

Nietzsche-Darwin Bingo

until one day we learn to intuit that the hidden secret of our essence is awaiting us in the having-been, and only as such is present to us.¹

Jennifer Ratner-Rosenhagen writes that Nietzsche “made it his practice to genealogically reconstruct how a range of cherished moral beliefs and intellectual ideals, assumed to be timeless absolutes, were, in fact, products of a specific time and place.” She concludes by asserting, “The lessons of history are that there are no timeless lessons waiting for us.”²

None? Maybe Nietzsche imparts **one** lesson through which history can, as is Ratner-Rosenhagen’s belief, or at least her desire, “provide a widened horizon of connection and possibility, helping us get out of the narrow perspective of our now.” That would be his lesson opening a horizon *vom Wurm zum Menschen*:³

“there is no more important proposition for all kinds of historical research [*für alle Art Historie gar keinen wichtigeren Satz*] than that which we arrive at only with great effort but which we really *should* reach, – namely that the origin of the emergence [*die Ursache der Entstehung*] of a thing and its ultimate usefulness, its practical application and incorporation into a system of ends, are *toto coelo* separate; that anything in existence, having somehow come about, is continually interpreted anew [*auf neue Ansichten ausgelegt*], requisitioned anew [*neu in Beschlag genommen*], transformed and redirected to a new purpose [*zu einem neuen Nutzen umgebildet und umgerichtet*] by a power superior to it; that everything that occurs in the organic world consists of *overpowering, dominating* [**Überwältigen, Herrwerden**], and in their turn, overpowering and dominating consist of re-interpretation [*Neu-Interpretieren*], adjustment [*Zurechtmachen*], and in the process of which their former ‘meaning’ [*Sinn*] and ‘purpose’ [*Zweck*] must necessarily be obscured or completely obliterated [*verdunkelt oder ganz ausgelöscht werden muss*]. No matter how perfectly you have understood the *usefulness* of any physiological organ (or legal institution, social custom, political

¹ *bis wir eines Tages ahnen lernen, daß im Gewesenen das verborgene Geheimnis unseres Wesens uns entgegenwartet und daß nur so Gegenwart ist.* Martin Heidegger, *Heraclitus: The Inception of Occidental Thinking and Logic: Heraclitus’s Doctrine of the Logos* (tr. Julia Goesser Assaiante and S. Montgomery Ewegen 2018) 148; *Gesamtausgabe Band 55*: 194: <https://www.beyng.com/gaselis/?vol=55&pg=194> .

² Jennifer Ratner-Rosenhagen, “Nietzsche’s Quarrel with History: Are there any lessons left for history to teach us?,” 24 *The Hedgehog Review* (2022): <https://hedgehogreview.com/issues/the-use-and-abuse-of-history/articles/nietzsches-quarrel-with-history> .

³ *Wie habt ihr den Weg vom Wurm zum Menschen gemacht! und Vieles in euch ist noch Wurm und ein Gedächtniß eures Weges.* Friedrich Nietzsche, *Nachgelassene Fragmente* 1882, 4[139]: <http://www.nietzschesource.org/#eKGWB/NF-1882,4> .

usage, art form or religious rite) you have not yet thereby grasped how it emerged [*seiner Entstehung begriffen*]”⁴

Foucault succinctly:

“if the genealogist refuses to extend his faith in metaphysics, if he listens to history, he finds that there is ‘something altogether different’ behind things: not a timeless and essential secret, but the secret that they have no essence or that their essence was fabricated in a piecemeal fashion from alien forms [*non point leur secret essentiel et sans date, mais le secret qu’elles sont sans essence, ou leur essence fut construite pièce à pièce à partir de figures qui lui étaient étrangères*].”⁵

This point entered English historical thought in the first half of the seventeenth century with Sir Henry Spelman’s ‘discovery of feudalism.’ Spelman established, as Pocock tells it,

