

THIS IS THE WAY THE WORLD ENDS:
A PHILOSOPHY OF CIVILIZATION SINCE 1900,
AND A PHILOSOPHY OF THE FUTURE

Robert Hanna and Otto Paans



“The Great Day of His Wrath,” by John Martin (1851-1853)

For Thine is the Kingdom

For Thine is
Life is
For Thine is the

*This is the way the world ends
This is the way the world ends
This is the way the world ends
Not with a bang but a whimper.¹*

ABSTRACT: The aim of this essay is to provide, in an accessible, concise, and synoptic format, a new *Kulturphilosophie*, or “philosophy of civilization,” that covers the period running from the turn of the 20th century to the end of the second decade of the 21st century. Our use of the term *Kultur* (“culture” or “civilization”) is intended not only to emphasize that we are philosophizing about civilization *as a whole* since 1900—including philosophy itself, the applied and fine arts, the formal and natural sciences, society, and politics. It is also intended to emphasize that we view civilization in this maximally broad sense, during this 120-year period, as a product of certain philosophical, artistic, scientific, social, and political *conditions* that have also generated a certain world-image or “world-picture” (*Weltbild*) that has more or less non-self-consciously characterized humanity’s development and guided its course during that period—but towards what? Answer: towards our collective rational human condition right now and right here, namely, during the roll-out and fall-out of the 2020 COVID-19 pandemic, at The End of the World. More precisely, we are claiming that the past 120 years of civilization have effectively driven humanity into a veritable *cul de sac*, a dead end for rational human civilization. As a consequence, we most urgently need to retrace our steps, identify a philosophico-cultural version of Robert Frost’s “road not taken” that briefly appeared between 1900 and 1940, and then correspondingly revolutionize our thinking towards a *philosophy of the future* that can and should extend beyond The End of the World and into the next four decades of the 21st century. We call this philosophy of the future *new wave organicism*.

KEYWORDS: Philosophy of civilization; Organicism

¹ T.S. Eliot, ‘The Hollow Men’, in *Collected Poems: 1909 -1962*, London, Faber, 1974, pp. 88-92, at p. 92.

1. INTRODUCTION

In the mid-19th century, the British Romantic artist John Martin vividly imagined The End of The World as an apocalyptic conflagration brought about by an essentially wrathful God; but by 1925, the American and British Modernist poet T.S. Eliot could equally vividly imagine The End as a powerless post-World War I whimper brought about by an essentially hollowed-out and traumatized humanity. In the 75 years between Martin's painting and Eliot's poem, the process of modernization proceeded apace, and the traditional civilization of the 19th century proved sadly and even tragically inadequate for dealing with the global cataclysm of The Great War. Eliot had an MA in philosophy from Harvard, and wrote a PhD dissertation entitled "Knowledge and Experience in the Philosophy of F.H. Bradley," but never bothered to defend it in person or receive his PhD. So much for the attractions of professional academic philosophy.

Now, almost a century after Eliot's "Hollow Men," we are again imagining The End of the World, but this time as *extra-professional-academic philosophers*, rather than as painters or as ex-philosopher poets. The aim of this essay is to provide, in an accessible, concise, and synoptic format, a new *Kulturphilosophie*, or "philosophy of civilization," that covers the period running from the turn of the 20th century to the end of the second decade of the 21st century. Our use of the term *Kultur* ("culture" or "civilization") is intended not only to emphasize that we are philosophizing about civilization *as a whole* since 1900—including philosophy itself, the applied and fine arts, the formal and natural sciences, the humanities, the social sciences and society, and politics. It is also intended to emphasize that we view civilization in this maximally broad sense, during this 120-year period, as a product of certain philosophical, artistic, scientific, anthropological, social, and political *conditions* that have also generated a certain world-image or "world-picture" (*Weltbild*) that has more or less non-self-consciously characterized humanity's development and guided its course during that period—but towards what? Answer: towards our collective rational "human-all-too-human" condition right now and right here, namely, during the roll-out and fall-out of the 2020 COVID-19 pandemic, at The End of the World. More precisely, we are claiming that the past 120 years of civilization have effectively driven humanity into a veritable *cul de sac*, a dead end for rational human civilization. As a consequence, we most urgently need to retrace our steps, identify a philosophico-cultural version of Robert Frost's "road not taken" that briefly appeared between 1900 and 1940, and then correspondingly revolutionize our thinking towards *a*

*philosophy of the future*² that can and should extend beyond The End of the World and into the next four decades of the 21st century. We call this philosophy of the future *new wave organicism*.

In carrying out this line of argumentation and thinking, it is our specific methodological intention *not* to get bogged down in fine-grained details or in scholarly debates about the many particular topics we will cover—as interesting or even as fascinating as those details or debates might be³—and above all, *not* to get bogged down in Scholastic debates in the pejorative sense. Our specific methodological intention, on the contrary, is to sketch in broad strokes a critically cogent and generally plausible *philosophical big picture* of the last 120 years, for the purposes of providing, in a late modern and contemporary context, not only what the 18th century radically enlightened⁴ philosopher Immanuel Kant called “an idea of a universal history from a cosmopolitan point of view,” but also what he called an “orientation in thinking.”⁵ In section 2, we critically describe some philosophical, artistic, scientific, social, and political developments in the period from 1900-1940, especially including the rise of *classical Analytic philosophy* and a crucial paradigm shift⁶ in the fine and applied arts and the formal and natural sciences alike. In section 3, we critically describe similar developments in the period from 1940-1980, especially including the emergence of *post-classical Analytic philosophy*, *Continental philosophy*, and the associated emergence of *natural mechanism* and *scientism*, as typified, e.g., by the cultural cluster that includes computation-theory, decision-theoretic economics, and “cybernetics,” i.e., “artificial intelligence,” aka AI, together with what James C. Scott has aptly called “a high

² The phrase “philosophy of the future” (*Philosophie der Zukunft*) is of course borrowed from Nietzsche; see F. Nietzsche, *Beyond Good and Evil: Prelude To A Philosophy of the Future*, trans. W. Kaufmann, New York, Vintage, 1966.

³ Nevertheless, we have also provided quite a few footnotes for those who want to pursue fine-grained details and scholarly debates or explore particular topics further.

⁴ See, e.g., R. Hanna, ‘Radical Enlightenment: Existential Kantian Cosmopolitan Anarchism, With a Concluding Quasi-Federalist Postscript’, in D. Heidemann and K. Stoppenbrink (eds.), *Join, Or Die: Philosophical Foundations of Federalism*, Berlin, De Gruyter, 2016, pp. 63-90.

⁵ See I. Kant, ‘Idea for a Universal History with a Cosmopolitan Aim’, trans. A. Wood, in I. Kant, *Immanuel Kant: Anthropology, History, and Education*, Cambridge, Cambridge Univ. Press, 2007, pp. 107-120; and I. Kant, ‘What Does It Mean to Orient Oneself in Thinking?’, trans. A. Wood, in I. Kant, *Immanuel Kant: Religion and Rational Theology*, Cambridge, Cambridge Univ. Press, 1996, pp. 7-18.

⁶ The phrase “paradigm shift” is of course borrowed from Thomas Kuhn; see T. Kuhn, *The Structure of Scientific Revolutions*, Chicago, IL, Univ. of Chicago Press, 1962.

modernist ideology,” or *high modernism* for short:

[High modernism] is best conceived as a strong, one might even say muscle-bound, version of the self-confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature), and, above all, the rational design of social order commensurate with the scientific understanding of natural laws.⁷

In section 4, against the backdrop of high modernism, we critically describe the rise of *post-modernism*, aka Po-Mo, in the period from 1980-2020, and briefly explore Po-Mo’s *cultural nihilism*. And finally, in section 5, we propose *new wave organicism* not only as a grand and novel synthesis of philosophy, the fine and applied arts, the formal and natural sciences, the human sciences, the social sciences and society, politics, and what has been aptly called “ecological civilization,”⁸ but also as a philosophy of the future extending beyond The End of the World and into the next forty years of the 21st century. Our proposal, therefore, is not a mere alternative to existing philosophical systems, but a radical reorientation of our thinking, and the revaluation of a discontinued line of thought.

2. WRESTLING WITH MODERNITY: 1900-1940

From the turn of the 20th century and into the mid-&-late 1930s, at least eight different profoundly important philosophical, artistic, scientific, social, and political trends all converged, interacted, and intertwined in complex and fateful ways. We will call these developments, taken collectively, *wrestling with modernity*.⁹ More precisely, humanity “wrestled with modernity” insofar as its intellectual and cultural inheritance from the 19th century failed to provide it with the resources to comprehend or control the onset of certain fateful social and political processes, the new formal and natural sciences, and a radically new world-picture that emerged as a result of these developments.

⁷J.C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven CT, Yale Univ. Press, 1998, p. 4.

⁸ See, e.g., A. Gare, *Philosophical Foundations of Ecological Civilization: A Manifesto for the Future*, London, Routledge, 2017; and P. Clayton and W.A. Schwartz, *What is Ecological Civilization? Crisis, Hope, and the Future of the Planet*, USA, Process Century Press, 2019.

⁹ Our use of this term is inspired by Dr. Marijn Hollestelle’s PhD thesis, *Paul Ehrenfest. Worstelingen met de moderne wetenschap, 1912–1933*, Leiden, Leiden Univ. Press, 2011.

2.1 Six Sociocultural or Sociopolitical Developments

First, from 1900 to 1940, humanity experienced radically increasing industrialization and the physical mechanization of production processes, driven by worldwide free-market economics and capitalist speculation.

Second, simultaneously, humanity experienced radically increasing sociopolitical nationalism, imperialism, and militarism, flowing disastrously into the global cataclysm of World War I,¹⁰ the Russian Revolution, the 1918-1919 Influenza pandemic, and then the civil wars and other international conflicts in central, northern, and eastern Europe that immediately succeeded the official end of The Great War and stretched into the early 1920s.¹¹

Third, these developments were followed, in the mid-to-late 20s and early-to-mid 30s, by hyperinflation in Germany, the Stock Market Crash in 1929, the worldwide Depression, and by the rise of fascism and imperialist militarism in Germany, Italy, and Japan. Indeed, the unabsorbed and unresolved sociocultural and sociopolitical fall-out from World War I primed Nazi fascism and its ideological mirror image, Bolshevik communism, alike.

Fourth, at the same time, there were revolutionary advances and transformations in *the natural sciences*, especially including (i) relativity physics, (ii) quantum mechanics, and (iii) cellular/molecular, evolutionary, and genetic approaches to biology.¹² In particular, the classical Newtonian model of physics was overturned, and biology rejected models of Lamarckian inheritance and vitalism, paving the way for what later would become evolutionary development, aka *evo-devo*, Darwinism.

Fifth, simultaneously, and overlapping with these developments in the natural sciences, there were revolutionary advances and transformations in the formal sciences (especially including mathematical logic and pure mathematics) via Alfred North Whitehead's and Bertrand Russell's *Principia Mathematica*, Kurt Gödel's incompleteness theorems, Alan Turing's work on computability and artificial intelligence,¹³ the (Alonzo) Church-Turing thesis claiming the necessary

¹⁰ See, e.g., H. Strachan, *The First World War*, London, Penguin, 2005.

¹¹ See, e.g., R. Gewarth, *The Vanquished: Why the First World War Failed to End*, New York, Farrar, Straus, and Giroux, 2016.

¹² See, e.g., M. Kumar, *Quantum: Einstein, Bohr, and the Great Debate about the Nature of Reality*, New York, W.W. Norton & Co., 2010; and E. Mayr, *The Growth of Biological Thought: Diversity, Evolution, and Inheritance*, Cambridge, MA, Harvard Univ. Press, 1985.

¹³ See A. Turing, 'On Computable Numbers, with an Application to the Entscheidungsproblem', *Proceedings of the London Mathematical Society*, series 2, 42, 1936, pp. 230-265, with corrections in 43, 1937, pp. 644-546; G.

equivalence of Turing-computability and recursive functions, L.E.J. Brouwer's work on intuitionist logic and mathematics, David Hilbert's work on formalism and finitism, and Alfred Tarski's semantic approach to logic, formally capturing the collective logical upshots of the failure of Whitehead-Russell logicism together with Gödel's profound insight into the logical independence of truth and proof. *Sixth*, in the 1920s and 30s, there was an emerging set of *anti-authoritarian, anti-totalitarian, dignitarian, democratic versions of socialism*, e.g., the Popular Front in France, Labor parties in the UK, Germany, and the Netherlands, the New Deal in the USA, and "prairie populist" socialism in Canada, as well as various forms of communism that rejected the authoritarian, totalitarian, anti-dignitarian, and anti-democratic models of their Bolshevik counterparts.¹⁴ These movements also expressed a general critique and a vigorous rejection of the alienation, dullness, and monotony inherent in industrial mechanization, advanced capitalism, and the modern division of labor.

2.2 *Two Philosophical Developments: Classical Analytic Philosophy and First Wave Organicism*

During the period from 1900-1940, classical *neo-Kantian philosophy* in Germany and France and British *neo-Hegelian philosophy* (carrying over somewhat into the USA—see, e.g., Eliot's Harvard PhD dissertation on F.H. Bradley, and the philosophy of Josiah Royce more generally¹⁵) both came to a more or less bitter end. Slamming the door behind the idealists, and triumphantly (indeed, even triumphalistically) replacing them, and just as often also taking up their vacated university positions, a group of Young Turk *avant-garde* philosophers carrying the banner of the new tradition of *classical Analytic philosophy* came onto the scene, following on from Gottlob Frege (as it were, The Founding Grandfather), but led by G.E. Moore, Bertrand Russell, the young Ludwig Wittgenstein, the Vienna Circle Logical Empiricists/Positivists (especially Rudolf Carnap), and W.V.O. Quine.¹⁶ Nor were they culturally unique or unaccompanied, since classical

Boolos and R. Jeffrey, *Computability and Logic*, 3rd edn., Cambridge, Cambridge Univ. Press, 1989, ch. 3; and A. Turing, 'Computing Machinery and Intelligence', *Mind*, 59, 1950, pp. 433-460.

