

How “Real” is Daoism? Triangulating Laozi, Kant, and Climate

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The question of the “reality” of Daoism concerns the plausibility of its ontological claims. To what extent does a Daoist perspective check out? Can we think of *Daodejing* as a realistic model of environments? To put it bluntly: how true is Daoism? Is there any way of finding this out?

Asking such a question may sound naive. For analytic philosophers, metaphysical models are dubious since truth is either analytic a priori (as tautological transformation of truisms) or synthetic a posteriori (as empirically verified claims). Daoist propositions suggest a model that is logically paradoxical and factually underdetermined. The naturalistic-moral claims of *Daodejing* appear as synthetic judgments a priori. So, in the analytic community, the ontological claims of Daoism are theoretically meaningless and for all practical purposes not verifiable. For continental philosophers, the question is dubious as well. We can view *Daodejing* in textual, cultural, and historical aspects, and explore how Laozi informed related thinkers. But continental philosophers will have difficulties considering the question of the plausibility of ontological claims, too. Seen from an existentialist viewpoint, world, cosmos, or nature is without rhyme or reason. Seen from a postmodern viewpoint, cultural reality is a tapestry of voices, and natural reality is perspectival. Ultimate structures are obscure; nature is contradictory; reality is a construct, and Dao is elusive.

The naïveté of my question is apparent in contemporary, post-metaphysical philosophy. But when one looks beyond familiar academic tenets to cultural differences, that first appearance may be deceptive. Cultural differences not only apply to the barriers between East and West, but also to fault-lines within the West. Crucial there is the gap between English and German thought. This difference emerged in early Modernity. The Scottish Enlightenment resonates with French views and informs Anglophone perspectives. The Continental Enlightenment, in central and Eastern Europe, resonates with Chinese views and informs German philosophy. The Continental Enlightenment spawned conceptual, constructive, and synthetic ways of reasoning, while the Scottish Enlightenment gave rise to empiricist, skepticist, and analytic attitudes (illustrated by the contrasts of, say, Leibniz and Locke, Smith and Wolff, Hume and Kant, or later, Mill and Hegel). The legacy of this difference shaped twentieth century thought. English thinkers embraced a metaphysical skepticism while German thinkers were by and large more optimistic about the prospects of ontological inquiries. Asking about the plausibility of ontological claims, in English, may sound silly (in English!), but this may well be due to the ethnic limits of Anglophone thought.

Today, the emerging interdisciplinary coherence of the material, natural, and life sciences goes hand in hand with efforts at expanding the current Standard Model of physical nature into a so-called Final Theory or “theory of everything.”¹ While scientists hasten to assure us that such efforts, if successful, would just amount to a shared platform for future research—thus promising

not ultimate answers, but instead a systematic basis for all inquiries—so much is already known about fundamental structures of natural reality that the old dream of metaphysical systematicity has turned into a promising scientific vision. The rise of an empirically substantiated model of nature presents philosophy with the opportunity of a retrospective “reality check” of its ontologies.

I shall argue that Daoism admits of an interpretation that harmonizes with scientific information about natural reality. In this sense, Daoist metaphysics turns out to be realistic. The same argument can be made about Kant’s philosophy of nature. In light of what is known today, Kant’s speculations about fundamental natural structures have turned out to be right on the mark. This paper is an attempt to delineate the ontological claims suggested by Laozi and Kant, and to triangulate these two perspectives with the Standard Model. I contend that the application of a scientific yardstick shows that some ontological theories are more realistic than others—daoist metaphysics and Kant’s philosophy of nature are the two great winners in the history of ideas.

1 The Western Split

The first step in this Daoist triangulation will have to be a determination of the Western split and its religious roots. Kant is famous for his critique of metaphysics, particularly in the English world. Why this critique has become famous, while its constructive goal and ontological thrust have been largely disregarded, requires a look at the elements informing the Western split.

