A GENEALOGY OF THE GOOD ANTHROPOCENE

RUSSIAN ORTHODOXY, INTELLIGENTSIA 'SCIENCE,' AND THE LIMITS OF STORY-TELLING

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ABSTRACT: To understand the emergence of the "good Anthropocene"—a positive spin on the concept—this work begins by exploring historical precedents and forces immediately surrounding the French Revolution. It was then that an array of Christian ideas and narratives about providence, anthropology, and the purpose of human existence were partly secularized by Romantic and Idealist thinkers in accordance with contemporary scholarship. We argue that much of what is said by advocates of the good Anthropocene and much of what is censured by their critics has intellectual origins in that historical moment. We then show how those reconfigurations became part of nineteenth-century Russian Orthodox thought and its intelligentsia counterpart, where it was then furthered by Russian figures including Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky. Finally, we examine the consequences of this second, refracted reconfiguration, which, as a genealogy of anticipation, gave rise to the good Anthropocene concept and is regularly used to defend the good Anthropocene's assumptions about a coming age of human integrity and cosmic healing. As we will see, the problem of the good Anthropocene is not its tendency to draw upon the science of Vernadsky, Fedorov, Tsiolkovsky, or Dobzhansky to explain the Anthropocene. Rather, the problem is that advocates of the good Anthropocene are using a set of grand narratives about history, nature, and consciousness that border on the fantastic and that function *as* religion. They construct myths about evolutionary biology, whereby its highest creation—imagined here to be *homo sapiens*—has attained the cognitive capacity and technological know-how to solve a planetary crisis of its own making. In fact, it appears that these optimistic narratives are more meaningful to advocates of the good Anthropocene than the science around which they are organized. In other words, the problem of the good Anthropocene is not (only) one of science. It is one of story-telling.

KEYWORDS: Good Anthropocene: Noosphere; Russian Cosmism; Universe story; Epic of Evolution; Cosmic Evolution

Advocates of the "good" Anthropocene, or what astrobiologist David Grinspoon has called the "true" or "mature Anthropocene,"[1] have increasingly populated their studies with Slavic names. Such appeals to East European thinkers are usually part of some larger effort to identify precursors to the idea that "humans have learned to handle their immense collective power over the planet and all living and non-living things of Earth responsibly" and that "human creativity and passion" can be harnessed to create "a fair, ethical, sustainable world for everyone."[2] Some of these names are referenced only in passing, such as Theodosius Dobzhansky (1900–75), a geneticist and evolutionary biologist who emigrated to the United States from the Soviet Union in 1927. Dobzhansky is largely remembered in the context of the good Anthropocene as a key figure in introducing Anglophone audiences to the works of Jesuit priest and paleontologist Pierre Teilhard de Chardin, or as an "Orthodox" scientist whose "biology of ultimate concern" helps humans connect with "the divine and the sacred" so that we can become "cosmically conscious."[3] More commonly, it is the names of so-called Russian cosmists, such as Nikolai Fedorov (1829–1903), Konstantin Tsiolkovsky (1857–1935), and especially Vladimir Vernadsky (1863–1945), that find pride of place in genealogies of the good Anthropocene.[4]

Although each of these thinkers is unique, with Fedorov devoting his intellectual efforts to the idea of resurrecting and immortalizing all living matter, Tsiolkovsky developing theories of jet propulsion and aerodynamics that led the

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[1] David Grinspoon *Earth in Human Hands: Shaping Our Planet's Future* (New York: Grand Central Publishing, 2016).

[2] These anonymous quotes were posted on the website Seeds of Good Anthropocene. See https://goodanthropocenes.net/definitions-of-a-good-anthropocene/ (accessed December 27, 2025).

[3] Steve Fuller, Roberto Chiotti, Krists Ernstsons, "Connecting with the Divine and the Sacred, and Becoming Cosmically Conscious," *Star Ark: A Living, Self-Sustaining Spaceship* (New York: Springer, 2016), 383-409, here 385. See also Terrence P. Ehrman, "Ecology: The Science of Interconnection, in Vincent Miller, ed., *The Theological and Ecological Vision of Laudato Si': Everything Is Connected* (New York: Bloomsbury Publishing, 2017), 58.

[4] On the Russian cosmists, which included an array of thinkers from the late imperial and early Soviet periods, see George M. Young, *The Russian Cosmists: The Esoteric Futurism of Nikolai Fedorov and His Followers* (New York: Oxford University Press, 2012). Simakova, "No Man's Space: On Russian Cosmism," *e-flux* no. 74 (June 2016) at http://www.e-flux.com/journal/74/59823/no-man-s-space-on-russian-cosmism/. Since the collapse of the Soviet Union, Russian scholar have canonized cosmism as one of Russia's principal contributions to scientific inquiry, world history, and human thought. See, for example, V. N. Demin and V. P. Seleznev, *K zvezdam bystree sveta: Russkii kosmizm vchera, segodnia, zavtra*, 2nd ed. (Moscow: URSS, 2011); and S. I. Shlekin, *Russkii kosmizm: Problemy irratsional'nogo znaniia, khudozhestvennogo chuvstva i naucho-tekhnicheskogo tvorchestva* (Moscwo: URSS, 2011).

way to space travel, and Vernadsky advancing the practical and theoretical study of geology, they have retroactively become intellectual cornerstones in Anthropocenic thinking.[5] In fact, it is Vernadsky, along with Teilhard and Édouard Le Roy, who is commonly remembered as one of the original theorists of the noösphere. The noösphere, or sphere of mind, posits the idea that Earth development has advanced beyond the ages of inanimate matter (geosphere) and biological life (biosphere) to a new and final age shaped by human thought and action.[6] It would seem from these accounts that the conceptual origins of the good Anthropocene partly reside in the remarkable imaginations and hard work of East European thinkers and scientists born more than a century ago.

This attempt to establish Vernadsky, Fedorov, Tsiolkovsky, Dobzhansky or anyone else as precursors to the Anthropocene is not without its critics. Operating on the assumption that the Anthropocene could not have been raised to a theoretical or conceptual level prior to the development of Earth system science, Australian public intellectual Clive Hamilton and science historian Jacques Grinevald conclude in a widely discussed essay that nineteenth- and early twentieth-century thinkers could not have comprehended, much less "anticipated," a key finding of Anthropocene studies: Earth is presently experiencing a "radical rupture" to its system, a catastrophic event marked not by gradualism, optimism, and inexorability—the hallmarks of Vernadsky, Teilhard, and others—but by "suddenness, severity, duration and irreversibility." What most concerns Hamilton and Grinevald about efforts to establish precursors to the Anthropocene concept is that they "deflate the significance of the proposed new geological epoch." Such deflation makes it appear that the Anthropocene is "largely co-extensive" with the Holocene (the geological epoch

[5] For several examples, see Will Stefen, Jacques Grinevald, Paul Crutzen, and John McNeill, "The Anthropocene: Conceptual and Historical Perspectives," *Philosophical Transactions of the Royal Society* 369 (2011): 842-67; Bertrand Guillaume, "Vernadsky's Philosophical Legacy: A Perspective from the Anthropocene," *The Anthropocene Review* 1, no. 2 (2014): 137-46; Grinspoon *Earth in Human Hands*, 230-36 passim; Fuller, Chiotti, Ernstsons, "Connecting with the Divine and the Sacred," 385. See also the several references to Vernadsky in Andrew Revkin's Dot Earth Blog (ca. 2008–12) at *The New York Times*.

[6] For recent attempts to link Vernadsky's idea of the noösphere and Anthropocenic thinking, see Yadvinder Malhi, "The Concept of the Anthropocene," *Annual Review of Environment and Resources* 42 (2017): 77-104, here 80; David Christian, "The Noösphere," at https://www.edge.org/response-detail/27068 (accessed December 27, 2025). Christian's entry was part of a larger forum titled "2017: What Scientific Term or Concept Ought to Be More Widely Known?"

during which human civilization evolved) or simply a natural "extension of human activity," both of which elide the "dramatic shift" that the Anthropocene actually entails. Most egregiously, for these critics, the invention of this "intellectual phylogeny" makes it seem that the Anthropocene should be greeted as part of our "Promethean destiny," the inexorable moment in which humanity finally attains its highest level of cosmic being.[7]

If epistemological and empirical innocence prevented Vernadsky and others from anticipating the Anthropocene, Hamilton and Grinevald argue, then their theories cannot help us comprehend its consequences. As such, those thinkers should be treated as *faux amis* who distract us from the very real consequences of the Anthropocene. But removing the names of false precursors from the pantheon of Anthropocene studies does little to excise *powerful plot devices* and *discursive habits* which much of that scholarship has borrowed from the past. Challenges to this inheritance require something more than getting rid of a few names. They require, at the very least, exegetical work that illuminates those conceptual and linguistic lineaments inherited by advocates of the good Anthropocene so that they can be brought to the surface and interrogated. What will come to light is the fact that many advocates of the good Anthropocene are simply retelling normative stories about "God and man," most of which, because of their all-too-familiar accounts of inexorable triumph and resolution, prevent us from learning anything new about the Anthropocene or how best to respond to it.

To understand this problem of the good Anthropocene, our work returns to the decades immediately surrounding the French Revolution. It was then that an array of Christian ideas and narratives about providence, anthropology, and the purpose of human existence were partly desacralized by Romantic and Idealist thinkers in accordance with contemporary scholarship. It is our contention that much of what is said by advocates of the good Anthropocene and much of what is censured by their critics has its intellectual origins in that historical moment. We then show how those reconfigurations became part of nineteenth-century Russian Orthodox thought and its intelligentsia

[7] Clive Hamilton and Jacques Grinevald, "Was the Anthropocene Anticipated?," *The Anthropocene Review* (2015): 1-14.

counterpart,[8] where it was then picked up by Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky. Finally, we examine the consequences of this Russian reconfiguration, which, as a genealogy of anticipation, gave rise to the good Anthropocene concept and is regularly used to defend the good Anthropocene's assumptions about a coming age of human integrity and cosmic healing. As we will see, the problem of the good Anthropocene is not its tendency to draw upon the science of Vernadsky, Fedorov, Tsiolkovsky, or Dobzhansky to explain the Anthropocene. Rather, the problem is that advocates of the good Anthropocene are using a set of grand narratives about history, nature, and consciousness that border on the fantastic and that function *as* religion.[9] They construct myths about evolutionary biology, whereby its highest creation—imagined here to be *homo sapiens*—has attained the cognitive capacity and technological know-how to solve a planetary crisis of its own making. In fact, it appears that these optimistic narratives are more meaningful to advocates of the good Anthropocene than the science around which they are organized. In other words, the problem of the good Anthropocene is not (only) one of science. It is one of *story-telling*.