¹⁴ In particular, the Dutch communists developed a concept called "*radencommunisme*" (council communism), intended to replace the idea of a Party vanguard. Notably, e.g., Anton Pannekoek (1873-1960) published widely on this theme, as well as on the relationships between Marxism and Darwinism.

¹⁵ See, e.g., B. Kuklick, *The Rise of American Philosophy*, New Haven, CT, Yale Univ. Press, 1977.

¹⁶ See R. Hanna, *Kant and the Foundations of Analytic Philosophy*, Oxford, Clarendon/Oxford Univ. Press, 2001, also available online in preview at URL =

<https://www.academia.edu/25545883/Kant_and_the_Foundations_of_Analytic_Philosophy>.

Analytic philosophy also stood in an important elective affinity with the rise of high modernism, especially in the applied and fine arts, the formal and natural sciences, and engineering.¹⁷ At the same time, the classical Analytic philosophers were engaged in a serious intellectual competition with *phenomenology*, especially Husserlian transcendental phenomenology¹⁸ and Heideggerian existential phenomenology.¹⁹

Simultaneously, however, there was also an emerging *organicist* movement, expressing itself in philosophy, the applied and fine arts, and the formal and natural sciences alike, including, in philosophy, Henri Bergson's *Matter and Memory* in 1896, *Creative Evolution* in 1907, Samuel Alexander's *Space, Time, and Deity* in 1920, John Dewey's *Experience and Nature* in 1925, and especially Whitehead's "philosophy of organism" in *Process and Reality* in 1929; in the applied and fine arts, the architecture of Frank Lloyd Wright and the other members of the Prairie School, the "golden period of Scandinavian design" in Norway, Sweden, Denmark, Finland, and Iceland,²⁰ and the poetry of Robert Frost and Wallace Stevens; and, in the formal and natural sciences, C. Lloyd Morgan's *Emergent Evolution* in 1923, and Erwin Schrödinger's *What is Life? The Physical Aspect of the Living Cell* in 1944. Schrödinger's break-through book initiated *non-equilibrium thermodynamics* and *complex systems dynamics*, as developed by Ilya Prigogine and his

¹⁷ See Scott, *Seeing Like a State*; A. Janik and S. Toulmin, *Wittgenstein's Vienna*, New York, Simon & Schuster, 1973; The Vienna Circle, 'The Scientific Conception of the World', in S. Sarkar (ed.), *The Emergence of Logical Empiricism: From 1900 to the Vienna Circle*, New York, Garland Publishing, 1996, pp. 321–340, also available online at URL = <<http://www.manchesterism.com/the-scientific-conception-of-the-world-the-vienna-circle/>>; P. Galison, 'Aufbau/Bauhaus: Logical Positivism and Architectural Modernism', *Critical Inquiry*, 16, 1990, pp. 709–752; G. Reisch, *How the Cold War Transformed Philosophy of Science: To the Icy Slopes of Logic*, Cambridge, Cambridge Univ. Press, 2005; and J. Isaac, 'Donald Davidson and the Analytic Revolution in American Philosophy, 1940–1970', *Historical Journal*, 56, 2013, pp. 757–779.

¹⁸ See, e.g., R. Hanna, 'Transcendental Idealism, Phenomenology, and the Metaphysics of Intentionality', in K. Ameriks and N. Boyle (eds.), *The Impact of Idealism*, 4 vols., Cambridge, Cambridge Univ. Press, 2013, vol. I, pp. 191–224.

¹⁹ See, e.g., R. Hanna, 'Kant in the Twentieth Century', in D. Moran (ed.), *Routledge Companion to Twentieth-Century Philosophy* (London: Routledge, 2008), pp. 149–203, at pp. 149–150, also available online in preview at URL = <https://www.academia.edu/2915828/Kant_in_the_Twentieth_Century>; and R. Hanna, *THE FATE OF ANALYSIS: Analytic Philosophy From Frege to The Ash-Heap of History* (2020 version), ch. IX, available online at URL = <https://www.academia.edu/41899807/The_Fate_of_Analysis_Analytic_Philosophy_From_Frege_To_The_Ash-Heap_of_History_2020_version>.

²⁰ See, e.g., Wikipedia, 'Scandinavian Design', (2020), available online at URL = <https://en.wikipedia.org/wiki/Scandinavian_design>.

associates,²¹ and by J.D. Bernal, in the second half of the 20th century; and alongside and inspired by this work, it also primed *the autopoietic approach to organismic biology* worked out by Francisco Varela and his associates during the 1970s.²²

Here is an important caveat. It is essential *not* to confuse the first wave of organicism in philosophy, the applied and fine arts, and the formal and natural sciences, on the one hand, with *organic nationalism*, aka *organic romanticism*, in the arts, science, and sociopolitics,²³ as it occurred during the rise of fascism and militarism in Germany, Italy, and Japan—e.g., in Nazi architecture and visual art²⁴—on the other. Organic nationalism is authoritarian up to and including totalitarianism, anti-dignitarian, anti-democratic in its focus on the *Führerprinzip* and/or Strong Man dictator or emperor, and pervasively historically backward-looking, insular, reactionary, and regressive. Sharply on the contrary, first wave organicism is essentially intertwined, first, with the anti-authoritarian, anti-totalitarian, dignitarian, and democratic versions of *socialism* that we briefly described in the last sub-section, and second, with the search for a humane modernity that would avoid the excesses of the Industrial Revolution and extreme urbanization.

2.3 Architectural and Artistic Trends

In architecture and other applied or fine arts, the same modernist tendencies were visible in a different form. The emerging modernist movement departed from the traditional standards set by Neoclassical designs by architects like Étienne-Louis Boullée and Claude Nicolas Ledoux. And while Ledoux had been impressed by the Arcadian, pastoral world vision of for instance Jean-Jacques Rousseau, Boullée had a far more grandiose vision that he imparted to the next generation. His student Jean-Nicolas-Louis Durand attempted to translate

²¹ See, e.g., G. Nicolis and I. Prigogine, *Self-Organization in Nonequilibrium Systems*, New York, Wiley, 1977; I. Prigogine and E. Stengers, *Order Out of Chaos*, New York, Bantam, 1984; and I. Prigogine, *The End of Certainty*, New York, The Free Press, 1997.

²² See, e.g., F. Varela, H. Maturana, and R. Uribe, 'Autopoiesis: the Organization of Living Systems, its Characterization and a Model', *Currents in Modern Biology*, 5, 1974, pp. 187-196; and F. Varela, *Principles of Biological Autonomy*, New York, Elsevier/North Holland, 1979.

²³ See, e.g., Wikipedia, 'Romantic Nationalism', (2020), available online at URL = <https://en.wikipedia.org/wiki/Romantic_nationalism>.

²⁴ See, e.g., Wikipedia, 'Art of the Third Reich', (2020), available online at URL = <https://en.wikipedia.org/wiki/Art_of_the_Third_Reich>.

Ledoux's insights in a universal building methodology that would be affordable yet impressive— a theme that would play an crucial role in 20th century modernism.²⁵ Simultaneously, the Arts-and-Crafts movement perceived the ongoing industrialization as a threat to traditional crafts and aesthetics. In particular, William Morris noted that mechanization itself was not the threat, but that the dullness and monotony of the labor process had alienating and ultimately debilitating effects on the laborers. Not coincidentally, Morris was highly active in the emerging socialist movement in England.²⁶ In the meantime, engineering marvels like Joseph Paxton's *Crystal Palace*, the *Eiffel Tower* by Gustave Eiffel, the *Galerie des Machines* by Victor Contamin, and the invention of a standardized system for joining reinforced concrete elements by François Hennebique in 1892, formed a cultural counterforce.²⁷ While the traditionalists were in favor of retaining the old arts and handicrafts, as well as decentralized labor, the *avant-garde* of architects and engineers captivated the public eye with feats of engineering and centralized production that were hitherto impossible.

In turn, these two strands of thinking gave rise to a Utopian tradition of city design in which various aspects of both traditions merged. The most striking examples in this tradition are John Claudius Loudon's 1829 *Plan for London*, Ebenezer Howard's 1898 *Garden Cities*, Tony Garnier's 1917 *Cité Industrielle*, Bruno Taut's 1919 *Die Stadtkrone*, Frank Lloyd Wright's 1932 *Broadacre City*, and Le Corbusier 1935 *Ville Radieuse* and *Plan Voisin*. Despite their differences, all these planners imagined a radical overhaul of 19th-century culture and in particular of the shortcomings of the 19th-century metropolis. How they sought to accomplish this was another matter. Wright's *Broadacre City* was heavily influenced by Morris's ideas on the decentralization of labor, and what Wright called "the harmony of the human being."²⁸ The idea was simply that the 19th-century city (and Wright attacked its shortcomings with unmatched vitriol) was an alienating, toxic, and damaging environment. By sharp contrast, although urban planners like Ludwig Hilberseimer, Norman Bel Geddes, and Le Corbusier agreed with Wright about

²⁵ These insights were in turn imparted to a further generation of students, because Durand was the first Professor of Architecture at the École Polytechnique.

²⁶ J. Marsh, *Back to the Land: The Pastoral Impulse in Victorian England 1880-1914*, London, Faber & Faber, 2010, pp. 16–17.

²⁷ K. Frampton, *Moderne Architectuur. Een kritische geschiedenis*, trans. H. Hoeks, Amsterdam, SUN, 2006, pp. 42–48.

²⁸ R. Fishman, *Urban Utopias in the Twentieth Century*, Cambridge, MA, MIT Press, 1982.

the shortcomings of the 19th-century city, they responded by envisioning high modernist “cities of speed.”²⁹ For example, according to Corbusier, the individual needs a space that is scaled to the needs of the civilized human animal (now conceived as a biological machine), but embedded in a thoroughly rational structure. Whereas for Wright the segmentation of everyday life was an evil, for Corbusier it represented a solution. An orderly day would be clearly segmented and structured, and the city would reflect and support this order. In both strands of thinking there was a Utopian undercurrent. The modernist thinker opted for largely technocratic solutions, while the traditionalist thinker distrusted the ongoing process of mechanization, or rather, the use of technology as universal problem solver. Simultaneously, the two strands of thinking fused to some degree in a style called “constructive rationalism,” a rejection of French Neoclassicism by architectural theorist Eugene Viollet-le-Duc.³⁰ Rejecting the idea of an “eternal order” that could be represented in architecture, this response merged with the emerging national identities in Europe. In an aesthetic and technological cross-over between traditional brickwork and the newfound art of steel/cast iron constructions, architects like Victor Horta and Hector Guimard could envision a new type of architecture that derived its formal language from nature itself, influenced by the graphic work of -- among others -- Jan Toorop.³¹ Nevertheless, the fascination with nature was not restricted to these influences: the influence of thinkers like John Ruskin and Arthur Schopenhauer was still keenly felt.³² The rise of the science-driven and technocratic strand of modernism, high modernism, is nicely exemplified and expressed by the so-called *L'Esprit Nouveau* that promised a brave new world, very much like the one described in the Vienna

²⁹ Le Corbusier, *The City of Tomorrow and its Planning*, New York: Dover, 1987, p. 179.

³⁰ Frampton, *Moderne Architectuur*, pp. 81–82.

³¹ Frampton, *Moderne Architectuur*, p. 86.

³² John Ruskin's *The Seven Lamps of Architecture* was published in 1849, followed by the three-volume *The Stones of Venice* in 1851–1853. Ruskin drew broad conclusions from the aesthetic of the Gothic style to modern challenges in building technology, meaning, the organization of society, and the value of handicrafts. In Ruskin's work, nature itself is a source of inspiration and the basic point of reference for defining moral, societal, political, aesthetic, and practical concepts. Likewise, Arthur Schopenhauer's *The World as Will and Representation* was published in 1819, with a revised and expanded edition in 1844, and a final expanded edition in 1859. For Schopenhauer, the Will objectifies itself in Nature, correspondingly *The World as Will and Representation* is filled with references to natural phenomena and organisms. In his 1836 work, *On Will in Nature*, Schopenhauer reiterates this thought, emphasizing the fundamentally organic character of the world. The same approach is used in his *Lectures on Philosophy*, in particular part 2 (Metaphysics of Nature) and part 3 (Metaphysics of the Beautiful).

Circle's manifesto, "The Scientific Conception of the World."³³ If the formal and natural sciences were to describe the structure of the universe, then architecture could physically represent it, and robust engineering and technology would make it possible:

We want, on the contrary, to affirm forcefully that the constructive spirit is as necessary to create a picture or a poem as it is to build a bridge. Better yet, we affirm the necessity of an aesthetic system for creators. Art, like science or philosophy is an order created by man in his representations.³⁴

The goal [of the scientific conception of the world] is unified science. (...) From this aim follows the emphasis on collective efforts, and also the emphasis on what can be grasped intersubjectively; from this springs the search for a neutral system of formulae, for a symbolism freed from the slag of historical languages; and also the search for a total system of concepts.³⁵

Moreover, in so doing, engineering and technology were seen as the necessary means that would bring the new Utopian future about with a flawless combination of rational planning and "cold reason," derived from the necessity of highways, construction beams, ocean liners, and telephone lines.³⁶ Even so, an ideological countercurrent that resisted high modernism was also unfolding, and Swedish architects like Sven Backström and Ralph Erskine, as well as the Finnish Alvar Aalto, subverted the universal, rootless, and methodical strand of high modernism by referring back to local and regional building traditions and their attachment to the *genius loci*.