By the *Critique of Pure Reason*, metaphysics is “a battlefield of endless controversies” (1781 A viii), and “a completely isolated speculative science of reason, which soars far above the teachings of experience, and in which reason is indeed meant to be its own pupil” (1787 B xiv).² Metaphysics has a problem over method. Its procedure “has hitherto been a merely random groping,” says Kant, and “what is worst of all, a groping among mere concepts” (B xv). Laozi comes to mind with the line *dào kě dào fēicháng dào / míng kě míng fēicháng míng*.³ And yet, this problem with method has never quite silenced German and Chinese philosophers, not even Kant, despite Hume, and despite the analytic-postmodern loss of this hope in the English world.

The Western split between German hopes and English despairs concerns Christianity. Cultural roots of the split derive from the uneven geographic success of the Great Commission. Christianity spread from the Middle East to Rome. Constantine elevated it to the state religion. When the imperial borders weakened and the Latin world began to shrink, the northwestern Roman provinces of the British Isles emerged as the strongest bastion of the faith outside Rome. By 450 AD, the English and Irish maps showed tight networks of churches and monasteries. Areas such as Lincolnshire, Newton’s later homeland, were thriving centers of the new religion.

Not so in German lands—the frontlines at Rhine and Danube yielded to pagan incursions, and until these regions had been reconverted and sufficiently consolidated to afford launching the Great Commission across the rivers, half a millennium had gone by. The first Christian outpost in central Europe, Magdeburg, was built in the 10th century. It took nearly another half-

millennium (up to the late Renaissance), until East Prussia, Lithuania, and the Baltic were under Biblical rule. Even then, and as compared to the English world, the new faith was a thin veneer, visible in the cities and towns, but less visible in the countryside. An ethnographic account published as late as 1898 notes the “provincial isolation” of East Prussians, and that they observe “prehistoric rites.”⁴

These historical data illustrate the depth of the ontological fault-lines in the West. The English world has a thousand years more Christianity under its belt than East Prussia does. Even after the conversion, the German experience with the new faith remained deeply conflicted. In the fourteenth century, the Black Death, primarily a continental scourge, ruined the credibility of the priests. Apparently the missionaries knew little of medicine, and despite rosaries and crucifixes, people were dying like flies. In the fifteenth century, older and secular ideas resurged that weakened the power of the priests, who reacted by burning witches. In the sixteenth century, Luther opposed the Latin order and split German converts into camps. In the seventeenth century, the centennial of Luther’s theses sparked the Thirty Years War; the religious split became genocidal, and central Europe suffered a thirty percent dieback of its population. As a result, the clerics won a bad reputation; the power of Christianity eroded; secular resistance sprung up, and the Enlightenment took off. Thomasius ended witch burning. Leibniz praised China. Wolff argued for naturalism and outed himself as a Confucian. The German Enlightenment or *Aufklärung* flirted with Chinese rites as the desired alternative to Christian faith, and Wolff systematized this alternative as his “German Metaphysics” (1719). In this ontology, contradiction is the first principle of reasoning, and the rational model of reality is both dialectic and evolutionary. The Scottish Enlightenment, however, took a different path. Science mattered now, but its philosophical interpretation had to conform to Christian ideas, as Locke’s and Newton’s work illustrates. In the English world, the true land of Christianity, Asian information was shrugged off as *Chinoiserie*. Thus modernity began in a split.

In the English world, and in the USA up to today, metaphysics is socially and culturally respectable only in the terms of Christian divinity. Rational ontologies of the sort that Leibniz, Wolff, Kant, or Hegel developed are ruled out by traditional intuition and are academic oddities. In the Atlantic West, Christianity was redefined by Puritanism, whose first dogma about reality is the axiomatic distinction between God’s word and God’s world. Dualism is the name of the Atlantic game. Since God’s word is logical and meaningful, but God’s world is absurd and awful, comprehensive ontological systems, such as Leibniz’s theodicy, Wolff’s metaphysics, Kant’s architectonic, or Hegel’s dialectic, have always been unintelligible; too exotic for English ears.