I.

As noted above and as will be explored more fully in the next section, two of the ideas that have been inherited from Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky are indebted to a set of Romantic and Idealist assumptions about history, anthropology, and the purpose of human existence. The first idea is premised on the claim that history possesses a goal toward which it inexorably

[8] The term "intelligentsia" refers to an amorphous, loosely defined group of Russian thinkers mainly united in its opposition to existing structures of power and authority (ca. 1861–1917). Sociologically, the Russian intelligentsia was diverse. Its members came from all levels of Russian society (nobility, peasantry, merchantry, clergy). This diversity even extended to its ideological commitments, which ranged from philosophical materialism, political atheism, and revolutionary terrorism to Orthodox reform, "spiritual revolution," and "new religious consciousness." For a sense of the various meanings ascribed to the intelligentsia, see Gary Saul Morson, "What Is the Intelligentsia? Once more, an Old Russian Question," *Academic Questions* 6, no. 3 (1993), 20-38.

[9] Christophe Bonneuil, "The Geological Turn: Narratives of the Anthropocene," *The Anthropocene and the Global Environmental Crisis: Rethinking Modernity in a New Epoch*, eds. Clive Hamilton, François Gemenne, Christophe Bonneuil (New York: Routledge, 2015), chap. 2. On similar problems in the study of history, one that informs this article, see Hayden White, *Metahistory: The Historical Imagination in Nineteenth-Century Europe* (Baltimore: The Johns Hopkins University Press, 1973).

advances, usually rendered in Christian terms as humanity's providential movement toward the kingdom of God and in secular terms as humanity's immanent movement toward some higher stage of cognitive, moral, socioeconomic, or biological existence. The second idea is premised on the assumption that humans—interpreted over the course of the nineteenth century as the children of God, the apex of natural selection, the social product of class conflict, etc.—innately possess the capacity to become self-conscious agents, who, in salvific, evolutionary, or revolutionary acts of self-determination, freely intervene in the law-governed process of cosmic development so as to guide history or nature to its pre-ordained end.[10]

These teleological narratives and anthropological precepts were not invented by Vernadsky, Fedorov, Tsiolkovsky, or Dobzhanksy. Rather, they originated in late eighteenth- and early nineteenth-century Europe, when an array German philosophers, English poets, and French thinkers began to retell Bible stories in accordance with recent developments in philosophy, history, natural science, and biblical and literary criticism. Although the reconfiguration of Christian teleology took a variety of forms in this context, the principal reconfiguration was a historiosophical rereading of sacred history in which normative accounts of creation, fall, and redemption were *desacralized* and scripted onto an anthropocentric narrative of historical progress. Thinkers as disparate as Friedrich Schiller and William Wordsworth interpreted biblical accounts about Adam and Eve, incarnation and resurrection, and the coming kingdom of God as symbolic, mythological, and/or pre-scientific representations of mankind's "circuitous journey"—to use the language of M. H. Abrams—from an original state of wholeness (paradise) to a contemporary state of alienation (paradise lost)

[10] For an effort to ground the good Anthropocene concept in German Romanticism and Idealism, see the relevant articles in Sabine Wilke and Japhet Johnstone, eds., *Readings in the Anthropocene: The Environmental Humanities, German Studies, and Beyond* (New York: Bloomsbury, 2017). For appeals to "ecological Marxism" and "ecosocialism" in response to the challenges of the Anthropocene, see John Bellamy Foster, "Marxism in the Anthropocene: Dialectical Rifts on the Left," *International Critical Thought* 6 , no. 3 (2016): 393-412; Foster, "The Anthropocene Crisis," *Monthly Review* 68, no. 4 (2016) at https://monthlyreview.org/2016/09/01/the-anthropocene-crisis (accessed December 27, 2025); Foster, "The Long Ecological Revolution," *Monthly Review* 69, no. 6 (2017) at https://monthlyreview.org/2017/11/01/the-long-ecological-revolution/ (accessed December 27, 2025).

to a future and final state of reintegration (paradise regained).[11] The hermeneutic of desacralization made Christianity the anthropocentric drama of universal reconciliation, in which self and other, subject and object, mind and body, faith and reason, freedom and order, etc. were synthesized in a new unity after a prolonged, but necessary, period of critical estrangement. The expected result of such tempering was an ultimate age of integral being and knowledge.

The principal plot device used to tell this story of humanity's collective journey from wholeness to alienation to reintegration is commonly called the three-age or three-stage view of history.[12] This device was initially developed in the twelfth century by Joachim of Fiore, a Cistercian monk who symbolically interpreted the Father, Son, and Holy Spirit as chronological markers in the tripartite course of sacred history, terminating in the mystical reunification of God and the faithful in an eschatological kingdom of ascetic purity.[13] One of the key components of this Trinitarian story is the notion that the present day constitutes a liminal moment between the second and third ages. Awareness of this transitional state—the passing of the old order to the new order—is only possessed by those who have gained knowledge of the secret workings of providence, knowledge which prepares them not only to herald the final age but also to *welcome* it as the fulfillment of God's plan.

This type of thinking entered modern European thought in the late eighteenth-century when Gotthold Lessing, a key figure in the religious Enlightenment, formulated a similarly Trinitarian account of world history in *The Education of the Human Race* (1780). In that text, which was to become a touchstone for chiliastic readings of history and anthropology in nineteenth-century Europe, Lessing articulated a rational Christian account of progressive revelation. In Lessing's mind, humanity pedagogically advanced from a childlike state of moral fear under the threat of divine punishment (the Old Testament) to

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[11] M. H. Abrams, *Natural Supernaturalism*, chaps. 4-5; David Loewenstein, *Milton: Paradise Lost* (New York: Cambridge University Press, 2004), 127-28 passim.

[12] For example, see Laurence Dickey, "Hegel on Religion and Philosophy," in *The Cambridge Companion to Hegel*, ed. Frederick Beiser (New York: Cambridge University Press, 1993), 326-28.

[13] Marjorie Reeves, *Joachim Fiore and the Prophetic Future* (New York: Harper Torchbook, 1977). For a sense of how Joachim's "three-age scheme" became a hermeneutic of modern philosophy, see Laurence Dickey, *Hegel: Religion, Economics, and the Politics of Spirit, 1770–1807* (New York: Cambridge University Press, 1989), 52-57.

an adolescent state of moral hope in the Christian promise of immortality (the New Testament) to a final state of moral freedom in which all humans, having attained "perfect illumination" and "purity of heart," act virtuously toward each other in this world without reference to rewards or punishments in the next world ("a new eternal gospel").[14]

The hermeneutic power of this idea and its attendant plot device in European intellectual history is difficult to overestimate. Such prominent and widely divergent thinkers as Jean-Jacques Rousseau, G. W. F. Hegel, Claude-Henri de Saint-Simon, Auguste Comte, Pierre-Joseph Proudhon, and Moses Hess plotted the vicissitudes of human existence and consciousness along a tripartite course of teleological development toward some ethical or eschatological end.[15] This way of interpreting and scripting religious, social, cultural, and historical change soon became deeply embedded in the languages and practices of modern European scholarship, ranging from philosophy and sociology to natural history and archaeology.[16] The dominance and ubiquity of such thinking and narrating, as exemplified by Karl Marx's division of economic history into three stages (feudalism, capitalism, and communism),[17] helped to guarantee that the three-age view of history became hegemonic in nineteenth- and early twentieth-century European thought, where it framed (and limited) the ways in which the

[14] Gotthold Lessing, "The Education of the Human Race," in *Philosophical and Theological Writings*, trans. And ed. H. B. Nisbet (New York: Cambridge University Press, 2005), 217-40. See also Toshimas Yasukata, *Lessing's Philosophy of Religion and the German Enlightenment* (New York: Oxford University Press, 2002), chap. 6. These quotes, which belong to Lessing, come from Yasukata, *Lessing's Philosophy of Religion*, 108.

[15] Jean-Jacques Rousseau, *The Discourses and Other Early Political Writings*, ed. and trans. Victor Gourevitch (New York: Cambridge University Press, 1997); Walter Jaeschke, *Reason in Religion: The Foundations of Hegel's Philosophy of Religion*, trans. J. Michael Stewart and Peter C. Hodgson (Berkeley: University of California Press, 1990), 159-65; Saint-Simon, *Mémoire sur la Science de l'Homme*, vol. 2 of *Oeuvres choisies de C.-H. de Saint-Simon* (Brussels, 1839); *Auguste Comte and Positivism: The Essential Writings*, ed. Gertrud Lenzer (New York: Routledge, 1998); Pierre-Joseph Proudhon, *What Is Property?*, ed. and trans. Donald R. Kelley and Bonnie G. Smith (New York: Cambridge University Press, 1994); Moses Hess, *The Holy History of Mankind and Other Writings*, ed. and trans. Shlomo Avineri (New York: Cambridge University Press, 2004).

[16] On this kind of periodization in natural history and archaeology and its indebtedness to biblical and three-age chronologies, see Bruce Trigger, *A History of Archaeological Thought*, 2nd edition (New York: Cambridge University Press, 2006); Peter Rowley-Conwy, *From Genesis to Prehistory: The Archaeological Three Age System and Its Contested Reception in Denmark, Britain, and Ireland* (New York: Oxford University Press, 2007).