In the art world, the shift from impressionism to modern art ran roughly via expressionist movements in the West, and Russian constructivism and Suprematism in the East. Artists like Paul Delvaux and Piet Mondrian started out

³³ See Scott, *Seeing Like a State*; Janik and Toulmin, *Wittgenstein's Vienna*; The Vienna Circle, 'The Scientific Conception of the World'; Galison, 'Aufbau/Bauhaus: Logical Positivism and Architectural Modernism'; Reisch, *How the Cold War Transformed Philosophy of Science: To the Icy Slopes of Logic*; and Isaac, 'Donald Davidson and the Analytic Revolution in American Philosophy, 1940-1970'.

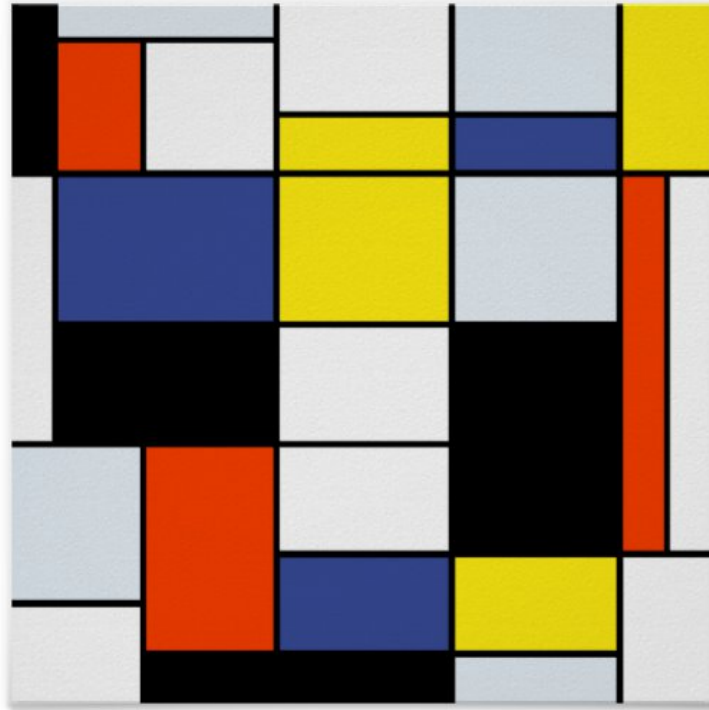
³⁴ A. Ozenfant and C.E. Jeanneret, 'Preface to the first issue of *L'esprit Nouveau*', in H.F. Mallgrave and C. Contandriopoulos (eds.), *Architectural Theory: Anthology from 1871 to 2005*, 2 vols., Oxford, Blackwell, 2008, vol. 2, p. 183.

³⁵ The Vienna Circle, 'The Scientific Conception of the World', underlining added.

³⁶ For a more detailed account of the high modernist aesthetic, see O. Paans, 'The Generic Eternal: Modernism, Alienation and the Built Environment', *Borderless Philosophy* 2, 2019, pp. 207–256, available online at URL =

<<https://www.cckp.space/single-post/2019/06/01/BP2-2019-The-Generic-Eternal-Modernism-Alienation-and-the-Built-Environment-pp-207-256>>.

with largely impressionist or figurative paintings, only to embrace the emerging high modernist and “objective” style of practicing the arts, as per this icon of modernism, Mondrian’s 1920 “Composition A”—



The figurative tradition was retained by artists like Gustav Vigeland, Pablo Picasso, René Magritte, and Salvador Dali, although in a variety of different idioms, each of which expresses essentially the same existential and sociocultural anxiety as Eliot’s “The Hollow Men.”³⁷

3. THE HISTORICAL BLACK HOLE, THE SCIENTISTIC MINDSET, AND NATURAL MECHANISM: 1940-1980

Then World War II happened,³⁸ forming as it were an historical black hole in the

³⁷ See O. Paans, ‘Postmodernity and Politics of Fragmentation’, *Borderless Philosophy*, 3, 2020, available online at URL = <https://www.cckp.space/single-post/2020/06/04/BP3-2020-Otto-Paans-%E2%80%9CPostmodernity-and-the-Politics-of-Fragmentation%E2%80%9CD-264-310>, for a more extensive discussion of this topic.

³⁸ See, e.g., G. Weinberg, *A World at Arms: A Global History of World War II*, 2nd edn., Cambridge, Cambridge Univ. Press, 2005.

middle of the 20th century, indiscriminately and relentlessly absorbing, ending, and/or exploiting massive numbers of human lives and correspondingly massive amounts of intellectual energy, physical material, and sociopolitical energy, all in historically unprecedented ways. In effect, nothing could escape from the grip of this historical black hole for six years, 1939-1945. But at the same time, World War II also created the human, intellectual, and sociopolitical conditions for scientific and technological developments in the decades immediately following 1945. Moreover, these technological advances heavily determined how humanity conceptualized the relationship between the State and society. The idea of “engineering” an entire society and all its citizens gripped humanity, and had immediate and eventually massive philosophical, artistic, scientific, social, and political consequences.

3.1 *Formal and Natural Science After 1945 and the Rise of Natural Mechanism*

By the end of World War II, physicists working on the USA-funded Manhattan Project produced the atomic bomb, and thereby helped to kill hundreds of thousands of Japanese civilians in two cruel blows directed at Hiroshima and Nagasaki, and to create the Cold War atomic weapons build-up, thereby threatening humanity with extinction. At the same time, technological advances flowing from World War II and the US-Russia Space Race during the 1950s and 1960s, helped to cement a widespread cultural attitude that can be best described as *the scientific mindset*.³⁹ Just as early Analytic philosophers and the Logical Empiricist/Positivist philosophers of the Vienna Circle placed their faith in logicism, i.e., the explanatory and ontological reduction of mathematics to logic, or at the very least in logic-driven philosophy, so too non-philosophers placed their faith in the idea of endless economic and sociopolitical progress powered by the formal and natural sciences-driven application of technology to humanity’s problems.

Correspondingly, *natural mechanism* triumphed in physics, biology, and chemistry, as well as in the formal sciences that subserve those natural sciences,

³⁹ On the crucial distinction between science and scientism, see R. Hanna, ‘The End of Mechanism: Kant, Science, and Humanity’, (September 2019 version), available online at URL = https://www.academia.edu/40331207/The_End_of_Mechanism_Kant_Science_and_Humanity_September_2019_version >; and also S. Haack, *Science and its Discontents*, Rounded Globe, 2017, available online at URL = <https://roundedglobe.com/books/038f7053-e376-4fc3-87c5-096de820966d/Scientism%20and%20its%20Discontents/> >.

yielding the development of the earliest versions of real-world Turing machines—i.e., digital computers—decision-theoretic economics, and “cybernetics,” i.e., artificial intelligence, aka *AI*. More specifically, the doctrine of natural mechanism says that all the causal powers of everything whatsoever in the natural world are ultimately fixed by what can be digitally computed on a universal deterministic or indeterministic real-world Turing machine, provided that the following three plausible “causal orderliness” and “decompositionality” assumptions are all satisfied: (i) its causal powers are necessarily determined by the general deterministic or indeterministic causal natural laws, especially including the Conservation Laws, together with all the settled quantity-of-matter-and/or-energy facts about the past, especially including The Big Bang, (ii) the causal powers of the real-world Turing machine are held fixed under our general causal laws of nature, and (iii) the “digits” over which the real-world Turing machine computes constitute a complete denumerable set of spatiotemporally discrete physical objects. So, if natural mechanism is true, then all human organisms and everything else that exists are *nothing but more-or-less complex automata* (and we are just “survival machines”⁴⁰), all of whose operations and quantitative properties can be calculated on an ideal digital computer. In this way, natural mechanism resurrects Laplace’s Demon in a digital format: just as Laplace could imagine a demon that predicted all possible events and their consequences, so too would computing provide the tools for mastering the inherently predictable realm of nature.

Mirroring an unbridled confidence in the dual doctrines of logically-driven mathematization—see, e.g., the work of John von Neumann, Norbert Wiener, John Nash, and the MIT/Princeton research axis—and natural mechanism, massive government and private funding for universities and computer scientists, decision-theoretic economics, and cybernetics/AI gradually turned Eisenhower’s “military-industrial complex” into *the military-industrial-university-digital complex*. This alarming development is perhaps best exemplified, e.g., by the activities of The RAND Corporation,⁴¹ but in any case, it has been brilliantly criticized in Lutz Dammbeck’s 2003 film, *The Net: The Unabomber, LSD, and the Internet* (*Das*

⁴⁰ See R. Dawkins, *The Selfish Gene*, Oxford, Oxford Univ. Press, 2006.

⁴¹ See, e.g. J. McCumber, *The Philosophy Scare: The Politics of Reason in the Early Cold War*, Chicago, IL, Univ. of Chicago Press, 2016, chs. 3-4; and Isaac, ‘Donald Davidson and the Analytic Revolution in American Philosophy, 1940-1970’.

Netz).⁴²

3.2 *The Emergence of Post-Classical Analytic Philosophy*

By the end of World War II, the early Cold War, and the period of the sociopolitical triumph of advanced capitalism and technocracy in the USA, classical Analytic philosophy had triumphed in a social-institutional sense; organicist philosophy had virtually disappeared except in a vestigial form, as an aspect of American pragmatism; and existential phenomenology and all other kinds of non-Analytic philosophy, under the convenient and pejorative catch-all label, “Continental Philosophy,” gradually became the social-institutional Other and slave of Analytic philosophy.⁴³ By 1950, Quine’s devastating critique of the analytic-synthetic distinction in “Truth by Convention,” “Two Dogmas of Empiricism,” “Carnap and Logical Truth,” and Word and Object effectively ended the research program of classical Analytic philosophy and initiated post-classical Analytic philosophy. In the early- to mid-1950s, post-classical Analytic philosophy produced a Wittgenstein-inspired language-driven alternative to Logical Empiricism/Positivism, ordinary language philosophy. In the late 1950s and 1960s, powered by the work of H. P. Grice and Peter Strawson, ordinary language philosophy became conceptual analysis.⁴⁴ In turn, during that same

⁴² Available online at URL = <https://archive.org/details/DasNetz_LutzDammebeck>.

⁴³ See, e.g., R. Rorty, ‘Philosophy in America Today’, in R. Rorty, *Consequences of Pragmatism*, Minneapolis MN, Univ. of Minnesota Press, 1982, pp. 211-230; J. McCumber, *Time in the Ditch: American Philosophy and the McCarthy Era*, Evanston, IL, Northwestern Univ. Press, 2001; T. Akehurst, ‘The Nazi Tradition: The Analytic Critique of Continental Philosophy in Mid-Century Britain’, *History of European Ideas*, 34, 2008, pp. 548-557; T. Akehurst, *The Cultural Politics of Analytic Philosophy: Britishness and the Spectre of Europe*, London, Bloomsbury, 2011; A. Vrahimis, ‘Modernism and the Vienna Circle’s Critique of Heidegger’, *Critical Quarterly*, 54, 2012, pp. 61-83; A. Vrahimis, ‘Legacies of German Idealism: From The Great War to the Analytic/Continental Divide’, *Parrhesia*, 24, 2015, pp. 83-106; McCumber, *The Philosophy Scare*; S. Bloor, ‘The Divide Between Philosophy and Enthusiasm: The Effect of the World Wars on British Attitudes Towards Continental Philosophies’, in M. Sharpe et al. (eds.), *100 Years of European Philosophy Since the Great War*, Cham CH, Springer, 2017, pp. 201-213; J. Katzav and K. Vaesen, ‘On the Emergence of American Analytic Philosophy’, *British Journal for the History of Philosophy*, 25, 2017, pp. 772-798; J. Katzav, ‘Analytic Philosophy, 1925-1969: Emergence, Management and Nature’, *British Journal for the History of Philosophy*, 26, 2018, pp. 1197-1221; and A. Vrahimis, ‘Russell Reads Bergson’, in M. Sinclair and Y. Wolf (eds.), *The Bergsonian Mind*, London, Routledge, forthcoming, also available online at URL = <https://www.academia.edu/41702088/Russell_Reads_Bergson>.

⁴⁴ See, e.g., R. Hanna, ‘Conceptual Analysis’, in *Routledge Encyclopedia of Philosophy*, 10 vols., ed. E. Craig, London, Routledge, 1998, vol. 2, pp. 518-522, available online at URL = <https://www.academia.edu/11279103/Conceptual_Analysis>.

period, Strawson created a new “connective”—that is, holistic—version of conceptual analysis, that also constituted a “descriptive metaphysics.”⁴⁵ In the 1970s, 1980s, and early 1990s, Strawson’s connective version of conceptual analysis gradually fused with Donald Davidson’s non-reductive naturalism about language, mind, and action (sometimes rather misleadingly called “semantics of natural language”), John Rawls’s holistic method of “reflective equilibrium,” and Noam Chomsky’s psycholinguistic appeals to intuitions-as-evidence, and ultimately became what can be called The Standard Model of mainstream post-classical Analytic philosophical methodology, by the end of the 20th century.⁴⁶ In the late 1990s and first two decades of the 21st century, a domestic critical reaction to The Standard Model, combining direct reference theory, scientific essentialism and modal metaphysics,⁴⁷ yielded recent and contemporary Analytic metaphysics.⁴⁸ In contemporary mainstream post-classical Analytic philosophy, co-existing and cohabiting with The Standard Model and Analytic metaphysics, is also the classical Lockean idea that philosophy should be an “underlaborer” for the natural sciences, especially as this idea was developed in the second half of the 20th century by Quine and Wilfrid Sellars, and their students, as the materialist or physicalist (whether eliminativist, reductive, or non-reductive) and scientific doctrine of “scientific naturalism,” and again in the early 21st century, in even more sophisticated versions, as “experimental philosophy,” aka “X-Phi,” and the doctrine of “second philosophy.”⁴⁹

⁴⁵ See P.F. Strawson, *Individuals: An Essay in Descriptive Metaphysics*, London, Methuen, 1959; and P.F. Strawson, *Analysis and Metaphysics: An Introduction to Philosophy*, Oxford, Oxford Univ. Press, 1992.