In the Eurasian world, innocent of Puritanism, secular ontologies play a greater role. There, nature is seen less in dualistic and more in holistic terms. Since Leibniz and Wolff, reality, cosmos, or the world was seen in Germany as a progressive network of events, as a *nexus rerum*. Kant saw the problem of metaphysics over method, and in the English world, he is known as having been awakened by David Hume from his “dogmatic slumber.” Less known in the English world is that Kant returned after the *Critique* to his dogmatic slumber and that he did so confident he had met Hume’s challenge. Ontology was not yet on “the secure path of science”

(B vii), but that it would eventually do so was for Kant only a matter of time. Thus the *Critique* ends:

As regards those who adopt a scientific method, they have the choice of proceeding either dogmatically or skeptically; but in any case they are under obligation to proceed systematically. I may cite the famous Wolff as an example of the former mode of procedure and David Hume as an example of the latter and may then, concordantly with my present purpose, leave all others unnamed. The critical path alone is still open. If readers had the courtesy and patience to go with me along this path, they may now judge for themselves whether ... it is now possible to achieve ... what previous centuries failed to accomplish—to secure for human reason total satisfaction on what it has all along busied itself, although up to now in vain. (A856/B884)

Before the *Critique*, ontology involved a tripartite distinction of rational theology, rational cosmology, and rational psychology—in the literal title of Wolff’s so-called *German Metaphysics*, “reasonable thoughts about God, the world, and the human soul”. Today, ontology is reaching the new level. The evolution of rational psychology is evident in philosophy of mind, which deals with computation, cognitive psychology, complexity theory, and neuron-engineering, and it is evident in comparative psychology, which recently caused a scientific paradigm shift over animal minds. The evolution of rational cosmology is visible in physics. With the analyzable mass of empirical images from the Hubble telescope, together with the formal fusion of relativistic and quantum approaches, cosmology has now joined the hard sciences and is fertile with discoveries. To the extent that rational cosmology has traditionally also been the study of terrestrial nature, its scientific evolution is furthermore evident in the progress in systems ecology and climate science. The result of ontology entering the path of science, as predicted by Kant, is that we know now things about the order of cosmos, biosphere, and consciousness that older generations did not.

This progress allows a re-ordering of traditional metaphysical systems. The propositions of some ontological models have turned out to harmonize with what scientists call the Standard Model, while the propositions of other models have been falsified by discoveries. In retrospect, there are winners and losers in the history of ideas. Hence the question of the plausibility of Daoist ideas is not as silly or naive anymore as it would have sounded in the past. And with climate studies in particular, this image jumps into focus. Hence the reality check is timely.

2 Two Ontological Sets: Naturalism and Monotheism

For Daoist ontology, climate change offers a litmus test. We gauge the conceptual fertility and the truth-content of reality-models by comparing their predictive claims to what is happening. Laozi (to a lesser extent, Zhuangzi) presents a model of reality with some definitive descriptors. This set, represented by the *Daodejing*, contains three fundamental claims about objective reality:

- Nature is dynamic, cyclic, and dialectically evolving
- Values reflect nature’s structure and dynamics
- Minds are integral and interactive parts of nature

For defining Laozi, this set is too small and its membership claims are too basic. There are other systems that evoke the same model. Still, this shared minimalist conception of reality emerges as the ontological core of the *Daodejing*. While Laozi's work is richer than the set, the content of the classic turns on these three claims. They appear as recurrent leitmotifs throughout.

We could say that the naturalistic set is a subset of Daoism. Daoism, as a propositional set, is open to interpretation. It would be nonsense to say there is only one right reading of the *Daodejing*. But the interpretive range has limits. Interpretations that are useful, fertile, or open-ended are within the boundaries of the naturalistic set. We can meaningfully state that Laozi suggests a cosmos that is dynamic, evolutionary, cyclic, and holistic, values that mirror nature's rhythms, and minds existing in this cosmos. What this may mean in detail is up to interpretation. But outside these general boundaries, we are hitting dead ends. We cannot meaningfully claim that Laozi points to a cosmos that is static, to values opposed to natural rhythms, or to souls waiting for deliverance. Laozi was not a true Protestant. Instead, Daoism maps out in the naturalistic set.