[17] William H. Shaw, *Marx's Theory of History* (Stanford, CA: Stanford University Press, 1978).

concept of historical progress could be understood and articulated.[18] Even after the European crisis of 1914–1945, which called into question much of the optimism inherent in the three-age view of history, this method of analysis and periodization continued to inform many European intellectuals, including Teilhard de Chardin who interpreted the Trinitarian course of Christian history as humanity's cosmic evolution from *previé* to biosphere to noösphere.[19]

Intimately related to this mode of historical thinking, in which humans are imagined to have attained insight into the course and goal of universal history, is the idea that humans possess the cognitive and behavioral capacity to intervene in the law-governed process of history or nature so as to guide it to conclusion or, if need be, alter its path toward a more favorable end. Like the ideas of sacred and secular history discussed above, this argument has its origin in Romantic and Idealist reconfigurations of Christian stories and symbols. It was then that Christian anthropology was interpreted as a metaphor for a decidedly anthropocentric event: the moment in historical time when humans inevitably become agents of their own destiny and that of the world.[20] Drawing upon longstanding theological readings of Genesis 1:26 (Then God said, "Let us make humankind in our image, according to our likeness") and 2 Peter 1:4 ("so that through them you… may become participants of the divine nature"), thinkers like Johann Fichte, Nicolas Condorcet, and Friedrich Schelling scripted patristic and other Christian claims about human nature onto a materialist anthropology of progressive perfectibility. Among these assertions was the claim that humans had been created by God so that they might *become* like a god. Humans in this formulation constituted volitional, self-conscious agents in the transcendental and/or immanent process by which all divisions in self and society were finally overcome in an apocalypse of personal integrity and ethical community. What mainly resulted from this conceptual reconfiguration of Christian anthropology, a reconfiguration later appropriated by Teilhard, was an anthropocentric, optimistic story of liberation and self-determination in which humans—

[18] Frank Palmeri, *State of Nature, Stages of Society: Enlightenment Conjectural History and Modern Social Discourse* (New York: Columbia University Press, 2016).

[19] Ernst Benz, *Evolution and Christian Hope: Man's Concept of the Future from the Early Fathers to Teilhard de Chardin* (New York: Doubleday, 1968), 215-20, esp. 218; Grzegorz Baczewski, "Antropogeneza i jej związek z ewolucją wszechświata w teilhardyzmie," *Studia Ecologiae et Bioethicae* 5 (2007): 81-102, esp. 82-87.

[20] Abrams, *Natural Supernaturalism*, 348-56 passim.

sometimes a select few, sometimes the entire race—heroically gain control of those natural or divine forces that had brought them into being for the specific purpose of bringing the drama of existence to its rightful end.[21]

This particular combination of teleological and anthropological thinking has imparted more to the good Anthropocene than just ideas about history and anthropology. It has structured a paradox in the way in which advocates of the good Anthropocene narrate their story. Humans are largely imagined to be the product of some impersonal, law-governed force, such as nature or the cosmos, yet a product that over time gains free will and self-consciousness—those instruments of personal volition which allow humans not only to step beyond the impersonal force that brought them into existence, but also to direct that force toward its pre-determined end.

This sort of thinking has also imparted a prophetic tendency among advocates of the good Anthropocene. The assumption that humans were brought into being to attain special knowledge about themselves, the world they inhabit, and the extra-human forces that created them—an assumption which is then interpreted as the acquisition of special knowledge about the destiny of existence—constitutes one of the key features of the good Anthropocene. This impulse to prophesize, especially the impulse to prophesize anthropocentrically and optimistically, was very likely, if indirectly, inherited by advocates of the good Anthropocene from European Romanticism and Idealism and then from thinkers like Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky. Perhaps the most significant legacy of these modes of thinking is the method of detheologization, which was a key feature of Kantian and Hegelian philosophies and which deeply impacted twentieth-century Continental philosophy. This method commonly operates on the assumption that religious discourses, including metaphysics, have become obsolete in the age of empiricism, materialism, and phenomenology, while assuming that religious texts can be read anew for clues about consciousness and being, so long as the reader properly

[21] John Passmore, *The Perfectibility of Man* (New York: Charles Scribner's Sons, 1970), chaps. 11-12. For studies of this theological anthropology as it was formulated in the history of Christianity, see Gerhart Ladner, *The Idea of Reform: Its Impact on Christian Thought and Action in the Age of the Fathers* (Eugene, OR: Wipf & Stock Publishers, 2004); Norman Russell, *The Doctrine of Deification in the Greek Patristic Tradition* (New York: Oxford University Press, 2004).

detheologizes their content. But this legacy has generated another paradox in the good Anthropocene. By detheologizing Christian categories and narratives, whereby providence becomes necessity and the children of God become self-conscious agents of the cosmos, it has guaranteed that plot devices and concepts indebted to Christianity continue to shape the ostensibly secular discourses of the Anthropocene.[22]

The question remains: how did these historical and anthropological concepts and the paradoxes embedded in them enter Russian Orthodox and intelligentsia discourses, where they later helped to frame the thought-worlds of Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky? As we shall see in the next section, the plot devices and discursive habits common to European Romanticism, Idealism, and their revolutionary offshoots found their way into Russian and, by extension, Soviet thought through two antagonistic, but broadly co-dependent, settings: 1) reading salons, university campuses, and clandestine groups, where members of the Russian intelligentsia argued about such ideas; and 2) the Russian Church's four clerical academies, which helped to educate successive generations of Orthodox thinkers in the tenets of European philosophy and theology. It was these venues that played a role in establishing the broad contours of theocentric and anthropocentric thinking in modern Russia. And by extension, it was these venues that helped to shape the stories now told by advocates of the good Anthropocene.

II.

The indebtedness of nineteenth-century Russian thought to European Romanticism and Idealism—and thus to their concepts, formulations, and narratives—is well established. Beginning in the 1820s and 1830s, small numbers of Russian thinkers, especially those affiliated with salon society and university circles in Moscow, turned to the writings of Hegel, Schiller, Fichte, Schelling,

[22] For a classic study of how theological presuppositions (*die theologischen Voraussetzungen*) permeate supposedly secular modes of historical thinking, see Karl Löwith, *Meaning in History* (Chicago: University of Chicago Press, 1949). For a more recent study of this problem in Continental philosophy, see Ryan Coyne, *Heidegger's Confessions: The Remains of Saint Augustine in* Being and Time *and Beyond* (Chicago: University of Chicago Press, 2015). For a key text in this tradition, see Ludwig Feuerbach, *Lectures on the Essence of Religion*, trans. Ralph Mannheim (New York: Harper and Row, 1967), esp. 17-24.

and others to chart a path beyond the present structures of political and social reality and to make sense of their own roles in that process.[23] One result of this development in Russian intellectual history was the reinterpretation of Orthodox Christianity as a religion of moral progress and theocentric freedom.[24] This understanding of Orthodoxy was initially articulated by a group of Moscow noblemen known as the Slavophiles, who privileged Slavic and Orthodox culture as the collective embodiment and practice of reconciliation over the ostensibly one-sided forces of the "West." It also shaped the ways in which both clerical and lay thinkers, including Vernadsky, Fedorov, and Tsiolkovsky, interpreted the relationship between necessity and freedom in the realization of some predetermined goal, whether historical, natural, cosmic, or divine. When the same generation of Russian thinkers started to adopt a more radical orientation to problems of the day, this reading list came to include the works of Left Hegelians, utopian socialists, and French anarchists, many of whom were committed to a three-age view of history and the idea that humans, once freed from false consciousness and external authority, could bring about the end of history. Russian critics of church, religion, state, society, and the economic status quo, like Aleksandr Herzen, Mikhail Bakunin, and Vissarion Belinskii, regularly drew upon some variation of these historical narratives and anthropological concepts to articulate their own visions of political, social, and cultural change, which tended to emphasize the human capacity to overcome the contingencies or impersonal forces of history.[25]

Starting in the 1830s, for example, it was quite common for Russian thinkers to argue that the movement toward universal justice was both inexorable *and* dependent upon self-conscious, self-determining human agents (sing. *lichnost'*) who intervened in (or disrupted) the law-governed process (*zakonomernost'*) of

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[23] Martin Malia, *Alexander Herzen and the Birth of Russian Socialism* (New York: Grosset and Dunlap, 1965), esp. chaps. 4-5; Victoria Frede, *Doubt, Atheism, and the Nineteenth-Century Russian Intelligentsia* (Madison: University of Wisconsin Press, 2011), chap. 1.

[24] Patrick Lally Michelson, "Slavophile Religious Thought and the Dilemma of Russian Modernity, 1830–1860," *Modern Intellectual History* 7, no. 2 (2010): 239-67.

[25] Aileen M. Kelly, *The Discovery of Chance: The Life and Thought of Alexander Herzen* (Cambridge, MA: Harvard University Press, 2016). For primary sources that bring these ideas to light, see Aleksandr Herzen, *My Past and Thoughts: The Memoirs of Alexander Herzen*, trans. Constance Garnett, abridged (Berkeley: University of California Press, 1973); P. V. Annenkov, *The Extraordinary Decade: Literary Memoirs* (Ann Arbor: University of Michigan Press, 1968); M. A. Bakunin, *Sobranie sochinenii i pisem, 1828–1876*, 4 vols., ed. Iu. M. Steklov (Moscow: Izd-vo Vsesoiuznogo ob-va politkatorzhan i ssyl'no-poselentsev, 1934–35).

historical development so as to effect the goal of history.[26] The role of the *intelligent* in this scheme was to lead the benighted masses—the people (*narod*), later the proletariat—into the future age promised to them. Conversely, those who failed to actualize the correct relationship between determinism and freedom would remain out of step with the very forces that governed their lives. Through the works of these and other radicals and the various discussions that their writings generated in university classrooms, student circles, and clandestine groups, much of intelligentsia discourse in late imperial and early Soviet Russia was shaped in some way by Romantic, Idealist, Left-Hegelian, materialist, utopian, and, later, Marxist currents of thought. The imperative to detheologize Christian narratives and symbols so as to accommodate them to audiences tempered by rationalism, empiricism, and atheism was also a key component of this liberationist discourse.[27]

These modes of thinking and talking about the relationship between necessity and intervention also resonated in Russia's Orthodox Church, especially its four clerical academies, where educated monks, priests, and students regularly, if often critically and sometimes clandestinely, read European philosophy and theology. The charter (*ustav*) of these advanced schools explicitly organized the teaching of Orthodox theology and church history around "the philosophy of history," which was to be gleaned in part from the counter-Enlightenment polemics of conservative Christian thinkers. Theological and historical changes in the Orthodox Church were interpreted as discrete, chronologically specific, preordained manifestations of the Triune God, that is,

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[26] V. V. Vinogradov, *Istoriia slov* (Moscow: Tolk, 1994), 271-305, esp. 290-302; Jochen Hellbeck, "Russian Autobiographical Practice," in *Autobiographical Practices in Russia—Autobiographische Praktiken in Russland*, eds. Jochen Hellbeck and Klaus Heller (Göttingen: V & R unipress, 2004), 279-98, esp. 280-85.