⁴⁶ See, e.g., F. Jackson, *From Metaphysics to Ethics: A Defense of Conceptual Analysis*, Oxford, Oxford Univ. Press, 1998.

⁴⁷ See, e.g., R. Hanna, ‘A Kantian Critique of Scientific Essentialism’, *Philosophy and Phenomenological Research*, 58, 1998, pp. 497-528; R. Hanna, ‘Why Gold is Necessarily a Yellow Metal’, *Kantian Review*, 4, 2000, pp. 1-47; R. Hanna, *Kant, Science, and Human Nature*, Oxford, Clarendon/Oxford Univ. Press, 2006, chs. 3-4; and R. Hanna, *Cognition, Content, and the A Priori: A Study in the Philosophy of Mind and Knowledge* (THE RATIONAL HUMAN CONDITION, vol. 5), Oxford, Oxford Univ. Press, 2015, section 4.5, also available online in preview at URL = https://www.academia.edu/35801833/The_Rational_Human_Condition_5_Cognition_Content_and_the_A_Priori_A_Study_in_the_Philosophy_of_Mind_and_Knowledge_OUP_2015.

⁴⁸ The leading figures of Analytic metaphysics include David Lewis, David Chalmers, Kit Fine, John Hawthorne, Theodore Sider, and Timothy Williamson; and some of its canonical texts are: Lewis’s *On the Plurality of Worlds*, Oxford, Blackwell, 1986; Sider’s *Writing the Book of the World*, Oxford, Oxford Univ. Press, 2011; Chalmers’s *Constructing the World*, Oxford, Oxford Univ. Press, 2012; and Williamson’s *Modal Logic as Metaphysics*, Oxford, Oxford Univ. Press, 2013.

⁴⁹ See, e.g., W.V.O. Quine, ‘Epistemology Naturalized’, in W.V.O. Quine, *Ontological Relativity and Other Essays*, New York, Columbia Univ. Press, 1969, pp. 69-90; W. Sellars, *Science, Perception, and Reality*,

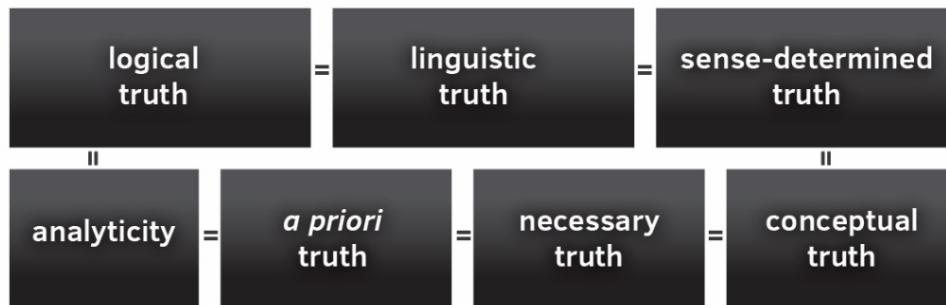
More precisely, scientific naturalism includes four basic theses: (i) *anti-mentalism and anti-supernaturalism*, which says that we should reject any sort of explanatory appeal to non-physical or non-spatiotemporal entities or causal powers, (ii) *scientism*,⁵⁰ which says that the exact sciences are the paradigms of reasoning and rationality, as regards their content and their methodology alike, (iii) *materialist or physicalist metaphysics*, which says that all facts in the world, including all mental facts and social facts, are either reducible to (whether identical to or “logically supervenient” on), or else strictly dependent on, according to natural laws (aka “naturally supervenient” or “nomologically supervenient” on) *fundamental physical facts*, which in turn are *naturally mechanistic, microphysical facts*, and (iv) *radical empiricist epistemology*, which says that all knowledge and truths are a posteriori. The direct implication of the conjunction of these four theses is that everything which does not fit the scientific image can be safely regarded as epiphenomenal, folkloristic, quaint, superstitious, a matter of taste, or else downright naïve. So, to summarize, scientific naturalism holds **first**, that the nature of knowledge and reality are ultimately disclosed by pure mathematics, fundamental physics, and whatever other reducible natural sciences there actually are or may turn out to be, **second**, that this is the *only* way of disclosing the ultimate nature of knowledge and reality, and **third**, that even if everything in the world, including ourselves and all things human (including language, mind, and action), cannot be strictly eliminated in favor of or reduced to fundamental physical facts, nevertheless everything in the world, including ourselves and all things human, is metaphysically grounded on and causally determined by fundamental physical facts. So scientific naturalism is committed to providing the Vienna Circle’s value-neutral set of formulae, expressing the underlying structure of the natural universe, just as architectural high modernism promised to provide a value-neutral set of design principles that express the ultimate order of the human universe.

Generalizing now, the central topics, or obsessions, of the classical Analytic tradition prior to 1950 were *meaning* and *necessity*, with special emphases on (i) pure

London, Routledge & Kegan Paul, 1963; J. Knobe and S. Nichols (eds.), *Experimental Philosophy*, Oxford, Oxford Univ. Press, 2008; and P. Maddy, *Second Philosophy: A Naturalistic Method*, Oxford, Oxford Univ. Press, 2007.

⁵⁰ See also Hanna, ‘The End of Mechanism: Kant, Science, and Humanity’; and Haack, *Science and its Discontents*.

logic as the universal and necessary essence of thought, (ii) language as the basic means of expressing thoughts and describing the world, (iii) the sense (*Sinn*) vs. reference, aka Meaning (*Bedeutung*) distinction, (iv) the conceptual truth vs. factual truth distinction, (v) the necessary truth vs. contingent truth distinction, (vi) the a priori truth vs. a posteriori truth distinction, and (vii) the analytic vs. synthetic distinction. A common and profoundly embedded thread running through all of these sub-themes is the following rough-and-ready multiple identity (or at least necessary equivalence):



So, a very useful way of characterizing classical Analytic philosophy from late 19th century Frege to mid-20th-century Quine, is to say that it consisted essentially in *the rise and fall of the concept of analyticity*. By vivid contrast to *classical* Analytic philosophy, however, the central commitment, and indeed dogmatic obsession, of *post-classical* Analytic philosophy since 1950 until today at 6am, continues to be scientific naturalism, centered on the dual doctrines of logically-driven mathematization and natural mechanism.

3.3 *The Two Images Problem and its Consequences*

In his 1951 book, *The Rise of Scientific Philosophy*—which, significantly, appeared in the same year that Quine published “Two Dogmas”—the logical empiricist/positivist and former Vienna Circle insider, Hans Reichenbach, sketched an influential and widely accepted history of the progress of modern philosophy that culminates with Analytic philosophy and merges it ineluctably with the progress of the logic and the exact sciences.⁵¹ Reichenbach’s basic idea is that philosophy is legitimate only and precisely to the extent that (i) it is analysis,

⁵¹ See H. Reichenbach, *The Rise of Scientific Philosophy*, Berkeley CA, Univ. of California Press, 1951.

and (ii) it works on all and only foundational problems and conceptual puzzles arising from logic and the exact sciences. This is an exceptionally important metaphilosophical thesis, not only because it resuscitates Locke's seventeenth-century conception of philosophy as merely an underlaborer for the leading sciences of the Scientific Revolution, but also, and indeed primarily because, its unabashed scientism is the engine that has driven post-classical Analytic philosophy from the second half of the 20th century now through the second decade of the 21st century.

Correspondingly, it is plausibly arguable, and has indeed been compellingly argued by, e.g., Hilary Putnam and John McDowell,⁵² that the basic problem of post-classical Analytic philosophy and phenomenology after 1950 alike—and perhaps also *the* fundamental problem of modern philosophy—is how it is possible to reconcile two sharply different, seemingly incommensurable, and apparently even mutually exclusive global metaphysical conceptions, or world-pictures, of rational human animals and nature. On the one hand, there is the objective, non-phenomenal, perspectiveless, mechanistic, value-neutral, impersonal, and amoral metaphysical picture of the world delivered by logic, pure mathematics, and the fundamental natural sciences—the very ideal that animated the Vienna Circle. And on the other hand, there is the subjective, phenomenal, perspectival, teleological, value-laden, person-oriented, and moral metaphysical picture of the world yielded by the conscious experience of rational human beings. In 1963, Sellars aptly and evocatively dubbed these two sharply opposed world-conceptions “the scientific image” and “the manifest image.”⁵³ Correspondingly, we will call the profound difficulty raised by their mutual incommensurability and inconsistency *The Two Images Problem*.

In turn, scientific naturalism promised a possible complete solution to The Two Images Problem, by holding, according to Sellars's famous formulation, that

[i]n the dimension of describing and explaining the world, science is the measure

⁵² See, e.g., H. Putnam, *Realism with a Human Face*, Cambridge, MA, Harvard Univ. Press, 1990; H. Putnam, *Words and Life*, Cambridge, MA, Harvard Univ. Press, 1994; J. McDowell, *Mind and World*, Cambridge MA, Harvard Univ. Press, 1994; and H. Putnam, *The Threefold Cord: Mind, Body, and World*, New York, Columbia University Press, 1999.

⁵³ See, e.g., W. Sellars, ‘Philosophy and the Scientific Image of Man’, in Sellars, *Science, Perception, and Reality*, pp. 1-40.

of all things, of what is that it is, and of what is not that it is not.⁵⁴

Here, Sellars's term-of-art "science" clearly refers to *the exact sciences*, including mathematics, physics, astronomy, and chemistry, whereas, strictly speaking, logic is one of *the formal sciences*. Above all, it is clear that the appeal to the exact sciences includes natural mechanism, and also that the predictive precision of the exact sciences is taken as incontrovertible evidence of their reliability and truth, thereby strongly reinforcing the scientific mindset. Correspondingly, according to the standard construal of *scientific theory-reduction*, both astronomy and chemistry have a fully mathematically describable and microphysical basis in fundamental physical entities, properties, facts, and processes, and therefore they are both fully grounded in a fundamental, naturally mechanistic physics.

Nevertheless, it is critically essential, and indeed also both morally and mortally essential, to recognize that if scientific naturalism *were* true, then not only would (i) philosophy as a form of inquiry, as a practice, and as a social institution, be superseded by the exact sciences, which directly entails *the death-by-redundancy* of philosophy itself,⁵⁵ but also, (ii) because our consciousness, intentionality, free agency, normative principles, truth, ideals-&-values, etc., are all either (iia) mere eliminable myths, or (iib) fully reducible to fundamentally physical facts, or, at the very least, (iic) strictly dependent on fundamentally physical facts and thus *epiphenomenal*, with no causal powers of their own, then it follows that (iii) we are nothing but biological machines with a built-in strong tendency to deceive ourselves by falsely believing in the irreducible and causally efficacious nature of our own consciousness, intentionality, free agency, normative principles, truth, ideals-&-values, etc. Hence (iv) by the same token, then we would be *just as likely to be self-deceived about the truth of scientific naturalism itself, as not*, so it follows that we are *not* rationally justified in believing it, all of which directly entails (v) the *death-by-self-stultification* of post-classical Analytic philosophy itself.

Therefore, at the foundational level, since 1950 and especially over the last forty years, *the Analytic tradition has been living on borrowed time and running on fumes*, powered only by the combined inertia of its self-stultifying yet hegemonic

⁵⁴ W. Sellars, 'Empiricism and the Philosophy of Mind', in Sellars, *Science, Perception, and Reality*, pp. 127-196, at p. 173.

⁵⁵ See also N. Mabaquiao, 'The Death of Philosophy Through the Naturalization of the Mind', available online at https://www.academia.edu/21801066/The_Death_of_Philosophy_Through_the_Naturalization_of_the_Mind.

philosophical ideology and its social-institutional domination: a philosophical *behemoth on wheels* that is built, like Hobbes's Leviathan—the early modern liberal State—solely and wholly out of the compliant, contract-bound, “captive minds” of post-classical Analytic philosophers and other professional philosophers,⁵⁶ spiralling down into the ash-heap of history.

Spinning off this trajectory, by way of an instructive epicycle in the larger downward spiral of post-classical Analytic philosophy, a group of post-classical Analytic philosophers home-based at the universities of Pittsburgh, Chicago, and Leipzig,⁵⁷ using the *non-scientistic* and *neo-Kantian* elements of Sellars's work as a springboard, and hoping to avoid the crash-and-burn fate of the Analytic tradition, have full-circled back to British neo-Hegelianism and created a contemporary hybrid, *Analytic neo-Hegelianism*. But Analytic neo-Hegelianism is much too little, much too late. For it suffers from essentially the same basic metaphysical, cognitive-semantic, epistemological, and political flaws as classical German *absolute idealism*, critically identified and compellingly formulated in the 19th century by classical neo-Kantians,⁵⁸ and then again at the turn of the 20th century by Moore, Russell, and other Young Turks of early classical Analytic philosophy.⁵⁹ So at the end of the day, Analytic neo-Hegelianism is only a

⁵⁶ The allusion is to Czeslaw Milosz's classic study of mind-control and mental slavery in post-World War II, mid-20th century social institutions, *The Captive Mind*, trans. J. Bielonsky, New York, Vintage, 1955. For an extension of essentially the same line of critical thinking to the contemporary professional academy in general, see J. Schmidt, *Disciplined Minds*, Lanham MD, Rowman & Littlefield, 2000. And for a much-elaborated application of it to mainstream contemporary professional academic philosophy in particular, see *Against Professional Philosophy*, 2013-2020, available online at URL = <<https://againstprofphil.org/>>.