As soon as we can point to this ontological core of Daoism, we can point to its opposite. The opposite ontology would be this:

- Nature is mechanistic, passive, and static
- Values are stipulated independently from natural facts
- Minds are transcendent or supernatural

Just as the first set is the set of naturalism and a subset of Daoism, this second set is the set of monotheism and a subset of Christianity. By Christian doctrine, nature is the passive and static creation involving mechanical processes and made by a divine Creator outside nature; values are divine commands or human creations and in either sense independent from nature, and minds are images of God. This is not to say that monotheism or Christianity cannot qualify and redefine its tenets, but to the extent this is done, it will involve breaks with doctrinaire tradition.

With all due respect to religious tenets, it must also be said that the propositional core of the monotheistic set is just not true. Nature is not mechanistic—its doings are driven by intrinsic dynamics, energies, and forces. Nature is not passive—it displays active changes based on its internal processes, which involve the successive creation of its elements and the historic growth of its constants. Nature is not static—it underwent unfolding and growth since the Big Bang. Second, values are not extra-natural creations either, for values involve phenomena such as love or fairness, and while love has been shown as a natural behavior among mammals and birds, fairness has been found as a natural pattern in social communities of primates such as macaques. Minds, finally, are not transcendent or supernatural, because minds involve traits like intelligence or thought, and while intelligence has been shown to exist in various forms among all complexly evolved species, distinct thought contents have already been identified in rodents and monkeys. Rodents, monkeys, and other minded animals are not supernatural. Hence the propositions of the monotheistic set are falsified, and the propositions of the naturalistic set are in

agreement with the accumulated body of tested information. The core of *Daodejing* turns out to be factually true.

3 The Naturalist Set and Kant

Where does Kant stand as compared to the two sets? Are his philosophical contentions more in agreement with monotheistic or with naturalistic ontologies? There are many readings of Kant, and we can probably find reasons for making a case for either. But two considerations help to simplify matters. First, recent studies of Kant's intellectual development have relegated the old cliché of Kant-the-Prussian-Pietist to the realm of fantasy. The image of Kant as devout Christian indebted to his Pietist mother was a construction by his three early biographers upon his death (1804). As has recently been discovered, they worked in the Lutheran Church, worried that their affiliation with Kant would be a professional liability, and accordingly massaged the data into a more pleasing official image of their teacher.⁵ In real life, Kant argued for an evolutionary, holistic, dynamic, and self-organizing cosmic theory (1747, 1755, and 1786-1801), contentions that led to his college drop-out in 1748 and his failure to become a professor in 1756. On grounds of his ontological ideas, he was offered in 1764 a professorship in poetry, which he declined. He qualified for a professorship in metaphysics and logic only after recanting in the Inaugural Dissertation in 1770. But even after this public retraction, he ran into problems with the censor over his views on Christianity. In Königsberg, ministers blamed his influence for the empty churches in town, and surviving records of contemporary witnesses show that in private talks, he rejected the catechism, disbelieved in God, and doubted an afterlife. There is hard evidence that demonstrates Kant's distance from the monotheistic set.

Second, there is ample textual evidence that demonstrates Kant's naturalistic leanings. Here, however, the interpretive issue is what writings by Kant should qualify as writings by Kant. In the English world, he is famous for his three *Critiques* from the 'critical decade' of the 1780s. During this decade, he kept metaphysical claims to a minimum and stressed the unknowability of the thing in itself. But as a matter of fact, Kant worked as a philosopher from the 1740s to 1801 and constructed naturalistic models both in the decades before and after the 1780s. But these models are considered to be problematic, and his pre-and post-critical texts are ignored.

Hence a curious picture of Kant has emerged in the academy: nearly sixty years of ideas are reduced to ten years of ideas, and while his ten critical years belong to the academic canon, the other fifty years are ignored. His writings on naturalistic ontology—the first two books, and the later *Opus Postumum*—are seen as intellectually irrelevant and only interesting to specialists.