[27] See the relevant articles in William Leatherbarrow and Derek Offord, eds., *A History of Russian Thought* (New York: Cambridge University Press, 2010). On the detheologization of Christian narratives and concepts among Russia's early intelligentsia, see Frede, *Doubt, Atheism, and the Nineteenth-Century Russian Intelligentsia*, chaps. 4-5. For the early Soviet period, see Richard Stites, *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution* (New York: Oxford University Press, 1989), chap. 5; Igal Halfin, *From Darkness to Light: Class, Consciousness, and Salvation n Revolutionary Russia* (Pittsburgh: University of Pittsburgh Press, 2000). On the relationship between "science and ideology" in Russian universities around this time, see Alexander Vucinich, *Science and Russian Culture, 1861–1917*, vol. 2 (Stanford, CA: Stanford University Press, 1970), chap. 1; and the relevant chapters in Michael D. Gordin, Karl Hall, and Alexei Kojevnikov, eds., *Intelligentsia Science: The Russian Century, 1860–1960* (Chicago: University of Chicago Press, 2008).

they were scripted onto a tripartite narrative of providential development from Father to Son to Holy Spirit.[28] As these inherited and domestic modes of analysis entered the Church's system of higher education they were refracted through a set of imperatives particular to that institutional context, namely the revival of patristic Christianity (ca. 1821–1918) to counter confessional and epistemological threats to right belief. This revival, which was exemplified by a massive translation and scholarly project to make the writings of the Church fathers accessible to a Russian-speaking audience, helped to establish ethical interpretations of Christian concepts and practices, including providence, salvation, asceticism, and deification (*theosis*), which posited the idea that God had created humans so that they might become like unto Him. The result of this innovation in the Russian Church, in conjunction with Romantic and Idealist readings of history and freedom, was a theological anthropology that emphasized human responsibility to bring about the kingdom of God.[29]

Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky all found themselves in one or more of these contexts. Vernadsky studied with Dmitrii Mendeleev and other leading scientists at Imperial St. Petersburg University (1881–85), where he later earned a doctorate's degree (1897). He then served as a professor of mineralogy at Imperial Moscow University until revolutionary politics compelled him to resign in protest against government interference in higher education (1911). It was in those settings that Vernadsky became active in Russia's moderate intelligentsia, including the Priiutino brotherhood (1880s), the Union of Liberation (1903–05) and the Constitutional Democratic party (1905–1918), organizations which were largely imbued with the historical and anthropological theories common to the rest of the intelligentsia and Orthodox intellectuals.[30] Dobzhansky, who was born in Ukraine, studied at the University of Kyiv (1917–21) and the Ukrainian Academy of Sciences (1921–24) before taking a position in the genetics laboratory at Leningrad State University (1924–27). It was in those institutional settings, as well as the context of imperial collapse and revolutionary

[28] *Polnoe sobranie zakonov Rossiiskoi Imperii*, 32:925; S. K. Smirnov, *Istoriia moskovskoi dukhovnoi akademii do ee preobrazovaniia (1814–1870)* (Moscow: V Universitetskoi Tipografii, 1879) 35-43.

[29] Patrick Lally Michelson, *Beyond the Monastery Walls: The Ascetic Revolution in Russian Orthodox Thought, 1814–1914* (Madison: University of Wisconsin Press, 2017), chap. 2.

[30] Kendall E. Bailes, *Science and Russian Culture in an Age of Revolutions: V. I. Vernadsky and His Scientific School, 1863–1945* (Bloomington: Indiana University Press, 1990).

upheaval, that Dobzhansky, like many of his peers, first linked the study of evolutionary biology to the political, social, and spiritual task of bringing about the end of history, a project that Dobzhansky cast in terms of Christian evolutionary science.[31] Largely educated outside the university system, Fedorov taught at a variety of secondary schools before becoming a librarian at the Chertkov Library, the Rumiantsev Museum, and finally the reading hall of the Moscow Archive of the Ministry of Internal Affairs. In those settings, which afforded him access to an extensive collection of philosophical and theological texts, Fedorov developed his so-called philosophy of the common task (*filosofiia obshchego dela*), which reread the Christian idea of resurrection as the scientific call to reanimate the dead and immortalize all life. And it was where Fedorov engaged thinkers like Fedor Dostoevsky, Lev Tolstoy, and Vladimir Solov'ev, all of whom drew in some way from the historical narratives and anthropological concepts of the radical, moderate, and/or Orthodox intelligentsia.[32] Tsiolkovsky's intellectual biography was similar to that of Fedorov, whom Tsiolkovsky befriended in the 1870s. Largely self-taught, Tsiolkovsky was well read in contemporary literature and intelligentsia writings, including those of Lev Tolstoy and the early *intelligent* Dmitrii Pisarev. In the early 1880s, Tsiolkovsky came to the attention of Mendeleev, who brought the self-taught scientist into the orbit of academic life. Like many of his peers, Tsiolkovsky broadly interpreted his work as part of a larger project to save humanity by liberating it from political and epistemological restraints and, like Fedorov, by liberating it from biological and planetary restraints, much of which Tsiolkovsky cast in detheologized Christian narratives and symbols.[33]

With this broad context now in place we can begin to get a sense of the discursive habits, plot devices, and ideological assumptions that informed the works of Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky, as well as those advocates of the good Anthropocene who call upon these Slavic names to articulate its import and mission. Vernadsky's writings, whether from his days as

[31] See the relevant articles in Mark B. Adams, ed., *The Evolution of Theodosius Dobzhansky: Essays on His Life and Thought in Russia and America* (Princeton, NJ: Princeton University Press, 1994).
[32] George M. Young, *Nikolai F. Fedorov: An Introduction* (Belmont, MA: Nordland Publishing Company, 1979), chap. 3.
[33] V. N. Demin, *Tsiolkovskii* (Moscow: Molodaia gvardiia, 2005).

a student activist in the 1880s to the last years of his life during the Second World War, were fully framed by the contours of intelligentsia thinking. The task of scholarship (*nauka*), Vernadsky argued in the early twentieth century, was to give meaning to the political demand for a "new Russia," which manifested itself in war and revolution, and to facilitate that event through a secular transformation of education, all of which had long been goals of the intelligentsia. What distinguished Vernadsky in this context was his assessment of the cause of war and revolution. It was not politics and culture that sent nations to war or the furies of revolution, but rather changes in biological, chemical, and geological life. In this sense, Vernadsky reduced man-made events—war, revolution, and the rise of new forms of "thought," "knowledge," and "creativity"—to laws of nature, while assigning responsibility for the outcome of these events to human volition and choice. It was here that Vernadsky deployed that most common of intelligentsia stories, as well as its most common paradox. As the "old" inexorably gave way to the "new," it was incumbent upon "the willfully conscious aspiration of Russian society" to guide the naturally determined course of historical development to its conclusion.[34]

Published in English in 1945, Vernadsky's "The Biosphere and the Noösphere" brings his and, by extension, the good Anthropocene's indebtedness to intelligentsia story-telling into sharp relief.[35] Combining two separate drafts, one written in 1938, the other in 1943, that essay posited Vernadsky's optimistic view that the Earth, having long ago moved beyond its initial geospheric stage, was presently transitioning from its second stage, the biosphere, to its third and final stage, the noösphere. This planetary event was the result of "geochemical and biogeochemical" changes in the biosphere itself, changes driven by the "natural laws of the biosphere." What this law-governed process produced was a new "geological force," *homo sapiens*. This force was not a human creation—that is, the intellectual and physical capacities of *homo sapiens* were not something that humans generated through their own effort or will. In Vernadsky's reading, "no

[34] These quotes and the content behind them come from V. I. Vernadsky, *Publitsisticheskie stat'i*, ed. V. P. Volkov (Moscow: Nauka, 1995), 37-45, 241-51, 283-95; Vernadsky, *Mysli o sovremennom znachenii istorii znanii* (Leningrad: Izdatel'stvo Akademii Nauk SSSR, 1927). For similar language, see Vernadsky, *Nauchnaia mysl' kak planetnoe iavlenie* (Moscow: Nauka, 1991).

[35] V. I. Vernadsky, "The Biosphere and the Noösphere," *American Scientist* 33, no. 1 (1945): 1-12. All quotations in this and the next two paragraphs come from this essay.

living organism exists on earth in a state of freedom," not even humans. Rather,

> [i]n the course of geological time living matter morphologically changes according to the laws of nature. The history of living matter expresses itself as a slow modification of the forms of living organisms which genetically are uninterruptedly connected among themselves from generation to generation… The change in the morphological structure of living matter observed in the process of evolution unavoidably leads to a change in its chemical composition.

The principal result of living matter's evolution, which always proceeds "in a definite direction," was the "growth and perfection of the central nervous system," culminating in the human brain. With this highly specialized organ, humans were able to map, colonize, and, most importantly, become conscious of the biosphere in its entirety, an event that made humans master of the planet. Having become the master of that realm, humans were now harbingers of the noösphere, "the last of many stages in the evolution of the biosphere in geological history." The task now was to harness the human brain and direct human behavior not only so that humans could overcome their uncritical tendency toward "self-destruction," as demonstrated by the pan-European crisis of war and revolution (ca. 1914–1945), but so that they might establish a new planetary age of self-understanding and self-determination.