⁵⁷ The leading figures in the Pittsburgh-Chicago-Leipzig Analytic neo-Hegelian school include Nicholas Rescher, John McDowell, John Haugeland, Graham Priest, Robert Brandom, Robert Pippin, Irad Kimhi, and Sebastian Rödl.

⁵⁸ See, e.g., K. Köhnke, *The Rise of Neo-Kantianism: German Academic Philosophy between Idealism and Positivism*, trans. R.J. Hollingdale, Cambridge, Cambridge Univ. Press, 1991; and F. Beiser, *The Genesis of Neo-Kantianism 1796-1880*, Oxford, Oxford Univ. Press, 2014.

⁵⁹ Although the critical objections of the classical neo-Kantians and the early classical Analytic philosophers are substantially cogent, it must also be acknowledged that the absolute idealist tradition has made some defensible and enduring contributions to the philosophy of history, nature, and society. This is especially true of Schelling and Hegel: See, e.g., A. Gare, 'From Kant to Schelling to Process Metaphysics: On the Way to Ecological Civilization', *Cosmos and History*, 7, 2011, pp. 26-69; and A. Gare, 'Consciousness, Mind and Spirit', *Cosmos and History*, 15, 2019, pp. 236-264.

technically-adept *sons et lumières* show vainly imitating The Owl of Minerva, as the light inevitably dies and darkness falls on post-classical Analytic philosophy.⁶⁰

3.4 *Modernism and Countercurrents in the Arts and Design*

At the same time, high modernism triumphed in the applied and fine arts. This version of high modernism took its cues from the modernist movement that had taken shape during the pre-war years. Notably its purist, austere esthetic and its focus on pure composition proved to be lasting influences in the arts. Not surprisingly, extreme reduction plays an important role in the arts during the 1950s-1970s, recapitulating and renewing a central trend in the earlier works of the *Bauhaus*, *De Stijl*, and the Russian Suprematists. This recapitulated-and-renewed trend, in turn, led naturally to the establishment of *artistic conceptualism*: the idea, in a nutshell, is that the artist exhibits a concept or idea in the most direct and “pure” way possible. The minimalist works of Donald Judd, Sol LeWitt, Richard Serra, and Richard Long fall squarely within this tradition, but equally so the varieties of abstract painting practiced by Jackson Pollock and many others during in this period. In keeping with the modernist emphasis on method, the artist-at-work or “in action” became a recurrent artistic theme as well. Performances of artists like Carl Andre, Rosemary Castoro, Joseph Beuys, and William Kentridge already point forward to the importance that the notion of “procedures” would acquire in postmodern art. At the same time, a cultural countercurrent against the artistic tendencies of modernist culture was already taking root, with Pop Art works like Andy Warhol’s Brillo boxes and David Hockney’s collage paintings.

The scientific mindset also permeated the creative culture of architecture and design. So-called “process models” of design activity were developed by Allen Newell, Herbert Simon, Charles Eastman, Horst Rittel, and Melvin Webber.⁶¹

⁶⁰ See, e.g., R. Hanna, ‘On Irad Kimhi’s *Thinking and Being*, Or, It’s The End Of Analytic Philosophy As We Know It (And I Feel Fine)’, *Critique*, 2018, available online at URL =

<<https://virtualcritique.wordpress.com/2018/12/18/on-irad-kimhis-thinking-and-being-or-its-the-end-of-analytic-philosophy-as-we-know-it-and-i-feel-fine/>>; and R. Hanna, ‘On Sebastian Rödl’s *Self-Consciousness and Objectivity*, Or, The Refutation of Absolute Idealism’ *Critique*, 2020, available online at URL = <<https://virtualcritique.wordpress.com/2020/04/15/on-sebastian-rodls-self-consciousness-and-objectivity-or-the-refutation-of-absolute-idealism/#more-6319>>.

⁶¹ See, e.g., M. Asimow, *Introduction to Design*, Englewood Cliffs NJ, Prentice Hall, 1962; C. Eastman, *Explorations of the Cognitive Processes in Design*, Pittsburgh PA, Carnegie Mellon University, 1968; C. Eastman, ‘Cognitive Processes and Ill-Structured Problems: A Case Study from Design’,

The core tenet of complete and neat decompositionality did not hold for creative processes, so this generation of theorists postulated the existence of another class of problems for which different decision strategies were needed—namely, the so-called “wicked problems.” The terminology itself is revealing, for such problems are “wicked” from the scientific-decision-theoretic viewpoint *only*, which is to say that the problematic facts do not neatly conform to the solutions offered by the contemporary sciences. In any case, this research program took place fully under the auspices of the exact sciences, with the explicit goal of mathematizing and modelling behavior. And although the serious limitations of these mathematical models were clearly visible to anyone with eyes to see, this was not recognized by those committed to the research program and its excellent funding, thereby highlighting once again the pervasive influence of the scientific mindset, in close conjunction with the military-industrial-university-digital complex.

While modernism as an architectural approach reached its peak with the influence of CIAM (*Congrès Internationaux d'Architecture Moderne*) and the development of the International Style, other voices also began to criticize its monotony and claim to universality, as well as the chasm between the imagined modernist utopias and everyday life. Jane Jacobs's 1961 book *The Life and Death of the American City* was a classic in this respect, as were Lewis Mumford's 1948 essay *Prefabricated Blight*, Elizabeth Gordon's 1953 editorial “The Threat to the Next America,” and Peter Blake's 1964 *God's Own Junkyard*. Apart from these influential works, a new generation of architects started to question the premises of the modernist project. Some of these writers were sympathetic to modernism, while others rejected its core claims. Matthew Nowicki's 1951 *Origins and Trends in Modern Architecture*, and Bruno Zevi's pleas for an organic architecture, as well as the radical proposals of Archigram, all attempted to open up the narrow agenda of

in D. Walker and L. Norton, (eds.), *Proceedings of the International Joint Conference on Artificial Intelligence*, Washington DC, 1969; A. Newell, *Heuristic Programming: Ill-Structured Programming*, Pittsburgh, PA, Carnegie Mellon Univ., 1967; A. Newell, ‘Reasoning, Problem Solving, and Decision processes: The Problem Space as a Fundamental Category’, *Research Showcase @CMU*, Pittsburgh PA, Carnegie Mellon University, 1979; H. Rittel and M. Webber, ‘Dilemmas in a General Theory of Planning’, *Policy Sciences*, 4, 1973, pp. 155–169; H. Rittel, *The Reasoning of Designers. Arbeitspapier zum International Congress on Planning and Design Theory Boston, 1987. Schriftenreihe des Instituts für Grundlagen der Planung*, Stuttgart, Univ. Stuttgart, 1988; H. Simon and A. Newell, *Human Problem Solving: The State of the Theory in 1970 in Human Problem Solving*, Englewood Cliffs NJ, Prentice-Hall, 1972; H. Simon, ‘The Structure of Ill-Structured Problems’, *Artificial Intelligence*, 4, 1973, pp. 181–201; and H. Simon, *The Sciences of the Artificial*, Cambridge MA, MIT Press, 1969.

architectural modernism in the 1950s to 1970s. The most radical change of direction was perhaps initiated by the trio consisting of Robert Venturi, Denise Scott-Brown, and Steven Izenour, who published their 1972 book on the potentials of vernacular, everyday architecture, titled *Learning from Las Vegas*. All in all, this work epitomized and expressed a simmering cultural sentiment: the tensions of a universal, rationalist modernity were untenable, and a new road forward had to be found.

4. THE PHILOSOPHICAL GREAT DIVIDE, POST-MODERNIST CULTURAL NIHILISM, AND OTHER APOCALYPTIC DEVELOPMENTS: 1980-2020

4.1 *The Rise of Po-Mo Philosophy*

By the early 1980s, the philosophical Great Divide between post-classical Analytic philosophy and Continental philosophy was fully in place; and Richard Rorty and others more or less systematically fused post-structuralism, deconstructionism, and what was left of Deweyan pragmatism,⁶² into philosophical *post-modernism*,⁶³ aka Po-Mo, which also began to dominate in the applied and fine arts, and in Comparative Literature and Humanities Departments at colleges and universities worldwide, by vigorously rejecting and replacing modernism in all its forms, but especially high modernism. Po-Mo also gradually fused with what was left of 1970s New Left and emerging identity politics in the USA, creating, inside the American professional academy, the social-institutional powerhouse of *multiculturalism* by the mid-90s,⁶⁴ then becoming a *juggernaut* by the turn of the millennium, and finally a *hegemonic ideology* in the Marxian sense by the end of first two decades of the 21st century.⁶⁵ By 1950, existential phenomenology had been discredited by Heidegger's association with

⁶² See Rorty, *Consequences of Pragmatism*; see also R. Hanna, 'Review of R. Rorty, *The Consequences of Pragmatism*', *Review of Metaphysics* 37 (1983): 140-143, also available online at URL = <https://www.academia.edu/19021980/Rorty_and_Me_in_1983>.

⁶³ See, e.g., R. Rorty, 'Postmodernist Bourgeois Liberalism', *Journal of Philosophy*, 80, 1983, pp. 583-589.

⁶⁴ R. Rorty, 'The Unpatriotic Academy', *The New York Times*, 13 February 1994, available online at URL = <<https://www.nytimes.com/1994/02/13/opinion/the-unpatriotic-academy.html>>.

⁶⁵ See, e.g., D. Mann, 'The New Inquisitors', *Against Professional Philosophy*, 4 March 2019, available online at URL = <<https://againstprofphil.org/2019/03/04/the-new-inquisitors/>>.

the Nazis,⁶⁶ together with Sartre's and Merleau-Ponty's association with Marxism; and during the early Cold War and McCarthy era from the early 1950s into the early 60s, the professional academy was gradually purged of any remaining Continental philosophers who might have been brave enough to challenge the hegemony of the post-classical Analytic mainstream.⁶⁷ So by the 1980s—mainly in order to hold onto their comfortable tenured jobs, upper middle-class lifestyles, and professional academic social-status—like tragically unfortunate slaves who have “internalized the oppressor,” the remaining Continental philosophers inside the professional academy gave up their trouble-making ways, gradually outsourced leftist Existentialism to writers, artists, and literary critics outside the professional academy, replacing their erstwhile Marxism or anarcho-socialism with a politically harmless “life-style” radicalism in the post-1968 French academic mode, while also jumping on the French-driven theoretical bandwagons of post-structuralism, deconstructionism, and Po-Mo.

In 1996, all these bandwagons ran headlong into *The Sokal Hoax*. Alan Sokal, a physics professor at NYU, submitted a deliberately nonsensical article to the cultural studies journal *Social Text*, which was then accepted and duly published. The article “argued” that quantum gravity was a linguistic and social construct. Three weeks later, Sokal revealed that the article was a hoax, and that the entire setup was to test the intellectual integrity and rigor of the emerging postmodernist elite.⁶⁸ Professional academic Continental philosophers were, thereby, publicly shamed and scandalized by The Hoax. An anticipation of this public shaming and scandalizing had already been delivered in the 1970s and 80s by the post-classical Analytic philosopher John Searle, via his extended vituperative debate with Jacques Derrida in the pages of various journals and books.

Leaving aside its, at times, risibly impenetrable jargon and rhetoric, however, in a deeper sense and indeed *fundamentally*, Po-Mo is alienating, anti-rationalistic, and culturally nihilistic.⁶⁹ Its program can best be described as “diversified modernism,”⁷⁰ or alternatively as “a philosophy of suspicion.” Just as humanity

⁶⁶ See, e.g., H. Sluga, *Heidegger's Crisis: Philosophy and Politics in Nazi Germany*, Cambridge MA, Harvard Univ. Press, 1993.

⁶⁷ See, e.g., McCumber, *Time in the Ditch*; and McCumber, *The Philosophy Scare*, chs. 5-6.

⁶⁸ Wikipedia, ‘The Sokal Affair’ (2020), available online at URL = https://en.wikipedia.org/wiki/Sokal_affair.

⁶⁹ See Paans, ‘Postmodernity and the Politics of Fragmentation’.

⁷⁰ See C. Jencks, ‘What then is Post-Modernism?’, in C. Jencks (ed.), *The Post-Modern Reader*, Hoboken NJ: John Wiley and Sons, 2010, pp. 14–37.

was not the center of the universe after Galileo's discovery, and just as Darwin had dethroned the human species from the top of the animal hierarchy, so too Freud had argued that hidden, unconscious drives steer and direct the supposedly rational human being, and so too Nietzsche had declared a war on a universal, God-guaranteed morality. Po-Mo's final steps in dismantling the modernist world-picture were intended to stress that all grand societal visions are nothing more than grand narratives or *grand récits* (Lyotard), that meaning is endlessly postponed in the play of signs (Derrida), or that reality is inaccessible and merely a hyperreality (Baudrillard). Or, alternatively, by demonstrating that every social institution is nothing but an instrument for coercively forming individuals according to covert, oppressive, preconceived ideals (Foucault).⁷¹

As a consequence of The Sokal Hoax together with the fundamental alienation/anti-rationalism/cultural nihilism of Po-Mo itself, from the turn of the new millennium forwards, in another twist of "internalizing the oppressor," leading Continental philosophers *began to compete with, and mirror, Analytic metaphysics and scientific naturalism* by developing doctrines such as Alain Badiou's mathematics-driven metaphysics, Ray Brassier's and Quentin Meillassoux's versions of "Speculative Realism," "Trans-Humanism," and "NeuroHumanities."⁷² Nevertheless, on the side of their oppressors and social-institutional slave masters, from the mid-90s and especially since the mid-00s,

⁷¹ The key works in which these ideas are developed are: J.F. Lyotard's *The Postmodern Condition: A Report on Knowledge*, Minneapolis MN, Univ. of Minnesota Press, 1984; J. Derrida's *Writing and Difference*, London, Routledge, 2001; J. Derrida's *Of Grammatology*, Baltimore MD, The Johns Hopkins Univ. Press, 1998; J. Baudrillard's *Simulacra and Simulation*, trans. S.F. Glaser, Ann Arbor MI, Univ. of Michigan Press, 1994; J. Baudrillard's *The Gulf War Did Not Take Place*, trans. P. Patton, Bloomington IN, Indiana Univ. Press, 1991; M. Foucault's *Madness and Civilization*, trans. R. Howard, London, Routledge, 2001; M. Foucault's *The Order of Things: An Archaeology of the Human Sciences*, London, Routledge, 2002; M. Foucault's *The Archaeology of Knowledge*, trans. A.M. Sheridan Smith, London, Routledge, 2002; and M. Foucault's *Discipline and Punish: The Birth of the Prison*, trans. A. Sheridan, London, Penguin, 1991.