What makes the naturalistic Kant more relevant than traditionally thought is the fact that a number of his metaphysical contentions have turned out to be successful anticipations of later scientific discoveries. A short list may suffice to illustrate this point. In 1747, Kant proposed the organic unfolding of cosmic structure on the basis of internal powers, anticipated that the dynamic identity of mass is the link of momentum and energy, speculated that force creates space and that space orders force, and discovered the law of free field radiation. In 1754, Kant

solved the physical version of the three body problem by showing the dynamic reasons for the retardation of Earth's axial rotation (which is accurate; a leap second was added to calendars New Year 2006). In 1755, he proposed that the current universe evolves from initial chaos to present complexity (mirrored in cosmic evolution after the Big Bang). He proposed that solar systems and galaxies are results of structural-dynamic evolution (the Nebular Hypothesis substantiated in the Standard Model), and he stipulated that universes exist along a larger oscillating chain of Big Bangs and Big Crunches (the Firebird Thesis, now discussed in physics).⁶ He also discovered the causal workings of coastal and trade winds, and identified the climate rhythms of the monsoon. In other words, Kant's naturalistic ontology contains a number of fruitful and profound discoveries.⁷

In sum, there is reason for locating Kant in the naturalistic Eurasian Enlightenment. After his death in 1804, his friends chose one of his sayings for the tombstone. He had written it in the conclusion to his *General Natural History* (1755) and rephrased it in the second *Critique* (1788):

Two things fill the mind with ever new and increasing admiration and respect, the more often and longer one reflects on them: starry sky, above me; and moral law, within me.⁸

Perhaps his friends wanted to have this sentence remembered most. In their view, it is this nexus between outer ways and inner ways, this mirror of starry sky and moral law, or of macro- and microcosm, which nails what Kant's philosophy is all about. The ontological idea of a fundamental resonance of inner and outer ways sounds similar to Laozi's suggestions. Indeed, the joint vector of natural evolution and moral cultivation is not only implied by Daoism, but was also explicated and defended by Wolff in his China-speech (1721) as axiom of decorum or rites.⁹ But even Kant's critical writings allow for this naturalistic interpretation. In 1788, Kant explains his reflection of starry sky and moral law as follows:

I shouldn't think of "starry sky" and "moral law" as being shrouded in darkness. And I shouldn't search for them in drunken exuberance, outside my circle of vision, or just guess around. I see them in front of me. I tie them to the awareness of my existence. The first reflection starts at the place I take up in the environmental world of senses. It expands the connectedness, where I stand, into immeasurably large frameworks, with worlds over worlds, and systems about systems, and—on top of this—in boundless times of their cyclic motion, their origin, and their persistence. The second reflection starts at my invisible self, or my personality, and puts me on stage in a world of true infinity, but which is only sensitive to the understanding. With that world (but thereby also with all these visible worlds), I recognize myself not in a merely coincidental connection, as with the visible places, but in a general and necessary connection. The former encounter, with a countless set of worlds, destroys, in a way, my importance as an *animal creature*. Animal creatures must return the matter they evolved from, back to the planet (a sheer point in the universe). They must return it after they had been affected with life force for one short time (the "how" is unknown). The second encounter, however, elevates my worth ad infinitum, as *intelligence*. It does so through my personality, in which the moral law shows to me an autonomous life apart from the animal world and apart from the whole environmental world of senses—at least as much can be gauged from this set-up, which is not qualified by conditions and limits of this life, but which goes out endlessly. (5:161.36-5:162.23; my translation)

4 The Ontology of Climate Change

We accordingly see that Daoism and Kantian insights have more in common than usually thought, that their naturalistic ontology is the metaphysical winner in today's Standard Model, and that Western modernity involves a split between the Atlantic and the Eurasian sets of viewpoints. We can accordingly triangulate Laozi over Kantian insights and general science, with the interim result that Daoist ideas are more realistic reflections on the order of nature than is usually trusted.

Let us now turn to the environment. The term "environment" denotes literally a surrounding, enveloping structure, like a house. The term is from French for "about" or "around" (*environ*) and for state (*-ment*). The German *Umwelt* joins "about/around" to "world" (*um* + *welt*). In Greek, environment means *oikos* (English spelling "eco"), which means "house." Ecology is literally the logic of the house. Environments are accordingly the dynamic structures housing us.