Evidence of intelligentsia concepts, narratives, and tropes, especially those deeply rooted in European Romanticism, Idealism, and their intellectual offshoots, abound in these quotations. Relying on a three-age view of history, Vernadsky believed that humans were presently living in a liminal moment, one that was unbeknownst to most people, but which was discernible to those who, like Vernadsky, possessed knowledge about nature and its workings. Vernadsky's account of living matter's evolutionary progress toward some final stage was similarly framed by a pre-existing intelligentsia discourse, namely the means by which freedom and determinism could be reconciled so as to bring about a new age. Here, human consciousness and volition—and the attendant notion of human intervention—were imagined to be the inexorable consequences of some law-governed process. Freedom in this story was cast as the product of determinism. In turn, planetary developments that were once exclusively the result of impersonal forces now became the purview and responsibility of human agency.

Where this intelligentsia inheritance becomes most obvious is in the way that

Vernadsky turned law-governed processes in nature into a heroic story about the universal formation of community, justice, and democracy. "The geological evolutionary process," Vernadsky insisted,

> shows the biological unity and equality of all men…. This is a *law of nature*. In a historical contest, as for instance in a war of such magnitude as the present one, he finally wins who follows that law. One cannot oppose with impunity the principle of the unity of all men as a law of nature…. The historical process is bring radically changed under our very eyes. For the first time in the history of mankind the interests of the masses on the one hand, and the free thought of individuals on the other, determine the course of life of mankind and provide standards for men's ideas about justice.

What was required of the scientist or anyone else who had become aware of the actual workings of reality and the role humans play in effecting its outcome was twofold. It necessitated the "reconstruction of the biosphere in the interests of freely thinking humanity as a single totality"; and 2) it required "that our democratic ideals" be properly aligned "with the elemental geological processes, with the laws of nature, and with the noösphere," since it was those things that had generated the principle of unity and equality in the human mind as a reflection of the natural world. The purpose of humanity was to realize the goal of nature in volitional acts of intervention and alignment so that the cosmos was in right order and under proper guidance. As such, Vernadsky transformed an evolutionary product of the cosmos, *homo sapiens*, into the revolutionary hero of the cosmos.

Nikolai Fedorov was praised in his own time and is largely remembered today for his "philosophy of the common task."[36] The goal of that task was physical resurrection of the dead and immortalization of life through applied science. All the scientific effort and know-how that presently went into violence and domination, Fedorov argued, was to be directed toward humanity's real task, developing the technological means to bring the dead to eternal life. What was "common" to this task was that it constituted both the purpose of existence and, once humans became aware of this purpose, the collective responsibility of

[36] See Anya Bernstein, *The Future of Immortality: Remaking Life and Death in Contemporary Russia* (Princeton University Press, 2019), for an ethnographic treatment of contemporary cosmic thinkers in Russia who look to Fedorov for ideas about death, immortality, and resurrection.

humanity. Fedorov partly derived this "philosophy" from his reading of Christian scripture, doctrine, and ecclesiology, which for him contained an array of symbols, messages, and examples of humanity's divine calling to make resurrection and immortality real. Religion itself was the "cult" of raising back to life deceased ancestors, partly in remembrance, partly in ritual. But it was Christ's resurrection that best expressed the essence of religion, especially as it was understood and practiced in Orthodox Christianity, the type of Christianity that in Fedorov's account mediated between the fallen world of death and the perfected world of life everlasting.[37]

However idiosyncratic his interpretation of Christianity was in relation to established canon and doctrine, and however eclectic his interpretation of science was in relation to contemporary empiricism and materialism, Fedorov's project of universal resurrection and immortality was framed in large measure by the discursive habits of Russian Orthodox and intelligentsia thought. Like many Russian thinkers of the late imperial and early Soviet periods, Fedorov cast present reality as a set of antagonistic and, in this reading, unstable binaries—such as internal and external, spiritual and bodily, subject and object, "egoism" and "altruism." Even death took two forms: "disintegration" (*razdel'nost'*), whereby the integral one became a diffuse many, or "fusion" (*sliianie*), whereby the diverse many became an undifferentiated one. In Fedorov's imagination the "transformation" (*prevrashchenie*) of these antagonisms in a higher "synthesis" would liberate reality from its current crisis of bifurcation, which manifested itself in "industrialism" and "militarism." What would ultimately result from the transformation of these binaries, which overcame divisions between self and others, was "kinship" (*rodstvo*) among all humans, so that they could direct their energy and skill toward the most important aspect of kinship, the reunion of the living and the dead for all eternity.[38]

Fedorov's basic plot device also belonged to the main currents of Russian Orthodox and intelligentsia thinking. Progress or transformation was understood to be the advancement from some sort of preliminary or flawed state of being toward a promised, perfected, and ultimate state of being. This

[37] N. F. Fedorov, *Filosofiia obshchego dela: Stat'i, mysli i pis'ma Nikolaia Fedorovicha Fedorova*, 2 vols., ed. V. A. Kozhevnikov and N. P. Peterson (Moscow, 1906–1913), 2:3-10.
[38] Fedorov, *Filosofiia obshchego dela*, 2:198-214.

advancement was both inexorable, in the sense that it was ordained by providence, and dependent upon humans to fulfill, since God had created humans to achieve this goal. Similarly, Fedorov sought to liberate humans from the impersonal forces of nature, which presently and inevitably led humans and all living things to death. The responsibility of liberation fell to those individuals who had gained awareness about the purpose of existence. Science provided them with the theoretical apparatus and technical skill to "regulate blind nature," reorienting its inherent structures from death-causing to life-creating, whereby humans became masters of nature. In these formulations Fedorov offered his own articulation of the relationship between necessity and freedom, providence and free will. Each required the other so that what was once a law of nature was overcome and redirected by human ingenuity, and what was once a divine commandment was now a human accomplishment. Fedorov even deployed a three-age view of cosmic history, one that was marked by a pre-human age, a human age, and a final post-human age, whereby death was overcome.[39]

Fedorov's project of resurrection and immortality deeply influenced the thinking of Konstantin Tsiolkovsky, who is best remembered today for his theories of jet propulsion and space travel, and whose name is increasingly associated with the good Anthropocene. However empirical rocketry and astronautics might be as science, what drove Tsiolkovsky's work was the idea of human liberation. For Tsiolkovsky, this meant liberation from the earthly constraints of time, space, gravity, and solar dependency, as well as the claustrophobic reality and perspective of planetary (earth-bound) existence. In Tsiolkovsky's mind, the universe was animated by "will" (*volia*) or "cosmic energy," which guided the cosmos toward its evolutionary goal, imagined here as "monistic unity" or "harmony." Since humans were an integral part of the universe, they also possessed will. Once they became aware of the universe's goal, humans would freely direct all their energy and effort to realizing that goal through science and technology. Such an application would allow humans to correspond their will to that of the universe, an event that healed the fracture between microcosm and macrocosm, and that allowed humans to overcome the psychological and sociological disjointedness that such a fracture had induced.

[39] Young, *The Russian Cosmists*, p.78.

The relationship between human and cosmos was no longer interpreted as an asymmetric relationship between subject and object. Rather, they were to be understood as one, distinct but the same. In this sense, the universe was no longer an object, but a project to be actualized. The specific goal of space travel was to propel humans beyond their planetary (and thus biological) limits so that they might gain closer proximity to the guiding spirit that animated the universe. Prior to departure, however, humans would undergo a transformation, as a change in consciousness about the purpose and goal of earthly existence, as well as the collective effort to achieve that goal, would initiate concrete changes in sociopolitical organization and moral behavior. The task to liberate humans from the planet and reintegrate them in the universe would result in the liberation of humans from tyranny, alienation, and destitution.[40]

Like those of Fedorov and Vernadsky, Tsiolkovsky's theories were shot through with an array of overlapping Orthodox and intelligentsia concepts and narratives. Tsiolkovsky reconfigured the providential God of Christianity, who according to Orthodox doctrine possessed divine characteristics like will and reason, characteristics that God graciously imparted to His children. In Tsiolkovsky's reading of divinity, God became the volitional and purposeful universe, which sought oneness in itself and called upon its creations to participate in that process.[41] Orthodox and intelligentsia projects of reconciliation also resonated with Tsiolkovsky. Divisions, binaries, and dichotomies, which delayed this universal project and reaped sociopolitical turmoil on Earth, were to be overcome in revolutionary consciousness, whereby humans became aware of their oneness with the cosmos and, as a result, started to act accordingly. Tsiolkovsky also plotted his story in accordance with the Orthodox and intelligentsia narratives he inherited. Tsiolkovsky's history of the human organism, as well as human consciousness, was one of perpetual, if delayed, progress toward higher stages of being, a history that was reminiscent of Orthodox and intelligentsia interpretations of sacred or materialist history. As

[40] Anindita Banerjee, *We Modern People: Science Fiction and the Making of Russian Modernity* (Middletown, CT: Wesleyan University Press, 2012), 132-41.

[41] K. E. Tsiolkovsky, "Nichego net. (Mysli bezbozhnika)." This text, which was written in 1932, can be found at https://www.tsiolkovsky.org/ru/kosmicheskaya-filosofiya/nichego-net-mysli-bezbozhnika-konstantin-tsiolkovskij-1932-g/.

humans became aware of the vocation for which they were made, they developed the technological know-how to improve their biological existence and, more importantly, to guide the universe to its conclusion. It was this awareness of humanity's vocation and the practice of personal intervention it generated which stimulated human, historical, and cosmic development. The present age, the one in which Tsiolkovsky lived, constituted the transitional moment from one epoch to another.[42] Tsiolkovsky's own role in this process was one of prophet who had discerned the purpose of existence and the goal of the universe, a prophecy similarly claimed by Vernadsky and Fedorov.

This way of thinking and talking about humans, history, nature, and the universe entered American scholarship in the decades following the Second World War through a multitude of venues. One such point of entry was the work of Theodosius Dobzhansky, a former research assistant of Vernadsky in the late 1910s and early 1920s, [43] who went on to teach at Columbia University, the California Institute of Technology, Rockefeller University, and the University of California. Although the works of Vernadsky and Fedorov were only occasionally cited by Dobzhansky, he clearly inherited and deployed the same categories and narratives that informed their thinking. In fact, Dobzhansky's academic and popular writings about genetics and evolutionary biology, which largely tell an optimistic story about human liberation, equality, and ascent toward higher stages of being, can be read as a culmination of the discursive habits and plot devices common to Orthodox and intelligentsia thinking, filtered in this case through the works of Paul Tillich and especially Pierre Teilhard de Chardin.