“that the basic tenure of English law had at a time past involved the whole complex of lord-vassal relationships described by Gerardus, Obertus and a great company of continental writers on feudal and customary law. It could now be seen that a large number of these relationships were in fact mentioned or implied in the books of the common law and could be explained by reference to a common origin. It was this which constituted the seventeenth-century revolution in English historiography. . . . The feudal relationship as thus defined . . . could now be employed to bring about a radical reinterpretation of the whole body of English law as it had existed in the Middle Ages, simply by explaining every feature susceptible of that treatment as one of its consequences. This was the beginning of the genuinely historical study of English institutions and the only possible alternative to the pseudo-historical thought of Coke and the common lawyers. . . . [Spelman] recognized . . . that it was now possible to construct a completely new historical analysis of the law by distinguishing the elements of various origin which it contained. . . . and Spelman more than once shows himself capable of distinguishing between the Germanic, civil, canon and feudal elements in common law and studying particular aspects of legal and juridical history in terms of their successive influences. . . . There was nothing in the common law which Spelman need regard as immemorial, and he had dissolved the notion of custom into a series of influences of diverse origins.”⁶

⁴ Friedrich Nietzsche, *On the Genealogy of Morality* ([1887] tr. Carol Diethe 1994) 55:

<http://www.nietzschesource.org/#eKGWB/GM-II-12> .

⁵ Michel Foucault, “Nietzsche, Genealogy, History” in *The Foucault Reader* (ed. Paul Rabinow 1984) 78.

⁶ J. G. A. Pocock, *The Ancient Constitution and the Feudal Law: A Study of English Historical Thought in the Seventeenth Century* (reissue with retrospect 1987) 102, 104. As for Coke and the common lawyers: “If the idea that law is custom implies anything, it is that law is in constant change and adaptation, altered to meet each new experience in the life of the people; and it might seem that there was no theory more likely to lead to a historical

By mid-nineteenth century Henry Sumner Maine was anticipating Nietzsche's *Satz* (without the *Machtrede*) and characterizing it as an often repeated warning:

"Testamentary law is the application of a principle which may be explained on a variety of philosophical hypotheses as plausible as they are gratuitous; it is interwoven with every part of modern society, and it is defensible on the broadest grounds of general expediency. But the warning can never be too often repeated, that the grand source of mistake in questions of jurisprudence is the impression that those reasons which actuate us at the present moment, in the maintenance of an existing institution, have necessarily anything in common with the sentiment in which the institution originated."⁷

In his turn at the end of the nineteenth century F. W. Maitland cites one of the Constitutions of Clarendon (1164) and cautions his students with the same reminder,

"We see here a preliminary procedure; it is to settle nothing about right, nothing even about seisin, it is merely to settle the competence of tribunals, to decide whether the action shall proceed before a spiritual or a temporal tribunal. But it had a very peculiar history. Subsequent changes in the relation between church and state, changes which in this instance extended the sphere of the lay courts at the expense of the Courts Christian, gave this assize a new turn. Still keeping its old form of an assize it became a proprietary remedy in the king's court for a parson who wished to recover the lands of his church; it became 'the parson's writ of right'. We have constantly to remember this, that an action instituted for one purpose in one age comes to be used for another purpose in another age."⁸

conception of the nature of law. Yet the fact is that the common lawyers, holding that law was custom, came to believe that the common law, and with it the constitution, had always been exactly what they were now, and that they were immemorial: not merely that they were very old, or that they were the work of remote and mythical legislators, but that they were immemorial in the precise legal sense of dating from time beyond memory—beyond, in this case, the earliest historical record that could be found. This is the doctrine or myth of the ancient constitution, which bulked so large in the political thought of the seventeenth century and furnishes this book with half its title." *Id.* 36. 'Ancient constitution' and 'feudal law' are thus a thema-antithema pair, a phenomenon documented in Gerald Holton, *Thematic Origins of Scientific Thought: Kepler to Einstein* (rev. ed. 1988).

⁷*Ancient Law: Its Connection with the Early History of Society and its Relation to Modern Ideas* (1st ed. 1861) 157: <https://oll.libertyfund.org/title/pollock-ancient-law>. Nietzsche will write in 1887, "Now another word on the origin and purpose of punishment – two problems which are separate, or ought to be: unfortunately people usually throw them together. How have the moral genealogists reacted so far in this matter? Naïvely, as is their wont –: they highlight some 'purpose' in punishment, for example, revenge or deterrence, then innocently place the purpose at the start, as *causa fiendi* of punishment, and – have finished." *On the Genealogy of Morality* 54-55.