The difference between environmental problems of the past and environmental problems today is that biospherical degradation has become systematic. A mere generation ago, pollution came mostly from localized point sources, such as smokestacks; there were still large swaths of wilderness growing, and the oceans were still teeming with life. But already then, illustrated by the old problem of acid rain, a new environmental trouble emerged. Larger causal structures, of a diffuse degradation, started to become visible. Air pollution drifted with winds, merged into clouds, crossed borders, and turned into rainfalls that sterilized lakes and sickened forests abroad. American smoke blighted Canadian nature. Polish and Czech smoke blighted German nature. German and Scottish smoke blighted Swedish nature. The trouble is that point-source pollution has expanded to regional blights and that regional blights have expanded into diffuse degradation.

Diffuse degradation changed geographies, such as the evaporation of Lake Aral, once the fourth-largest inland sea in the world; now a shrinking puddle in the middle of a vast beach. In China, deforestation, urbanization, and industrialization lead to an eastward spread of the Gobi, and the dynamics of desertification began to fuel an annual dust-storm season in Beijing county. Generally, on environmental maps, dots turned into blobs, next shaded areas, and finally into smeared streaks. Pollution spread and altered regional states into a systematic environmental reorganization. At present, climate swings are being fattened up with greenhouse gas emissions. Consequently, the world's weather is turning strange, and biospherical decline is accelerating. So we see a nearly unprecedented collapse of biodiversity now, a veritable planetary meltdown of entire organizations of species. In 2005, the UN concluded that measurable human pressures already surpass the catastrophe that wiped out the dinosaurs, an extinction event that deleted half of all species 64 million years ago.

Climate change shows, in ontological terms, that the biosphere is one comprehensive energetic system, a network of happenings, whose structure is informed by pervasive pulses, and in which everyone, without exception, is tied to the dynamics of the house. The good news is that Daoists can actually congratulate themselves on engaging with an ontological perspective that is more

commensurate with our science than any rivaling metaphysical image. The bad news is that their ideological opponents, as in the USA, are rather sore, since all these current events should not be happening in this form at all. The monotheistic set paints nature as essentially inert, which is contradicted by the dynamic reorganization of globally evolving new weather patterns. Moreover, the monotheistic set allows only God the power of wielding miracles and punishments, as the Bible stories about the Egyptian plagues, Sodom and Gomorra, and the Deluge illustrate. Even Moses parted waters only by the power of God. But now it turns out that God has nothing to do with the present environmental restructuring—not a vengeful divinity, but complacent consumers alienated from nature are the clear causes of a looming global climate catastrophe. Thus the old dualistic separation of human and natural worlds cannot be maintained. What we see now is the tight causal interplay of humans and nature: as we alter nature, nature will alter us.

5 The Daoist Reality-Check

In conclusion, Daoism involves a naturalistic ontology as its propositional core, which historically informed the naturalistic ontologies of the Eurasian Enlightenment and of Kant, and that emerges in superb agreement with the facts of nature. Climate change highlights the evolving and interactive structures of nature. The anthropogenic causes of global warming disclose the integral position of humans in the biosphere. The risks of a climate catastrophe, finally, serve as a reminder that values guided by wisdom are mirrors of environmental rhythms. Much work remains to be done. Historians need to enrich the information about the Eurasian Enlightenment (and Cambridge University Press needs a companion volume to the Scottish Enlightenment). Kant scholars need to consider the heuristic power of Kant's ontology (and start talking with the scientists who are full of praise of Kant's naturalistic ideas). Daoist philosophers need to determine how to capitalize on global warming. My hope is that the analytic-postmodern prejudices against Daoist field-being can be overcome, and that we will elucidate the naturalistic thrust of the Categorical Imperative and the logical transformation of Dao into the virtue of *De*.

NOTES

1. Popular examples of recent attempts at synthetic accounts are the publications of Steven Weinberg, *Dreams of a Final Theory: the Search for the Fundamental Laws of Nature* (New York: Vintage, 1993); Gerard 't Hooft, *In Search of the Ultimate Building Blocks* (Cambridge, UK: Cambridge University Press, 1997); Edward O. Wilson, *Consilience: the Unity of Knowledge* (New York: Vintage, 1999); Martin Rees, *Just Six Numbers: the Deep Forces that Shape the Universe* (London: Phoenix, 2000); John D. Barrow, *The Constants of Nature: From Alpha to Omega—the Numbers that Encode the Deepest Secrets of the Universe* (New York: Pantheon, 2002); Stephen Hawking, *The Theory of Everything: the Origin and Fate of the Universe* (Los Angeles: New Millennium, 2003); or Roger Penrose, *The Road to Reality: A Complete Guide to the Laws of the Universe* (New York: Knopf, 2005). While the skeptically inclined philosopher might dismiss such projects as dubious, the credentials of the authors listed are impeccable. Weinberg won the Nobel for physics (1979) and the National Medal of Science (1991); Hooft won the Nobel for physics (1999); Wilson won the National Medal of Science (1977) and is at present arguably the world's foremost biologist; Rees is the current Astronomer Royal of