This inheritance is obvious in *The Biology of Ultimate Concern* (1967). In the opening pages of that text, Dobzhansky acknowledged that his world view (*mirovozzrenie*) originated in late imperial and early Soviet Russia (ca. 1914–1921), well before he read Tillich and Teilhard. It was then, in the chaos of world war, imperial collapse, and communist revolution, that Dobzhansky first sought to

[42] These arguments constitute the bulk of Tsiolkovsky's writings in the late 1920s and early 1930s. See, for example, "Voliia vselennoi," "Budushchee Zemli i chelovechestva," "Vysshaia istina," and "Zhivaia vselennaia. These texts and several more like them can be found at https://www.tsiolkovsky.org/ru/kosmicheskaya-filosofiya/статьи-о-вселенной-и-о-месте-человека/.
[43] "Vozrashchenie: Nash Dobrzhanskii," *Priroda*, no. 3 (1990): 78-96.

reconcile competing theories of human existence, exemplified in his mind by Darwin's theory of evolution by natural selection and Ivan Karamazov's claim that the human mind is structured "to ask the Big Questions." For Dobzhansky, the task of scholars like himself was twofold. It was to reconcile these antagonistic theories so as to explain their mutual relationship in the actualization of human existence; and to make human existence "meaningful" again after scientific advancements had displaced *homo sapiens* from the center of the universe and revolutionary upheaval had made "life… most insecure and its sense least intelligible." In doing so, Dobzhansky hoped to demonstrate to his peers and to a general reading audience that the universe, although no longer understood as geocentric, was very likely "anthropocentric." His intent, in other words, was to show that the universe had created humans to become conscious of the universe so as to guide the universe to its conclusion.[44] With this goal in mind, Dobzhansky argued that natural selection and the deterministic laws of nature were "in a very real sense creative." They gave rise not only to human freedom, but also the faculty by which humans, unlike any other creature, could experience "the ultimate concern."[45] As products of evolutionary biology, freedom and consciousness did not terminate in anarchy. Instead, they propelled humans toward a higher stage of existence, a goal that was initially dictated by the impersonal laws of nature but that was to be finalized by human intervention. More importantly, this capacity for "creativity" meant that "man" was not "a passive witness but a participant in the evolutionary process."[46]

Here was Dobzhansky's answer to questions about the meaning of human existence and the course of evolutionary biology. Humans, according to the nature inherent to them, were inexorably developing from the stage of determined creation to the stage of free creator, the stage in which tensions between freedom and necessity were finally overcome and the goal of the universe was finally realized. The narratives, categories, and speculations of Orthodox and intelligentsia thinking, which had been specific to the ideological contexts in which they originated, were now part of the way in which some North American scholars scripted their scientific findings onto optimistic stories about

[44] Theodosius Dobzhansky, *The Biology of Ultimate Concern* (New York: New American Library, 1967), 1-11.
[45] Dobzhansky, *The Biology of Ultimate Concern*, 60-61, 108.
[46] Dobzhansky, *The Biology of Ultimate Concern*, 137.

"ultimate" meaning. Within a generation or two of Dobzhanksy's death in 1975, those very same discursive habits and plot devices, which had resonated in European thought since the late eighteenth century and in Russian thought since the early nineteenth century, were picked up and repackaged by advocates of the good Anthropocene.

What this foray into Russian intellectual history helps to reveal is that Russian Orthodox and Russian intelligentsia thinking—and specifically ideas articulated by Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky—operated in a relatively narrow discursive field that was framed by a complex of interrelated questions and concerns: what is the purpose of human existence; what are the laws of history or nature; and what is the relationship between necessity and freedom, or providence and free will, in effecting the goal of history or nature; and how can these and other binaries be reconciled? The answers to these questions, regardless of their ideological orientation, were equally circumscribed. History was commonly imagined to follow and actualize a teleology, usually according to some tripartite development that was believed to be inherent in the very structure of history. Humans were similarly imagined to be key elements in realizing the end of history, usually after having liberated themselves from whatever sociopolitical, epistemological, or moral obstacle, like despotism, ignorance, or sin, that had previously prevented them from knowing about and achieving their ordained or created purpose. What is revealed here is also suggestive of something significant in the ways in which Vernadsky, Fedorov, Tsiolkovsky, and Dobzhansky articulated their responses to the same set of questions, responses that have gone on to shape the ways in which advocates of the good Anthropocene draw upon these thinkers so as to conceptualize the good Anthropocene and plot its narrative. Vernadsky and the others, like many Russian and European intellectuals of that time, did not think of their categories and stories as interpretive *lenses*, with an awareness that such lenses obscure just as much as they illuminate. Rather, they understood their categories and stories as the actual workings of *reality*; that they had before penetrated the veil of existence and had given meaning to the previously hidden processes of history, nature, the cosmos, or God, which were now made visible in scientific or religious language.

III.

The belief that through a new, emergent consciousness, humans have apprehended the reality of the universe and the role of our species within it continues to shape contemporary narratives at the intersection of science, spirituality, and nature, including those of the Anthropocene. For the remainder of this essay, we turn to a cluster of good Anthropocene storylines that exhibit many of the discursive habits, plot devices, and visions of the human that the foregoing genealogy has brought to light. Just as Russian thinkers like Vernadsky articulated a vision of human evolution and cosmic processes that was both framed and limited by preexisting narratives and tropes, so Anthropocene visionaries of today present a "new story" that is anything but new. Wittingly or unwittingly, these narratives exhibit common features with one another and with dominant discursive modes that preceded them. We discern among the shared lineaments of these stories the following features: an emphasis on humanity's developing cosmic consciousness as a pivotal moment of *awakening* in human and cosmic evolution (often with reference to a noöspheric stage that is broadly synonymous or overlapping with the Anthropocene epoch); belief in the immanent, progressive teleology of geological and cosmic processes and an attendant theological anthropology—or secularized version thereof—that posits humans as participants in processes that are both inevitable and under human direction; prophetic visions of unity between humans and the cosmos (posited, frequently, as microcosm-macrocosm relationality), and among all humans.

While good Anthropocene projects, discussed below, may appear to lay claim to divergent agendas, with some functioning as ecological-ethical narratives seeking to put humans into intimate communion with nature, and others igniting a quest to explore worlds beyond our own, all understand humans to play a central role in a cosmic story whose culmination in the Anthropocene is, despite the environmental crises that attend it, an exciting and not unwelcome stage. These seemingly disparate agendas are in reality part of single overarching narrative that applauds humanity's cosmic ascent. This survey of good Anthropocene narratives makes it possible to isolate, and thereby question, their normative assumptions and to trace their indebtedness to Russian sources.

As noted at the outset, the good Anthropocene concept entails that humans' recently acquired powers of altering the planet on an unprecedented scale can be deployed to good effect and in ways that establish our species as wise and

benevolent planetary managers. This general definition of the good Anthropocene encompasses a set of sweeping cosmic stories that some readers, particularly those not familiar with discourse in religion and ecology, might not immediately recognize as Anthropocene narratives at all. Here we have in mind the Universe Story or Epic of Evolution which narrates cosmic, earth, and human evolution from the moment of the Big Bang, 13.7 billion years ago, to the present day, in language that consciously mimics that of myth and origin stories.[47] Promulgated by religion scholars and religionists, the Universe Story is a product of Pierre Teilhard de Chardin's vision of a progressive cosmogenesis—the unfolding of the cosmos in patterns of increasing complexity, cephalization, and consciousness—combined with the ecological worldview of Thomas Berry (1914-2009). In the late 1970s Berry, a former Passionist priest who referred to himself a "geologian," began calling for a "new story"—a functional cosmology rooted in the sciences—as a much needed corrective to longstanding religious traditions and origin stories of the (mostly) Western world, stories that Berry considered to be ecologically and socially dysfunctional in the modern context. A new story would restore purpose, meaning, and awe by placing the human in the cosmic context, revealing our true identity not just as earthlings but as *worldlings*, a species belonging to the larger cosmos. In the evolution of the planet, the human "appears as the moment in which the unfolding universe becomes conscious of itself."[48] Like cosmic thinkers before him, Berry invokes the idea of the human as the microcosm of the vast macrocosm beyond.

> Human persons bear the universe in their being as the universe bears them in its being. The two have a total presence to each other. … [A] kind of mutation is taking place in the entire Earth-human order. A new paradigm of what it is to be human emerges. This is what is so exciting, yet so painful and so disrupting. … One aspect of this change involves the shift in Earth-human relations, for the human now in large measure determines the Earth process that once determined men and women. In a more integral way we could say that the Earth that controlled itself directly in the former period now to an extensive degree controls

[47] Lisa H. Sideris has analyzed these mythic features and traced the affinities of these narratives with one another in *Consecrating Science: Wonder, Knowledge and the Natural World* (University of California Press, 2017).
[48] Thomas Berry, "The New Story: Comments on the Origin, Identification, and Transmission of Values." *Teilhard Studies* 1 (Winter 1978). 84.

itself through human beings.[49]

Berry's work anticipates the coming of a creative new phase in cosmogenesis, an Ecozoic era of ecological healing and restoration to follow on the heels of the environmental devastation of the late Cenozoic era. The Ecozoic would be characterized by mutual enhancement, intimacy, and flourishing between humans and the Earth, achieved by human participation in and guidance of evolutionary processes.

