantian strategy *par excellence*, insofar as it's derived from the notion that '[one] cannot abstract from the constitutive role that [one's] measuring instruments play in experimental inquiry'⁷—Catren calls for a 'precritical realism', capable of deflecting this aforementioned transcendental tendency. For Catren, the true legacy of Copernicanism above all else entails the further deanthropomorphisation of physics, and in this respect, 'quantum mechanics seems to provide a possible physical solution to [the] transcendental problem ... of understanding the constitution of physical objects by means of a synthesis of the manifold of sensible (or experimental) intuitions.'⁸

It's only fitting, however, that the last word here should go to the author of *The Critique of Pure Reason*, the most renowned claimant of the Copernican legacy and oft-attributed father of correlationism himself, Immanuel Kant. *Collapse V* includes a translation and introductory essay by philosopher Martin Schönfeld ('The Phoenix of Nature: Kant and the Big Bounce') to one of Kant's little-known early works, titled *Universal History of Nature and Theory of the Sky* (1755), wherein the young, pre-critical philosopher discusses The Phoenix of Nature ('the idea that all environmental structures are subject to the rule of rise and fall'⁹). As Schönfeld observes, contrary to the common trope amongst Kantian scholarship that his early ideas—such as those presented in *The Universal History*—are 'weird', 'problematic', or 'tough to make scientific sense of', rather, Kant's concept of The Phoenix of Nature brilliantly anticipates the recent consensus among propo-

7. *Collapse V*, p. 457.

8. *Collapse V*, p. 474

9. *Collapse V*, p. 368

nents of today's dominant and otherwise competing scientific paradigms (such as string theory and quantum loop theory) of the validity of the notion that the infinity of the cosmos repeatedly cycles according to a Big Bang, a Rip (expansion), a Crunch (retraction), and back again to a Big Bang—hence the notion of 'the Big Bounce'.

Ironically, then, the contested legacy of Copernicanism actually begins with the localization of a competing polemic that is perhaps even more intimate to our (post) Kantian tradition than upon first glance: it is not merely constitutive of the disputes between proponents of correlationism and speculative realism (e.g. Meillassoux *et al.*) over whether Kant's *Critique* enacted a Ptolemaic counter-revolution to the Copernican promise of accessing 'the Great Outdoors'; moreover, it does not merely manifest itself in the various contestations over whether the advents of modern scientific paradigms (whether implicitly or explicitly laying claim to a Copernican legacy) involve an *extension*, or contrarily, a *rejection* of the Kantian transcendental framework. Rather, it seems that the first dispute over the meaning of the Copernican revolution—i.e. the meaning of ontological *de-centerment*, the role of the finitude of experience within the *infinity* of the universe, as well as the procurement of a method by which to *formalize the subjectivity of interpretation*—actually originated *within* our most famous and increasingly infamous claimant to its legacy, the father of critical philosophy, the inaugural invocator of the Copernican imperative, Immanuel Kant. The significance of laying claim to the Copernican imperative may indeed appear a most nebulous task, insofar as our most eminent philosophical claimant in the end could not even agree with himself about its final meaning. The virtue of *Collapse V* is precisely its intimation of where the future of this contested legacy is heading.

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