⁸*The Forms of Action at Common Law* (1909, a redaction of lectures given in the previous two decades) 27: <https://sourcebooks.fordham.edu/basis/maitland-formsofaction.asp#Lecture%20III>. From Lecture I: "So long as the forms of action were still in use, it was difficult to tell the truth about their history. There they were, and it was the duty of judges and text writers to make the best of them, to treat them as though they formed a rational

And so to Milsom in the late twentieth century,

“The life of the common law has been in the abuse of its elementary ideas. If the rules of property give what now seems an unjust answer [i.e., adverse to the client’s interest], try obligation; and equity has proved that from the materials of obligation you can counterfeit the phenomena of property. If the rules of contract give what now seems an unjust answer, try tort. Your counterfeit will look odd to one brought up on categories of Roman origin; but it will work. If the rules of one tort, say deceit, give what now seems an unjust answer, try another, try negligence. And so the legal world goes round. . . . Lawyers have always been preoccupied with today’s details, and have worked with their eyes down. The historian, if he is lucky, can see why a rule came into existence, what change left it working injustice, how it came to be evaded, how the evasion produced a new rule, and sometimes how that new rule in its turn came to be overtaken by change. But he misunderstands it all if he endows the lawyers who took part with vision on any comparable scale, or attributes to them any attention beyond getting today’s client out of his difficulty.”⁹

Nietzsche’s *Satz*, his “major point of historical method” (*Haupt-Gesichtspunkt der historischen Methodik*) was also Darwin’s, who wrote In the *Origin*,

“The illustration of the swimbladder in fishes is a good one, because it shows us clearly the highly important fact that an organ originally constructed for one purpose, namely flotation, may be converted into one for a wholly different purpose, namely respiration. . . . Although in many cases it is most difficult to conjecture by what transitions an organ could have arrived at its present state; yet, considering that the proportion of living and known forms to the extinct and unknown is very small, I have been astonished how rarely an organ can be named, towards which no transitional grade is known to lead.”¹⁰

And years later in the *Orchid* book he draws the analogy with human technology:

scheme provided all of a piece by some all-wise legislator. It was natural that lawyers should slip into the opinion that such had really been the case, to suppose, or to speak as though they supposed, that some great king (it matters not whether we call him Edward I or Edward the Confessor, Alfred or Arthur) had said to his wise men ‘Go to now! a well ordered state should have a central tribunal, let us then with prudent forethought analyse all possible rights and provide a remedy for every imaginable wrong.’ It was difficult to discover, difficult to tell, the truth, difficult to say that these forms of action belonged to very different ages, expressed very different and sometimes discordant theories of law, had been twisted and tortured to inappropriate uses, were the monuments of long-forgotten political struggles; above all it was difficult to say of them that they had their origin and their explanation in a time when the king’s court was but one among many courts.”⁹

⁹ S. F. C. Milsom, *Historical Foundations of the Common Law* (2nd ed. 1981) 6, 7.

¹⁰ Charles Darwin, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life* (1859) 190, 194.

“Although an organ may not have been originally formed for some special purpose, if it now serves for this end, we are justified in saying that it is specially adapted for it. On the same principle, if a man were to make a machine for some special purpose, but were to use old wheels, springs, and pulleys, only slightly altered, the whole machine, with all its parts, might be said to be specially contrived for its present purpose. Thus throughout nature almost every part of each living being has probably served, in a slightly modified condition, for diverse purposes, and has acted in the living machinery of many ancient and distinct specific forms.”¹¹

This lesson of natural history was dear to Stephen Jay Gould, who wrote many pages discoursing on it. When a graduate student told him about Nietzsche’s *Satz* Gould was so pleased with the congruence that he memorialized it in his testament, *The Structure of Evolutionary Theory*, by naming it ‘the Nietzsche-Darwin principle.’¹²