The term Ecozoic was coined by Berry in collaboration with mathematical cosmologist Brian Swimme. It is not a term that appears in Teilhard's writing but Teilhard's influence on Berry and Swimme was profound, and he remains an admired figure among many scholars of religion and ecology. Teilhard's conception of the noösphere shaped Berry and Swimme's understanding of cosmic evolution as a sequence of irreversible transformations in which humanity's conscious participation would play a pivotal role (even while Berry tempered Teilhard's often uncritical enthusiasm for the salvific potential of science and technology).[50] For his own part, Swimme has recently gone on to promote Teilhardian cosmology through what he now calls the "Story of the Noösphere," which treats this concept as integral to the unifying movement needed by Earth's inhabitants to address planetary crises.[51]

As the above passage from Berry indicates, he saw humanity's role as that of *assisting* in the emergence of a new phase of the Earth system, a transition initiated by humans that is at the same time woven into the anthropic fabric of the universe. Berry alludes to five primary components of the Earth system, among them the biosphere and the "noösphere" or "mindsphere"; the noösphere, he argues, has now evolved to direct the planet's further development. Berry describes Earth as having recently embarked on a bold new venture, signaled by its "bestowal upon the human community of the power of

[49] Ibid., 84.

[50] Mary Evelyn Tucker, "Thomas Berry and the New Story: An Introduction to the Work of Thomas Berry," in *The Intellectual Journey of Thomas Berry: Imagining the Earth Community*, ed. Heather Eaton (Lanham, MD: Lexington Books, 2014).

[51] See Swimme and Monica DeRaspe-Bolles, *The Story of the Noosphere* (Orbis, 2024). See also Swimme's advocacy of the noösphere concept under the auspices of the Human Energy project: "The Noosphere: The Current Phase of Earth's Evolution." *Human Energy*, https://www.humanenergy.io/noosphere.

life and death over its basic life systems."[52]

In the narrative arc of the Universe Story, the suggestion that the noösphere is implicit in cosmic unfolding gives greater meaning to the call for human participation and guidance in bringing about the necessary course of events, in this case, a new era of ecological restoration and flourishing. Berry resists the techno-optimism of Teilhard, warning that the alternative to the Ecozoic is a "Technozoic" era characterized by continued plunder and destruction of the natural world and a dangerous ethos of technological domination of all life. Humanity appears to have arrived at a fork in the road of planetary and cosmic evolution. Whether we embrace the Ecozoic or the Technozoic, however, the emergence of this mindsphere—the development that makes it possible for humans to take hold of the evolutionary reins—is not *itself* a contingent event but an inherent feature of Earth's evolutionary trajectory. This moment of awakening, when humans at last know themselves to be integral to the universe, is the point toward which the cosmos has long been unfolding. Yet, the story goes, it remains incumbent upon each of us to understand our role in this larger story and to help usher in the new geological era of enhanced creativity. In this sense, we can see that the Ecozoic functions as a good Anthropocene by another name. In the coming era, "the entire complex of life systems of the planet will be influenced by the human in a comprehensive manner," Swimme and Berry argue. "Almost every phase of the Ecozoic will involve the human."[53] The Ecozoic carries with it much older assumptions regarding the blend of inexorability and human participation, determinism and freedom, that characterizes humans' emergence in cosmic processes. Scholars who currently promote the Universe Story—the "new story" of Thomas Berry, gilded with the latest science and fully elaborated on a cosmic scale—point to the similarities between the Cenozoic-to-Ecozoic transition prophesied by Berry and the announcement of a new Anthropocene epoch. They note that Berry predicted the arrival of something akin to the Anthropocene, but on an even larger scale of geological *eras* rather than epochs. On this view, the

[52] Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club Books, 1988), 19.

[53] Brian Swimme and Thomas Berry, *The Universe Story*, San Francisco, CA: Harper: San Francisco, 1992, p. 247.

Anthropocene might be seen as the opening act of a much longer Ecozoic era.[54]

The central portrait of humans as shaping evolutionary unfolding can be traced back through Berry's thought directly to Teilhard who envisioned a unified and directional evolutionary process that unfurls according to its own inherent patterns and tendencies while also submitting to human guidance. Teilhard believed that modern humans are undergoing a process of heightened awareness of our role: Like "newborn infants whose eyes are opening to the light, we are becoming aware of a world in which [evolution] is endowing the totality of our knowledge and beliefs with a new structure and a new dimension."[55] Our newfound consciousness of evolution enables us to grasp our cosmic purpose, namely to act as the "leading shoot of the tree of life" and the species upon whose shoulders rest the "hopes for the future of the noösphere."[56] Following Teilhard, Universe Story enthusiasts believe that this dawning awareness will inspire a new "zest for life," marked by a "will to participate in evolution" and to assist "the evolutionary advance."[57] A book and film version of this narrative, titled *Journey of the Universe*, plays on familiar and abiding tropes, portraying humans as "the microcosm of the macrocosm" and the "mind and heart of the vast evolving universe." We may feel small and insignificant in contemplating the cosmos, and yet we are the "beings in whom the universe shivers in wonder at itself."[58] The true significance of the human is brought to the fore in our current tumultuous transition from one geological epoch (or era) to another, for we have now "crossed over into an Earth whose very atmosphere and biosphere are being shaped by human decisions." It is no longer biological processes but human "symbolic consciousness" that is the "determining factor for evolution."[59] We

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[54] Elision between the Anthropocene and the Ecozoic is apparent in among some advocates of the Universe Story. See Mary Evelyn Tucker, "Focus on the Anthropocene: Journey of the Universe" (lecture, Carsey-Wolf Center, University of California-Santa Barbara, February 19, 2015), https://www.youtube.com/watch?v=A7OVgMK00Oc.

[55] Pierre Teilhard de Chardin, *The Future of Man*, (New York: HarperCollins, 1964), 88.

[56] Pierre Teilhard de Chardin, *The Phenomenon of Man.* Translated by Bernard Wall. (New York: Harper and Row, 1959). 276.

[57] Mary Evelyn Tucker, "The Ecological Spirituality of Pierre Teilhard de Chardin," *Spiritus: A Journal of Christian Spirituality*. Vol 7. No 1. Spring 2007, 15-16.

[58] Brian Thomas Swimme and Mary Evelyn Tucker, *Journey of the Universe* (New Haven: Yale University Press, 2011), 112-115.

[59] Swimme and Tucker *Journey of the Universe*, 101.

have "awakened" to our role and responsibility as a planetary presence.[60]

In one sense, universe stories are overtly religious—offered, that is, as functional cosmologies that outperform or correct longstanding religious stories that have distanced humans from nature and nonhuman life. Yet, the narrative's central insights are, in the eyes of their proponents, seen to follow directly from contemporary scientific knowledge of the universe, as if humans function as a conduit or vehicle for the conveyance of fundamental truths and realities of the cosmos. "It is not that we think on the universe," Berry claims. "The Universe, rather, thinks *itself* in and through us."[61] The microcosm-macrocosm relationality that purportedly allows us to perceive previously hidden cosmic realities is presented as something modern science has discovered and ratified. Certainly humans' unique position vis-à-vis the cosmos is not acknowledged as, first and foremost, an *inheritance* from preexisting narrative conventions and discursive habits, nor is it treated as mere metaphorical flourish. Our new consciousness and attunement to the realities of the cosmos sweeps away mechanistic and dualistic modes of thought that falsely bifurcated nature into thinking subjects and inert, machine-like objects. We have arrived at the deep truth about *matter* itself as existing in relationality with all else in the cosmos.[62]

A close cousin of Universe Story narratives is the Big History project spearheaded by world historian David Christian. Big History offers a panoramic but unified and integrated story of human, planetary and cosmic history. Though presented as a secular endeavor, Big History's goals align broadly with those of universe stories that are promulgated by religionists. Rationales for Big History range from practical and pedagogical, to ethical and aesthetic, to spiritual and metaphysical. Big Historians lament that students are confused and uninspired by the fragmented, piecemeal education they receive regarding human origins and history—some foreign language here, a little math or science there, a smattering of state or national history. In the absence of an overarching, cohesive narrative, big historians believe, we stand to lose our moral compass and sense of purpose. Putting history into grand epic form arouses enthusiasm

[60] Ibid.
[61] Thomas Berry, *Befriending the Earth: A Theology of Reconciliation between Humans and the Earth.* (Mystic, CT: Twenty-Third, 1991), 21.
[62] Swimme and Tucker, *Journey of the Universe.*

and excitement for learning. Moreover, the fragmentation of knowledge lamented by big historians is, they contend, simply an artefact of the haphazard way in which scholarship has emerged. It does not accurately reflect the unified nature of reality itself.

Today's globalized society cries out for a global, generalized body of knowledge and a sense of itself as a unified species with common goals, Christian believes. Big History is intended to serve as a modern origin story for all people, and Christian is quite explicit that humans require mythical understandings of their world. Much like the Universe Story, Big History claims to offer a narrative that serves up empirical, scientific truths in mythic form. Interestingly, Christian is by training an historian of Russia and the Soviet Union and he is well-versed in nineteenth century Russian culture. He understands history to unfold according to a series of dramatic threshold moments, of which the human species is one. Like Teilhard and others who predicted the evolution of a planetary mind or noösphere, he holds that a significant threshold moment is presently underway in the form of collective learning, a global integration of knowledge that is culminating in something like a single brain.

As historian Ian Hesketh has noted, Big History's narrative appropriates not only information from the sciences but also "literary and genre conventions, which explains some of big history's seemingly peculiar rhetorical strategies such as the appeal to myth, the epic mode of emplotment, and the futuristic, moralistic and compensatory conclusions."[63] These strategies show Big History's indebtedness to a mode of "epic science"[64] that can be traced back to the great synthesizers of science from the Victorian era—Herbert Spencer, Ernst Haeckel, among others. Big History shares many discursive elements with Russian thinkers as well. Thus Christian invokes Vernadsky's theory of human and cosmic evolution in building his case for the profound *scientific* relevance of the noösphere for our Anthropocene epoch. He understands Vernadsky to have resisted the temptations of (unscientific) vitalism to which his more mystical counterparts like Teilhard and Le Roy succumbed, in their musings about the noösphere.

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[63] Ian Hesketh, "The Story of Big History," *History of the Present* 4, no. 2 (Fall 2014), 171-202, 176.

[64] For more on epic science, see Martin Eger, "The New Epic Science and the Problem of Communication." In Shimony, Abner, ed. *Science, Understanding, and Justice*. Chicago: Open Court, 2006.