⁷² See Z, aka R. Hanna, 'How the "Continentalists" Internalized Their Oppressors', *Against Professional Philosophy* (5 June 2016), available online at URL = <<https://againstprofphil.org/2016/06/05/how-the-continentalists-internalized-their-oppressors/>>. Badiou's mathematical ontology is worked out in A. Badiou, *Being and Event*, trans. O. Feltham, London, Bloomsbury, 2013; and A. Badiou, *Logics of Worlds*, trans. A. Toscano, London, Bloomsbury, 2009. Brassier's form of Speculative Realism is worked out in R. Brassier, *Nihil Unbound: Enlightenment and Extinction* Basingstoke, UK, Palgrave Macmillan, 2007. And Quentin Meillassoux's Speculative Realism and his critique of "correlationism" (i.e., roughly speaking, idealism, whether subjective, transcendental, or absolute) are worked out in *After Finitude: An Essay on the Necessity of Contingency*, trans. R. Brassier, London, Routledge, 2008.

post-classical Analytic philosophers have *also* had to share social-institutional power with, and even cede social-institutional power to, the professional academic multiculturalists. The culturally nihilist tendency of Po-Mo-driven multiculturalism came to full fruition in the campus protests during the 2010s, led by students but also supported by many faculty members, who demanded emotional comfort and safety, restrictions of all speech that could potentially be offensive to their cultural sensibilities, and the radical diversification of the philosophical canon.⁷³ Whatever the specific issue involved, the basic idea was to assert the newly-acquired coercive social-institutional power and extended rights of group members adhering to a multiculturalist, post-1968 view of society, politics, and the world in general.

4.2 Po-Mo Architecture: Unconstrained Hybridity

Following the all-out rejection of (high) modernism by Po-Mo, architecture as an academic discipline and as a practice developed an array of responses aimed at overcoming, questioning or undermining the perceived modernist hegemony. One strategy was the usage of collage techniques: the city was not the result of one homogenizing grid or *grand récit*—on the contrary, it was the result of multiple developments that dynamically influenced each other.⁷⁴ However, the organic city as a *result* of such developments, and the *artistic technique* of collage and juxtaposition were often confounded. This confusion easily led to an architectural style that was “historicizing,” mimicking the traditional, organically grown character of inner cities in new settings. This move was combined with a vigorous rejection of modernist austerity, embracing ornament, kitsch and a juxtaposition of architectural styles. What had worked in Las Vegas was not always an architectural success elsewhere, however.

Another response to (high) modernism was to embrace a globalized brave new world in which “anything goes.” Architectural deconstruction was focused on “opening the white modernist boxes,” often resulting in arresting images of building that showcased an unreserved dynamism, e.g., the works of COOP

⁷³ See, e.g., G. Lukianoff and J. Haidt, ‘The Coddling of the American Mind’, *The Atlantic*, September 2015, available online at URL = <<https://www.theatlantic.com/magazine/archive/2015/09/the-coddling-of-the-american-mind/399356/>>.

⁷⁴ C. Alexander, *Notes on the Synthesis of Form*, Cambridge MA, Harvard Univ. Press, 1964; and C. Rowe and F. Koetter, *Collage City*, Cambridge MA, MIT Press, 1984.

Himmelb(l)au or Peter Eisenmann. Alternatively, and closely resembling the dismantling and prying suspicion that marks Po-Mo, Centre Pompidou by Renzo Piano and Richard Rogers turned the idea of a building inside-out: its hidden parts were made visible, in an attempt at “deconstructing” the modernist way of building, yet retaining all of its functional premises.⁷⁵

And yet another response—often inspired by superficial readings of the work of Gilles Deleuze—was to embrace emerging digital technologies, whose applications produced enormous curvaceous, fluid volumes that were hitherto impossible or extremely costly to build, epitomized by the works of Frank Gehry, Zaha Hadid, and UNStudio. The embrace of *hybridity* (or a plethora of sources) was not in itself problematic, but had the unfortunate effect that architecture became an easy victim of “city marketing” on the one hand, and the willing accomplice in the generation of “junkspace” – the unmemorable residue of a clamorous architectural taste – on the other.⁷⁶ In this category, the works of OMA, MVRDV, or BIG come to mind. In a globalized and visually oriented world, *only the strongest image survives*, leading to an architecture that wholeheartedly embraces Koolhaas’s ultimately cynical slogan “¥€\$.”

4.3 Other Apocalyptic Developments: Crises in Physics and Big Science, and The One-Two Punch

During the same period, from 1980 to 2020, there has been a *crisis in physics* with increasingly arcane mathematically-driven theories, together with hugely expensive and hugely funded equipment, including super-colliders, etc., that produce no solutions to outstanding problems that were articulated eighty years ago, and few if any empirical results.⁷⁷ Indeed, it is arguable that the “crisis in physics” is in fact Kuhnian and paradigm-shattering, because even our best contemporary physics, the Standard Models of cosmology and particle physics, are *inherently incomplete*, in a sense precisely analogous to the Gödel-incompleteness of Peano arithmetic together with *Principia Mathematica*-style mathematical logic.⁷⁸

⁷⁵ Not coincidentally, Oscar Niemeyer and Philip Johnson, two leading representatives of architectural high modernism, were on the jury for the design competition.

⁷⁶ R. Koolhaas, ‘Junkspace’, *October* 100, 2002, pp. 175-190, available online at URL = https://www.johnstuartarchitecture.com/Spring_Video_Readings_files/Koolhaas%20Junkspace.pdf.

⁷⁷ See, e.g., S. Hossenfelder, *Lost in Math: How Beauty Leads Physics Astray*, New York, Basic Books, 2018.

⁷⁸ See, e.g., R. Hanna, ‘The Incompleteness of Physics’ (September 2020 version), available online at URL =

This crisis in physics, moreover, was and continues to be embedded within a more general and seemingly permanent *crisis of Big Science*, whereby research and so-called “knowledge-production” in the formal and natural sciences are essentially constrained and driven by the imperatives of the military-industrial-university-digital complex.⁷⁹

Far more alarmingly, since the turn of the millennium, there has also been a world-wide resurgence of virulent nationalism and fascism, alongside the growing influence of the military-industrial-university-digital complex and its hegemonic neoliberal ideology, as well as its greatly enhanced surveillance capacity. As direct consequences of the overpowering force of these developments during the era of “the Anthropocene”—i.e., the specifically humanity-determined era of global ecology—there have been two highly unfortunate general sociocultural and political trends, acting and interacting together like an apocalyptic *one-two* punch.

On the one hand, there is what Scott, in *Seeing Like a State*, has called “the logic behind the failures of some of the great utopian social engineering schemes of the twentieth century”:

I aim [in *Seeing Like a State*] to provide a convincing account of the logic behind the failure of some of the great utopian social engineering schemes of the twentieth century.

I shall argue that the most tragic episodes of state-initiated social engineering originate in a pernicious combination of four elements. All four are necessary for a full-fledged disaster. The first element is the administrative ordering of nature and society—the transformative state simplifications described above [which Scott calls “state maps of legibility;” according to which state “officials took exceptionally complex, illegible, and local social practices, such as land tenure customs or naming customs, and created a standard grid whereby it could be centrally recorded and monitored.”] By themselves, they are the unremarkable tools of modern statecraft; they are as vital to the maintenance of our welfare and freedom as they are to the designs of a would-be modern despot....

The second element is what I call a high-modernist ideology. It is best conceived

<https://www.academia.edu/44019662/The_Incompleteness_of_Physics_September_2020_version>; K. Gödel, ‘On Formally Undecidable Propositions of Principia Mathematica and Related Systems’, in J. Van Heijenoort (ed.), *From Frege to Gödel*, Cambridge MA, Harvard Univ. Press, 1967, pp. 596-617; and Boolos and Jeffrey, *Computability and Logic*.

⁷⁹ See, e.g., S. Turner and D. Chubin, ‘The Changing Temptations of Science’, *Issues in Science and Technology*, Spring 2020, pp. 40-46.

as a strong, one might even say muscle-bound, version of the self-confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature), and, above all, the rational design of social order commensurate with the scientific understanding of natural laws.

Only when these two elements are joined to a third does the combination become potentially lethal. The third element is an authoritarian state that is willing to use the fully weight of its coercive power to bring these high-modernist ideas into being.

A fourth element is closely linked to the third: a prostrate civil society that lacks the capacity to resist these plans.

In sum, the legibility of a society provides the capacity for large-scale social engineering, high modernist ideology provides the desire, the authoritarian state provides the determination to act on that desire, and an incapacitated civil society provides the leveled social terrain on which to build.⁸⁰

Therefore, during the 20th century, four developments collided and then fused with a sinister synergy: **first**, the emergence of administrative and monitoring measures to direct transactions like land tenure, naming customs or tax collection; **second**, a steadfast belief in human progress through the application of scientific and technological measures as well as the mastery over nature; **third**, the willingness of authoritarian states to enforce their measures with coercive practices; and **fourth**, a submissive civil society that serves as a substrate on which these measures can be enacted.

And on the other hand, there has been what Arran Gare accurately calls an advancing “crisis” of *civilization itself*, especially including actually and potentially disastrous global climate change and other ecological disasters.⁸¹ During the 1960s and 1970s, the first ecological theorists vigorously warned the larger society about the effects of overpopulation, the exploitation of natural resources, pollution, and ecosystem destruction as the discipline of ecology took shape.⁸² This pessimistic message was imaginatively captured in dystopian films like *Soylent*

⁸⁰ Scott, *Seeing Like a State*, pp. 2-5.

⁸¹ See Gare, *Philosophical Foundations of Ecological Civilization*.

⁸² See, e.g., R. Carson, *Silent Spring*, New York, Houghton Mifflin, 1962; E. Odum and G.W. Barrett, *Fundamentals of Ecology*, Belmont, CA, Thomson/Cole Books, 2005; I. McHarg, *Design with Nature*, London, John Wiley and Sons, 1969/1992; R. Buckminster Fuller, *Utopia or Oblivion*, New York, Overlook Press, 1969; W. McDonough, *The Hannover Principles: Design for Sustainability*, New York, William McDonough Architects, 1992; V. Papanek, *The Green Imperative: Natural Design for the Real World*, New York, Thames and Hudson, 1995. These are just a few leading examples of a literature that has been growing exponentially over the last five decades.

Green and Water World. The notions of *sustainability*, *climate change mitigation*, and *managing urban growth* as policy guidelines in international policies are characteristic of the profound importance of this message, yet the delay with which measures are taken vividly shows that the consequences of climate change and other ecological disasters have been greatly underestimated and/or unrealistically discounted.⁸³

5. THE END OF THE WORLD AND NEW WAVE ORGANICISM: 2020 AND BEYOND

That brings us up to 6am this morning. It might well seem that this time around it is, really and truly, The End of The World, and that the COVID-19 pandemic of 2020, like the Influenza pandemic of 1918-19, is at once a global natural evil and also a global symbol of humanity's moral incompetence and tragic folly. Indeed, here at the end of the second decade of the 21st century, humanity's hardest problems are epitomized by what we will call *The Four Horsemen of the New Apocalypse*:⁸⁴ (i) global corporate *capitalism*, (ii) political *neoliberalism*, especially *neofascist neoliberalism*, (iii) the *digitalization* of world culture via information technology and social media, and (iv) an all-encompassing scientific, technocratic, ecologically-devastating, philosophical conception of non-human nature and human nature alike, *natural mechanism*.

Nevertheless, in a truly dialectical and organicist way, The End can *also* contain the vital seeds of a new beginning.

For if we are correct, then in a direct and spontaneous reaction to the economic, ecological, political, sociocultural, and spiritual depredations and devastations of The New Apocalypse, we are now also in the earliest stages of *the second wave of organicist philosophy*, aka, *new wave organicism*, which will finally bring to completion what the most brilliant and radical philosophy and formal-and-natural science of the early 20th century—*first wave organicism* (see sub-section 2.2 above)—initiated, before fascism, World War II, the Cold War, and The New Apocalypse all so violently intervened. New wave organicism can be briefly defined in six words:

⁸³ See, e.g., K. Levin, B. Cashore, S. Bernstein, and G. Auld, 'Overcoming the Tragedy of Super Wicked Problems: Constraining our Future Selves to Ameliorate Global Climate Change', *Policy Sciences*, 45, 2012, pp. 123–152.

⁸⁴ The Four Horsemen of the Biblical Apocalypse were Conquest, War, Famine, and Death.

Everything flows, grows, reposes, and repurposes.