Great Britain; Barrow is professor of mathematical sciences at Cambridge, and Hawking and Penrose need no introduction. Cosmology may serve as an illustration of scientific progress. In *The Nature of Space and Time*, by S. Hawking and R. Penrose (Princeton/Oxford: Princeton University Press, 2000), p. 75, Hawking remarks: “Cosmology used to be considered a pseudoscience and the preserve of physicists who might have done useful work in their earlier years, but who had gone mystic in their dotage. ... However, in recent years the range and quality of cosmological observations has improved enormously with developments in technology. So this objection against cosmology as a science, that it doesn’t have an observational basis, is no longer valid.”

2. Immanuel Kant, *Critique of Pure Reason*, trans. Kemp Smith (New York: Palgrave Macmillan, 2003), pagination of the first (1781 A) and the second (1787 B) edition.

3. Laozi, *Daodejing*, verse 1, initial couplet. See Lao Tsu, *Tao Te Ching*, trans. Gia-Fu Feng and Jane English (New York: Vintage, 1997) [no pagination]: “The Tao that can be told is not the eternal Tao. The name that can be named is not the eternal name.”

4. M. Reymond *Illustrierte Länder- und Völkerkunde* (Berlin: Deutsche Volksbibliothek, 1898), p. 223 (my trans.): “Despite the telegraph and the steamships that ferry ... on the coastal (*Haff-Seite*) side of the bay (*Kurische Nehrung* [Kuršskij zaliv]), the natives mostly live in pristine isolation (*weltfremder Abgeschlossenheit*). They are of the Lithuanian tribe (*litauische Stämme*) and keep observing prehistoric customs and rites (*Sitten und Gebräuche der Vorzeit*).” In the twentieth century, the pagan creeds were revived as the so-called Dievturiba faith, organized in Latvia 1925-1940. Noteworthy is also that the pre-1945 network of Roman Catholic bishops on the Baltic coast carried the title *in partibus infidelium*—in the lands of the infidels; see Ruth Kibelka, *Ostpreußens Schicksalsjahre 1944-1948* (Berlin: Aufbau Verlag 2004), p. 334 note.

5. Manfred Kuehn, *Kant: A Biography* (Cambridge: Cambridge University Press, 2001), p. 7-8.

6. Martin Schönfeld, “Kant’s Early Cosmology,” *A Companion to Kant*, ed. Graham Bird (Oxford: Blackwell, 2006), pp. 47-62.

7. Peter Coles, ed., *The Routledge Companion to the New Cosmology* (London: Routledge, 2001), p. 240, judges Kant’s evolutionary conception of the cosmos as “the essence of modern models.”

8. My translation. The epitaph is tough to translate. “Mind” is really *Gemüt*, which means also courage, character, or beautiful spirit. “Sky” is really *Himmel*, a term as ambivalent as Latin *caelum* and Chinese *tian*; English translators traditionally prefer their Christian word “heaven.” “Law” is originally *Gesetz*, which literally means the setting-down of fixed information or the set-up of how anything works. For the original, see Immanuel Kant, *Gesammelte Schriften*, ed. Akademie der Wissenschaften, (Berlin: Reimer; later De Gruyter, 1910ff.), vol. 5, p. 161, lines 33-36. Subsequent citations from the Academy edition are by volume, page, and line numbers.

9. Christian Wolff, *Rede über die praktische Philosophie der Chinesen—Oratio de Sinarum philosophia practica*, ed. and trans. Michael Albrecht (Hamburg: Meiner, 1985), pp. 4-9.