Yet, like others who appropriate insights from Russian cosmists, Christian is invested in Vernadsky's storyline—his narrative conventions—more than his science, however much he singles out Vernadsky as a committed materialist with respectable scientific bona fides. As with contemporary religion scholars who understand Berry and Teilhard to have anticipated an Anthropocene transition, Christian finds confirmation of Vernadsky's predictions in recent global developments. Students of the Anthropocene, he argues, can now "date when the Noösphere became the primary driver of change on the surface of planet earth," namely in the mid-twenthieth century. "So Vernadsky got it more or less right," Christian asserts, and thus "the Noösphere has taken its place alongside the other great shapers of our planet's history: cosmos, earth and life."[65]

Christian's commentary on the noösphere occurs in a forum that invites influential scientists and other thinkers to reflect on a concept that they believe deserves greater attention. Christian selects the noösphere as deserving of greater attention because he believes the term "can help us get a better grip on the Anthropocene world of today." His commentary provides few clues regarding how, exactly, the noösphere is helpful or what it would mean to *get a grip* on our situation. Nevertheless, the essay's overall tone and Christian's choice of particular phrases—his induction of the noösphere into a pantheon of respectable planet-shaping forces—suggest that something auspicious is afoot in the noösphere's emergence.

Additional clues can be gleaned from Christian's understanding of Big History as providing a mythic perspective and holistic sense of meaning. He spells out parallels between the function of longstanding creation myths and Big History by noting that both offer authoritative and attractive accounts of how everything came to be, and that both proffer a "universal map" that allows us to see connections between "the personal and the universal."[66] Today, when those older stories have lost their hold on us, Big History responds to our psychic and spiritual longing, the quest for answers to our deepest existential questions and anxieties. As Hesketh correctly perceives, it functions as a secular myth that

[65] David Christian, "2017: What Scientific Term or Concept Ought to be More Widely Known?" https://www.edge.org/response-detail/27068

[66] David Christian, "Macrohistory: The Play of Scales," *Social Evolution & History*, Vol. 4, No. 1, March 2005, 22-59.

"intends to restore the continuity and harmony between the individual and the universe" but in order for such narratives to function as something more than a concatenation of events, a random and lifeless chronology, the story must somehow gesture toward closure.[67] This familiar gesture typically involves a moralizing turn toward the future, "the outcome of which is largely dependent on human action."[68] To see how this move works in Big History, recall Christian's threshold moments. Christian believes that the final threshold is upon us: evolution has led us to the moment where directing the future course of the planet is now a live option. *Homo sapiens'* unique capacities for collective learning (what the Universe Story heralds as the watershed emergence of humans' symbolic consciousness) distinguishes us from other lifeforms. We alone are positioned to write the next chapter of the grand narrative, and to intervene in and provide a powerful check on current dire trends. Despite Big History's presentation of humanity as buffeted by a whole host of external forces beyond our control—biological, geological, societal, economic—the narrative culminates in a "profound reversal," a moment of "immense possibility" where humans have finally evolved to the point where we almost seem to share a single brain and are thus empowered to shape the conditions of our own, and the planet's, future evolution.[69] This is what Christian has in mind when he asserts that the noösphere allows us to get a grip on the Anthropocene. It allows us to apprehend the significance of the transformative moment in which we "find" ourselves.

This dramatic reversal is marked not only by humans' discovery of their role as active participants in evolutionary and cosmic processes, but also by the return of humans to the center of the cosmos. A popular convention of cosmic storytelling is the chronicling of various discoveries that amount to the successive, humbling demotion and dethronement of our species. Just when humanity's cosmic insignificance appears firmly established by scientific discoveries, the arrival of our newfound cosmic consciousness and agency brings about a reversal

[67] Hesketh, "The Story of Big History," 181.
[68] Ibid., 186.
[69] Ibid., 194.

of the demoting storyline.[70] The verdict on our insignificance is overturned.

Astrobiologist David Grinspoon uses this compensatory principle to great effect. For centuries, he argues, the heavyweights of science—Copernicus, Galileo, Darwin—have repeatedly dealt a blow to humans' cosmic centrality and exceptionalism. The series of demotions has now been turned on its head by what he proclaims "the great promotion," namely, the arrival of the Anthropocene. In language that is strikingly similar to Christian's, Grinspoon urges us to "*come to grips* with our own significance."[71] We can look at the Anthropocene, or what he calls the "Phenomenon of Man" (a phrase with Teilhardian roots) as a "new stage in the long life of the biosphere, one in which Gaia, experiencing the first flickering of self-awareness, is starting to wake up and look around".[72] With the Anthropocene, humans are back at center stage, albeit for reasons of that may not initially appear flattering, such as our unprecedented environmental impacts on the planet. As noted above, Grinspoon's allusion to the "Phenomenon of Man" is a nod to Teilhard's famous tome by the same name, and indeed, Grinspoon's writing is replete with references to the noösphere and its Russian proponents.

As we noted at the outset, Grinspoon believes that the collective goal of humanity is to bring about the "*mature* Anthropocene," a stage characterized by higher levels of self-awareness about our impacts on the planet. However the debate might be settled (or not) regarding when the Anthropocene officially began, Grinspoon argues that the true or mature Anthropocene commences when we *realize* it has begun. Inviting comparisons with religious narratives of the Fall, he asserts that the "mature anthropocene arrives with mass awareness of our changing role in the planet. … It starts with the end of our innocence."[73] Up to now, humans have altered the planet unconsciously, inadvertently and accidentally—a form of participation in planetary processes characteristic of an intermediate stage that Grinspoon calls the "proto-Anthropocene."[74] The mature

[70] This is what Hesketh means by the "compensatory" move, an idea also explored in Gregory Schrempp, *The Ancient Mythology of Modern Science: A Mythologist Looks (Seriously) at Popular Science Writing*, McGill-Queens University Press, 2012.

[71] Grinspoon, 209 (emphasis ours).

[72] Grinspoon, 214.

[73] Ibid., 225.

[74] Ibid., 226.

Anthropocene, by contrast, is something to "welcome," and even "to strive for." In our present proto-Anthropocene existence, we occupy a liminal, transitional moment, but one that appears as a "necessary prelude" to our attainment of species maturity. The tumult of recent decades, events like climate change, rising seas, and ocean acidification, toxic wastes, acid rain and ozone destruction, are the first noöspheric stirrings of the true Anthropocene, the *good* Anthropocene. Grinspoon confesses some sympathy with so-called ecomodernists—perhaps the most optimistic of the Anthropocene dreamers—who look forward to the creation of a "great" Anthropocene.[75] He also acknowledges indebtedness to a set of "forward-looking individuals in the late nineteenth and early twentieth centuries" who foresaw our present condition: namely, Teilhard de Chardin, Joseph LeConte, Édouard Le Roy, and Vladimir Vernadsky, and "the most forward looking" of all the Russian cosmists, Konstantin Tsiolkovsky. Given his familiarity with these thinkers, Grinspoon also understands, more than some of our cosmic storytellers, that Anthropocene-like concepts are not entirely new; but now the noösphere is more than "just an abstract concept" of historical interest.[76] It enshrines a deep truth about our present situation.

IV.

The mythic language of burgeoning planetary consciousness, so evocative of human innocence and our erstwhile obliviousness to escalating planetary assaults, allows for a peculiar sort of escape from accountability, even as we—humans generally—are said to be maturing into adult reckoning and responsibility. We can begin to see how these recurring narratives both frame and limit our capacity to envision the future and our own agency, enabling a languid, quiescent sort of piety or moral complacency in the face of the Anthropocene, as if it were a cosmic *fait accompli*. Taking this a step further, some astrobiologists have speculated that an Anthropocene-like phase might be universal on all planets in the universe that have intelligent life. That is, viewed from a cosmic or "astrobiological" perspective, the Anthropocene might appear as merely a predictable planetary transition, perhaps a "generic consequence of

[75] John Asafu-Adjaye et al. "An Ecomodernist Manifesto," Breakthrough Institute, April 2015. https://www.ecomodernism.org
[76] Grinspoon, 236.

any planet evolving a successful technological species" akin to our own.[77] This possibility suggests that we humans are not some sort of scourge on the planet, physicist Adam Frank insists, but "simply another thing the Earth has done in its long history."[78] Invoking now-familiar tropes of maturity, he argues that our current moment of precariousness and crisis "may best be seen as our 'final exam,'" or "better yet, it's our coming of age as a true planetary species."[79]

In both their old and "new" forms, these storylines conform all too readily to a recognizable template that was created and handed down to us from secular and religious thinkers from another place and time. Contrary to their promise of human agency fulfilled and realized, these stories of human-directed planetary evolution appear to be directing and ruling over *us*. To remain embedded in these recurring narrative structures, wittingly or otherwise, is to acquiesce in the face of their all-too-conventional "cosmological temptations."[80] The danger in doing so is that we continue to learn nothing new at all.

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[77] Adam Frank, Axel Kelidon, and Marina Alberti, "Earth as a Hybrid Planet: The Anthropocene in an Evolutionary Astrobiological Context." *Anthropocene*, Vol. 19, September 2017, pp 13-21, 13.

[78] Adam Frank, "Climate Change and the Astrobiology of the Anthropocene." *13.7 Cosmos and Culture Blog*. Oct. 1, 2016. https://www.npr.org/sections/13.7/2016/10/01/495437158/climate-change-and-the-astrobiology-of-the-anthropocene

[79] Ibid.

[80] Willis Jenkins writes, "It is almost conventional wisdom that unprecedented challenges require religious and ethical thinkers to narrate a new story or retrieve a forgotten moral vision in order to reorient humanity's moral consciousness … Reckoning with anthropocene power and unprecedented problems can tempt ethicists to dwell in moral cosmology, proposing foundational metaphors and symbols by which agents could better interpret the world of human responsibility … draw[ing] ethical attention away from concrete problems, scientific learning, pluralist negotiations, and the dynamics of cultural change" (Jenkins, *The Future of Ethics: Sustainability, Social Justice, and Religious Creativity*, Washington D.C.: Georgetown University Press, 2013: 4).