It is essential to recognize that this definition is *not* merely an updated version of Heraclitus's famous dictum *panta rhei*, "everything flows." Heraclitus is saying that the world is nothing but an undifferentiated "becoming" that never really "is": a river you cannot really step into *even once*, much less twice. On the contrary, according to new wave organicism, "flows" means that everything belongs to a complex system of causally efficacious dynamic, natural processes; "grows" means that everything has a mode of activation, actualization, and kinetic energy; "reposes" means that everything has another mode of relative rest, power-in-reserve, and potential energy; and "repurposes" means that everything also has a further mode of "messy" creativity when it is temporarily dismantling some existing causal mechanism or mechanisms, in order to reconfigure it or them for new causal functions and operations.⁸⁵

So in its appeal not only to the metaphysics of *process*, but also to the metaphysics of causally efficacious *actuality* (aligned with activating immanent form or structure), *potentiality* (aligned with activated-or-able-to-be-activated matter or stuffing), and what Kant called *natural purposes*, especially including living organisms,⁸⁶ new wave organicism is also in fact importantly *neo-Aristotelian* and *contemporary Kantian*. New wave organicism, then, is essentially a neo-Aristotelian and contemporary Kantian continuation of the first wave organicism that briefly appeared between 1900 and 1940 as an alternative to the natural mechanist aberrations of high modernism and scientism.⁸⁷

New wave organicism is a direct rejection of the scientific mindset, that by a diametric contrast consists in a *liberally naturalistic* and *pro-scientific*, but also *anti-mechanistic* and *anti-scientistic* conception of the world, including ourselves.⁸⁸ New wave organicism in the formal and natural sciences can be found, e.g., in new

⁸⁵ For a recent contribution to this debate and a corroboration of our approach, see R.E. Kastner, S. Kauffman, S., and M. Epperson, *Taking Heisenberg's Potentia Seriously*, 2018, available online at URL = <https://arxiv.org/abs/1709.03595>.

⁸⁶ See A. Weber and F. Varela, 'Life After Kant: Natural Purposes and the Autopoietic Foundations of Biological Individuality', *Phenomenology and the Cognitive Sciences*, 1 2002, pp. 97-125.

⁸⁷ For an illuminating description of Romantic organicism and its cultural context, see F. Beiser, *Hegel*, New York, Routledge, 2005, ch. 4.

⁸⁸ See also R. Hanna, 'The Organistic Conception of the World: A Manifesto' (February 2020 version), available online at URL = https://www.academia.edu/41944911/The_Organistic_Conception_of_the_World_A_Manifesto_February_2020_version.

applications of intuitionist mathematics to modeling “time’s arrow,” i.e., its asymmetrically forward flow from the past to the future;⁸⁹ in new work towards the unification of biology and physics;⁹⁰ and by contemporary “processual” approaches to biology.⁹¹

Above all, however, new wave organicism is committed to the metaphysical doctrine of *liberal naturalism*. Liberal naturalism says that the irreducible but also non-dualistic mental properties of rational minded animals are as basic in nature as biological properties, and metaphysically continuous with them. More precisely, according to liberal naturalism, rational human free agency is an immanent structure of essentially embodied conscious, intentional, caring human animal mind; essentially embodied conscious, intentional, caring human animal mind is an immanent structure of organismic life; and organismic life is an immanent structure of spatiotemporally asymmetric, non-equilibrium matter and/or energy flows. Each more complex structure is metaphysically continuous with, and embeds, all of the less complex structures.⁹²

Again, according to new wave organicism and its liberal naturalism, human freedom is dynamically inherent in and dynamically emerges from essentially embodied conscious, intentional, caring human animal mind. And essentially embodied conscious, intentional, caring human animal mind is dynamically inherent in and dynamically emerges from life. Therefore, human freedom is dynamically inherent in and dynamically emerges from life. Moreover, life is dynamically inherent in and dynamically emerges from spatiotemporally

⁸⁹ See, e.g., N. Wolchover, ‘Does Time Really Flow? New Clues Come From a Century-Old Approach to Math’, *Quanta*, 7 April 2020, available online at URL = <<https://www.quantamagazine.org/does-time-really-flow-new-clues-come-from-a-century-old-approach-to-math-20200407/>>.

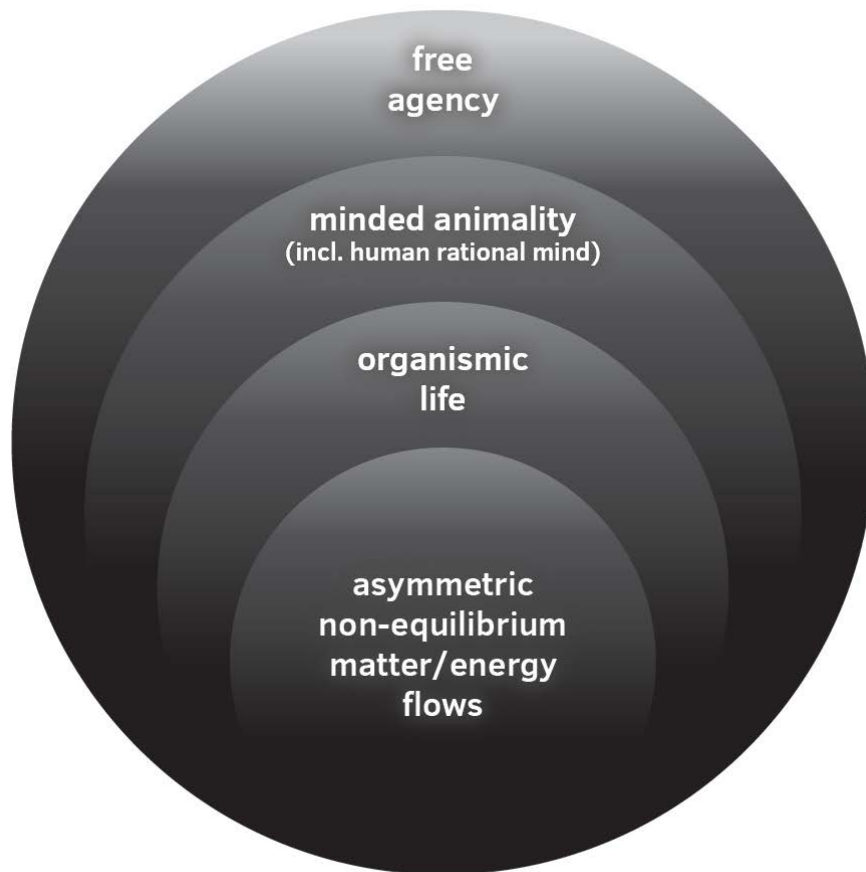
⁹⁰ See, e.g., J. Torday, W.B. Miller Jr, and R. Hanna, ‘Singularity, Life, and Mind: New Wave Organicism’, in J. Torday and W.B. Miller Jr, *The Singularity of Nature*, Cambridge, Royal Society of Chemistry, 2020, ch. 20.

⁹¹ See, e.g., D.J. Nicholson and J. Dupré (eds.), *Everything Flows: Towards a Processual Philosophy of Biology*, Oxford, Oxford Univ. Press, 2018.

⁹² For a detailed development, defense, and elaboration of a new wave organicist/liberal naturalist approach to the metaphysics of the mind-body relation, mental causation, and free agency, see R. Hanna and M. Maiese, *Embodied Minds in Action*, Oxford, Oxford Univ. Press, 2009, also available online in preview at URL = <[https://www.academia.edu/21620839/Embodied Minds in Action](https://www.academia.edu/21620839/Embodied_Minds_in_Action)>; and R. Hanna, *Deep Freedom and Real Persons: A Study in Metaphysics* (THE RATIONAL HUMAN CONDITION, vol. 2), New York, Nova Science, 2018, also available online in preview at URL = <[https://www.academia.edu/35801857/The Rational Human Condition 2 Deep Freedom and Real Persons A Study in Metaphysics Nova Science 2018](https://www.academia.edu/35801857/The_Rational_Human_Condition_2_Deep_Freedom_and_Real_Persons_A_Study_in_Metaphysics_Nova_Science_2018)>.

asymmetric, non-equilibrium matter and/or energy flows. Therefore, human freedom, human mind, and life are all dynamically inherent in and dynamically emerge from spatiotemporally asymmetric, non-equilibrium matter and/or energy flows.

By way of a quick summary, here is a diagram of the basic metaphysical continuities and structural embeddings according to the liberal naturalist conception:



In view of new wave organicism and its liberal naturalism, to borrow an apt phrase from the later Wittgenstein in *Philosophical Investigations*, our rational human free agency is just our own “form of life,” and free agency, as such, naturally grows and evolves in certain minded animal species or life-forms. Correspondingly, freedom naturally grows and evolves in certain species of minded animals,

including the human species, precisely because *minds like ours* naturally grow and evolve in certain species of animals, including the human species.⁹³

Another name for liberal naturalism is “objective idealism.” Objective idealism is sharply distinct both from *subjective idealism*, which says that the world is nothing but a phenomenal mental construction of an individual cognizer (defended in interestingly different ways, e.g., by Berkeley, the neo-Kantians, early Carnap, C.I. Lewis, and Nelson Goodman) and also from *absolute idealism*, which says that the world is nothing but a giant mind, its thought-forms, and its thought-processes (defended in interestingly different ways, e.g., by Fichte, Schelling, and Hegel⁹⁴). As opposed to either subjective idealism or absolute idealism, liberal naturalism, i.e., objective idealism, says that rational human mindedness *naturally grows and evolves* in the manifestly real physical world, in organisms whose lives have an appropriately high level of non-mechanical thermodynamic complexity and self-organization. The manifestly real natural physical world necessarily includes our real possibility and is immanently structured for the dynamic emergence of lives like ours and minds like ours. Or in Thomas Nagel’s apt, crisp formulation: “rational intelligibility is at the root of the natural order.”⁹⁵

By now, it should be self-evidently clear that new wave organicism’s liberal naturalism is directly opposed to the doctrine of natural mechanism. The doctrine of natural mechanism, as we have seen, says that all the causal powers of everything whatsoever in the natural world are ultimately fixed by what can be digitally computed on a universal deterministic or indeterministic real-world Turing machine, provided that the following three plausible “causal orderliness” and “decompositionality” assumptions are all satisfied: (i) its causal powers are necessarily determined by the general deterministic or indeterministic causal

⁹³ For a detailed development, defense, and elaboration of the “mind-in-life” thesis, see E. Thompson, *Mind in Life*, Cambridge MA, Harvard Univ. Press, 2007.

⁹⁴ Leaving aside their absolute idealism, however, there are also some significant organicist themes in Schelling’s and Hegel’s works that provide a philosophical bridge between Kant’s third *Critique* and early 20th century *process metaphysics*, i.e., in our terminology, *first wave organicist philosophy*. See, e.g., Gare, ‘From Kant to Schelling to Process Metaphysics: On the Way to Ecological Civilization’; and Gare, ‘Consciousness, Mind and Spirit’. Indeed, there are many overlaps and similarities between what we are calling “organicism” and what Gare calls “speculative naturalism.” See, e.g., A. Gare, ‘The Case for Speculative Naturalism’, in A. Gare and W. Hudson (eds.), *For a New Naturalism*, Candor NY, Telos Press, 2017, pp. 9-32.

⁹⁵ T. Nagel, *Mind and Cosmos*, Oxford, Oxford Univ. Press, 2012, p. 17.

natural laws, especially including the Conservation Laws, together with all the settled quantity-of-matter-and/or-energy facts about the past, especially including The Big Bang, (ii) the causal powers of the real-world Turing machine are held fixed under our general causal laws of nature, and (iii) the “digits” over which the real-world Turing machine computes constitute a complete denumerable set of spatiotemporally discrete physical objects. In direct opposition to natural mechanism, however, organicist philosophy’s liberal naturalism says that the causal powers of biological life (and in particular, the causal powers of living organisms, including all minded animals, especially including rational human animals) are neither fixed by, identical with, nor otherwise reducible to the Conservation-Law-determined, Big-Bang-caused, real-world-Turing-computable causal powers of thermodynamic systems, whether these causal powers are governed by general deterministic laws or general probabilistic/Statistical laws. So if new wave organicism’s liberal naturalism is true, then anti-mechanism is true and natural mechanism is false.

It is essential to recognize that new wave organicism’s liberal naturalism does *not* postulate any supernatural, extra-spatiotemporal or sub-spatiotemporal, and essentially mysterious, aether-like and/or external divine causal force that somehow creates, designs, and guides the natural universe. On the contrary, new wave organicism’s liberal naturalism is *radically agnostic*,⁹⁶ and also committed to the doctrine of what the early 20th century British process philosopher Samuel Alexander—following the Romantic poet Wordsworth—called *natural piety*. According to Alexander:

I do not mean by natural piety exactly what Wordsworth meant by it—the reverent joy in nature, by which he wished that his days might be bound to each other—though there is enough connection with his interpretation to justify me in using his phrase. The natural piety I am going to speak of is that of the scientific investigator, by which he accepts with loyalty the [phenomena] which he cannot explain in nature and has no right to try to explain. I may describe it as the habit of knowing when to stop in asking questions of nature.

[T]hat organization which is alive is not merely physico-chemical, though

⁹⁶ See, e.g., R. Hanna, *Kant, Agnosticism, and Anarchism: A Theological-Political Treatise* (THE RATIONAL HUMAN CONDITION, vol. 4), New York, Nova Science, 2018, also available online in preview at URL = https://www.academia.edu/36359665/The_Rational_Human_Condition_4_Kant_Agnosticism_and_Anarchism_A_Theological-Political_Treatise_Nova_Science_2018 >.

completely resolvable into such terms, but has the new quality of life. No appeal is needed, so far as I can see, to a vital force or even an *élan vital*. It is enough to note the emergence of the quality, and try to describe what is involved in its conditions.... The living body is also physical and chemical. It surrenders no claim to be considered a part of the physical world. But the new quality of life is neither chemical nor mechanical, but something new.

We may and must observe with care our of what previous conditions these new creations arise. We cannot tell why they should assume these qualities. We can but accept them as we find them, and this acceptance is natural piety.⁹⁷

According to natural piety, *neither* are you alienated from nature (a Cartesian ghost-in-a-machine) *nor* are you a “lord and master” of nature (a Baconian/Cartesian technocrat). To believe both of these at once was Victor Frankenstein’s tragic mistake, repeated endlessly and magnified infinitely in the adoption of deeply misguided epistemic and metaphysical doctrines, combined with the scientific-technocratic ideology of natural mechanism:

Learn from me, if not by my precepts, at least by my example, how dangerous is the acquirement of [naturally mechanistic] knowledge, and how much happier that man is who believes his native town to be the world, than he who aspires to become greater than his nature will allow.⁹⁸

In a closely-related way, new wave organicism and its liberal naturalism fully conform to contemporary physics and in particular to non-equilibrium thermodynamics, under the non-deterministic interpretation of it offered, for example, by Ilya Prigogine, who also wrote this sharp, Shelley-like criticism of natural mechanism:

The attempt to understand nature remains one of the basic objectives of Western thought. It should not, however, be identified with the idea of control. The master who believes he understands his slaves because they obey his orders would be blind. When we turn to physics, our expectations are obviously different, but here as well, Vladimir Nabokov’s conviction rings true: “What can be controlled is never completely real; what is real can never be completely controlled.” The [natural mechanist] classical ideal of science, a world without time, memory, and history, recalls the totalitarian nightmares described by Aldous Huxley, Milan Kundera,

⁹⁷ S. Alexander, ‘Natural Piety’, in S. Alexander, *Philosophical and Literary Pieces*, London: Macmillan, 1939, pp. 299-315, at pp. 299, 310-311, and 306.

⁹⁸ M. Shelley, *Frankenstein; Or, the Modern Prometheus*, 1818 edn., available online at URL = <<http://www.rc.umd.edu/editions/frankenstein>>, vol. 1, ch. 3.

and George Orwell.⁹⁹

Correspondingly, as we have mentioned, new wave organicism and its liberal naturalism fully conform to contemporary attempts to unify physics and biology, and to processual approaches to biology,¹⁰⁰ as well as to processual approaches to chemistry and cognitive neuroscience, insofar as these are all construed in terms of the non-deterministic interpretation of non-equilibrium thermodynamics. In other words, organicist philosophy and its liberal naturalism take natural science seriously *precisely because* they reject natural mechanism. It is the outdated model of *natural mechanism* that can no longer serve as a workable paradigm for scientific activity. To be a new wave organicist philosopher and a liberal naturalist, is to integrate physics and processual approaches to biology—especially including organismic biology and ecosystemic biology—and chemistry, and finally, cognitive neuroscience, in an essentially *anti-mechanistic* manner.

So, we are hereby directly challenging the natural mechanist approach to science: why must all the basic sciences be interpreted in accordance with natural mechanism? After all, Church and Turing show us that logical truth in every system at least as rich as classical first-order polyadic quantified predicate logic with identity, aka “elementary logic,” cannot be determined by Turing-computable algorithms, and therefore cannot be naturally mechanized; and Gödel’s incompleteness theorems show us that every logico-mathematical system at least as rich as Peano arithmetic contains uncomputable, unprovable truths, and that more generally, truth-in-a-mathematical-system cannot be determined by Turing-computable algorithms or by formal proof,¹⁰¹ nor can it be determined internally to that system, and therefore mathematical truth cannot be naturally mechanized. Yet no one regards *elementary logic* and *Peano arithmetic* as less than seriously scientific. If *formal* piety about logic and mathematics is intelligible and defensible, as it surely is, then by the same token, so too is *natural* piety about physics, biology, chemistry, and cognitive neuroscience.

Therefore, if one can be fully serious about logic and mathematics without

⁹⁹ Prigogine, *The End of Certainty*, pp. 153-154, underlining added. A better title for the book would have been *The End of Mechanism*.

¹⁰⁰ See Torday, Miller Jr, and Hanna, ‘Singularity, Life, and Mind: New Wave Organicism’; and Nicholson and Dupré (eds.), *Everything Flows: Towards a Processual Philosophy of Biology*.

¹⁰¹ See Gödel, ‘On Formally Undecidable Propositions of Principia Mathematica and Related Systems’; and Boolos and Jeffrey, *Computability and Logic*.

reducing them to natural mechanist models, then it follows that in order to be fully serious about physics, biology, chemistry, and cognitive neuroscience, then one must do away with the natural mechanist models on which they have hitherto been based, since all of the natural sciences presuppose logic and mathematics. And in particular, if all logico-mathematical systems at least as rich as Peano arithmetic are formally incomplete, *then so are the natural sciences that presuppose them.*

More generally, if the non-deterministic interpretation of non-equilibrium thermodynamics, together with Church's and Turing's discoveries about logic, together with Gödel's incompleteness theorems, are all true, then natural mechanism is false even about *physics itself* and yet we can still be fully serious about logic, mathematics, physics, and the other exact sciences. New wave organicism and its liberal naturalism, together with the doctrines of formal piety and natural piety, clearly collectively meet this theoretical high standard of formal and exact-scientific full seriousness.

For all these reasons, new wave organicism can *also* be the source of a range of new and productive philosophical analogies and metaphors that override and supersede those of natural mechanism, and can guide us cognitively, affectively, and practically into the future. Roughly sixty years before Alan Turing's breakthrough paper in 1936,¹⁰² in 1874, here is how the ultra-Darwinian biologist Thomas Huxley analogized and compared human and other minded animals to natural automata:

The consciousness of brutes would appear to be related to the mechanism of their body simply as a collateral product of its working, and to be completely without any power of modifying that working as the steam-whistle which accompanies the work of a locomotive engine is without influence on its machinery. Their volition, if they have any, is an emotion indicative of physical changes, not a cause of such changes... It is quite true that, to the best of my judgment, the argumentation which applies to brutes holds equally good of men; and, therefore, that all states of consciousness in us, as in them, are immediately caused by molecular changes in the brain substance. It seems to me that in men, as in brutes, there is no proof that any state of consciousness is the cause of change in the motion of the matter of the organism. If these positions are well based, it follows that our mental conditions are simply the symbols in consciousness of the changes which take place automatically in the organism; and that, to take an extreme illustration, the feeling that we call volition is not the cause of a voluntary act, but the symbol of that state of the brain which is the immediate cause of that act. We are conscious automata, endowed

¹⁰² Turing, 'On Computable Numbers, with an Application to the Entscheidungsproblem'.

with free will in the only intelligible sense of that much-abused term—inasmuch as in many respects we are able to do as we like—but nonetheless parts of the great series of causes and effects which, in its unbroken continuity, composes that which is, and has been, and shall be—the sum of existence.¹⁰³

Radically in opposition to Huxley’s naturally mechanistic world-picture, according to new wave organicism, human and other minded animals are *not* nothing but highly complicated locomotive engines, steam whistles, and Turing-machines, belonging to “the great series of causes and effects”: radically on the contrary, we and other minded animals are nothing less than *complex living organisms*, ineluctably and irreducibly embedded in, complementary to, and *in an endlessly delicate homeostatic balance with*, our microphysical, ecological, geophysical, and cosmological environments, whose minds, freedom, and social activities are all and only *forms of life*.

Pictorially now, human and other minded animals, and our world, are all and only as portrayed by Kelly McConnell’s highly evocative 2016 painting, “Evening Organicism”—



¹⁰³ T. Huxley, ‘On the Hypothesis That Animals are Automata, and Its History’, in D. Chalmers (ed.), *Philosophy of Mind: Classical and Contemporary Readings*, New York, Oxford Univ. Press, 2002, pp. 24-30, at pp. 29-30.

By means of an elective affinity with such artwork, the contemporary British philosopher Helen Steward has remarked that

[t]he task [of understanding free will and agency] requires some reflection on the organizational principles of living creatures, for it is only through such reflection ... that we can start to understand where the difference really lies between, on the one hand those things that are true agents, and, on the other, mere machines, entities that nothing will ever be up to, however impressive they may be.... I am exceedingly hopeful that the next few years will see the beginnings of a revolution in our conception of the human person, as philosophical and everyday conceptions of the scientific picture of the world are freed from outdated Newtonian ideas and begin to take more note, both of the complexities of science as it really is and of the undeniable fact of our animal nature.¹⁰⁴

Indeed, along with Steward, we believe that we are at the beginning of a *neo-organicist revolution* in philosophy, the applied and fine arts, the formal and natural sciences, the human sciences, the social sciences and society, politics, and civilization itself, that is fully comparable to Kant's 18th century "Copernican Revolution" in philosophy. Kant's Copernican Revolution says that in order to explain rational human cognition and authentic a priori knowledge, we must hold that necessarily, the manifestly real world structurally conforms to our minds, rather than the converse. The neo-organicist revolution, in turn, says that the real possibility of human consciousness, cognition, caring, rationality, and free agency, and *therefore also the "Copernican" necessary structural conformity of world-to-mind, provided that we actually do exist*, is built essentially into the non-equilibrium thermodynamics of organismic life, and *necessarily underdetermined* by any and all naturally-mechanical processes and facts. Hence the neo-organicist revolution in philosophy, the fine and applied arts, the formal and natural sciences, the human sciences, the social sciences and society, politics, and civilization itself, not only *includes* Kant's Copernican Revolution, but also goes one full revolutionary cycle *beyond* it.

Since the 17th century, philosophical revolutions have happened roughly every one hundred years, and each revolution takes roughly twenty years to unfold: (i) *the late 17th and early 18th century anti-Scholastic Rationalist revolution—Descartes, Spinoza, and Leibniz*, but also including *Newtonian scientific mechanism*, followed by an Empiricist reaction, (ii) *the late 18th and early 19th century anti-Rationalist, anti-Empiricist*

¹⁰⁴ H. Steward, *A Metaphysics for Freedom*, Oxford: Oxford Univ. Press, 2012, pp. 198-199, underlining added.

Kantian Copernican Revolution and absolute idealism—Kant, Fichte, Schelling, and Hegel, followed by an anti-Hegelian reaction, including Kierkegaard and neo-Kantianism, then by Brentano, Husserl, Heidegger, Sartre, Merleau-Ponty and phenomenology (especially existential phenomenology) more generally, (iii) *the late 19th and early 20th century anti-idealist Analytic philosophy revolution—Frege, Russell, Moore, and early Wittgenstein*, followed by Vienna Circle logical empiricism/positivism, then by Quinean and Sellarsian scientific naturalism, alongside the later Wittgenstein’s work and ordinary language philosophy, then by Strawsonian conceptual analysis, direct reference theory and scientific essentialism, and currently, Analytic metaphysics.¹⁰⁵ Now it has been almost exactly one hundred years since the neo-Kantian and British neo-Hegelian traditions went down into the ash-heap of history and were superseded by classical Analytic philosophy, in the late 1920s and 30s. So if the historical pattern persists, then we are actually at the beginning of another philosophical revolution, over the next forty years, and fully into the heart and soul of the 21st century, although it may be difficult to see its precise shape because we do not have the benefit of historical hindsight or an adequate emotional and reflective distance from actual historical processes, and because we are naturally distracted by our own everyday affairs, domestic and international politics, and global crises like the COVID-19 pandemic. But in any case, we can be certain that when post-classical Analytic philosophy goes down into the ash-heap of history, *then its dialectical Other and social-institutional slave, Continental philosophy, will disappear along with it.*

Therefore, if we are correct, then there is still a serious alternative to Eliot’s pathetic whimper at *The End of the World*: namely, new wave organicism in philosophy, the applied and fine arts, the formal and natural sciences, the human sciences, the social sciences and society, and politics, encompassing what Gare and others have called “ecological civilization,”¹⁰⁶ drawing on *the radical enlightenment, Kantian philosophy*, and on the ill-fated first wave of organicism.¹⁰⁷

¹⁰⁵ See, e.g., Hanna, *THE FATE OF ANALYSIS*.

¹⁰⁶ See, e.g., Gare, *Philosophical Foundations of Ecological Civilization*; and Clayton and Schwartz, *What is Ecological Civilization? Crisis, Hope, and the Future of the Planet*.

¹⁰⁷ See, e.g., Hanna, ‘Radical Enlightenment: Existential Kantian Cosmopolitan Anarchism, With a Concluding Quasi-Federalist Postscript’; R. Hanna, ‘The New Conflict of the Faculties: Kant, Radical Enlightenment, The Deeper State, and How to Philosophize During a Pandemic’ (April 2020 version), available online at URL =

Once again, new wave organicism—whether in philosophy, the applied and fine arts, the formal and natural sciences, the human sciences, the social sciences and society, politics, or in radically enlightened, Kant-inspired, ecological civilization—says that everything flows, grows, reposes, and repurposes. According to this comprehensive view of humanity, nature, and the cosmos, then, *the world is endlessly in a dynamic process of beginning, unfolding, resting, and then beginning again.*

6. CONCLUSION

Beyond The End of The World, lies the serious alternative of the new wave organicist revolution. Correspondingly, our radical proposal for a philosophy of the future, bounded in a nutshell, is that this neo-organicism *not only can but most urgently should* provide a new Kuhnian paradigm and a grand synthesis of philosophy, the applied and fine arts, the formal and natural sciences, the human sciences, the social sciences and society, politics, and civilization itself, and arise like a phoenix from the ashes of The New Apocalypse, during the next forty years.

Robert Hanna <bobhannahbobi@gmail.com>

Otto Paans <ocpaans@gmail.com>

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