Darwin was wrong in fact about the swimbladder—the lung developed from the esophagus—but the principle remains valid; “Making a lung from a piece of esophagus sounds very much like making a skirt from a piece of Granny’s curtain.”¹³ Shubin re-urges the principle in sweeping terms: “Looking back through billions of years of change, everything innovative or apparently unique in the history of life is really just old stuff that has been recycled, recombined, repurposed, or otherwise modified for new uses. This is the story of every part of us, from our sense organs to our heads, indeed our entire body plan.”¹⁴

For Schumpeter this is the story of entrepreneurship, the engine of capitalism. Schumpeter made a fundamental distinction between economic growth (*Wachstum*) and economic development (*Entwicklung*). Mere growth (*bloße Wachstum*), he writes, “calls forth no new phenomena [*ruft keine qualitativ neuen Erscheinungen hervor*], but only processes of adaptation” to conditions as they change. Development, by contrast, “consists primarily in employing existing resources in a different way, in doing new things with them.”¹⁵ So

“To produce [*produzieren*] means to combine materials and forces within our reach. To produce other things, or the same things by a different method, means

¹¹ *The Various Contrivances by Which Orchids are Fertilised by Insects* (2nd ed. rev. 1877) 283-284. The same *bricoleur* character of the dream-work is frequently noted; and the most cogent parts of *Traumdeutung* come down to ‘How to make meaning from clutter.’

¹² Stephen Jay Gould, *The Structure of Evolutionary Theory* (2002) 1214-1218, 1230.

¹³ François Jacob, *The Possible and the Actual* (1982) 35.

¹⁴ Neil Shubin, *Your Inner Fish: A Journey into the 3.5-Billion-Year History of the Human Body* (2008) 201.

¹⁵ Joseph A. Schumpeter, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle* (2nd ed. 1926 tr. Redvers Opie 1934; repr. 1983) 63, 68.

to combine these materials and forces differently. In so far as the ‘new combination’ [*die neue Kombination*] may in time grow out of the old by continuous adjustment in small steps, there is certainly change [*Veränderung*], possibly growth [*Wachstum*], but neither a new phenomenon nor development in our sense. In so far as this is not the case, and the new combinations appear discontinuously, then the phenomenon characterising development emerges. . . . Development in our sense is then determined by the carrying out of new combinations [*Durchsetzung neuer Kombinationen*].”¹⁶

What about *das Neue schlechthin*? Just where does the ‘new’ in *neue Ansichten*, *neu in Beschlag*, *neuen Nutzen*, *Neu-Interpretieren*, *neuer Kombinationen* come from anyway? In his published work Schumpeter passes over the question of how ‘the new’ arises, sometimes writing as if τα καινά are simply Gibsonian affordances present for the picking: “New possibilities are continuously being offered by the surrounding world, in particular new discoveries are continuously being added to the existing store of knowledge.”¹⁷ Schumpeter never published “*Entwicklung*,” his only essay to focus on the pure-and-simple occurrence of the new – *das Auftreten des neuen schlechweg* – on the new construct as such – *der Neugestaltung als solche* – no matter what *Gestalt das Neue* might take, whether new interpretation (*neuen Auffassungsweise*) or new technique (*neuen Technik*). In the unpublished “*Entwicklung*” he emphasizes “the fundamental importance of novel phenomena” and claims that “such phenomena are essentially similar in all of the social sciences;” that “there is no difference between novelty in the economy and elsewhere.” For Schumpeter true novelty is always a discontinuity, a break: “The change transmuted one imprinted form [*eine geprägte Form*] into another one must represent a crack [*Riß*], a jerk [*Ruck*], or a leap [*Sprung*].”¹⁸

Discontinuity is the anti-thema of classical Darwinism’s thema of continuity. In his discussion of transitional forms Darwin affirms his belief in slow and gradual change:

“I have been astonished how rarely an organ can be named, towards which no transitional grade is known to lead. The truth of this remark is indeed shown by that old canon in natural history of ‘*Natura non facit saltum.*’ . . . Why, on the theory of Creation, should this be so? Why should all the parts and organs of many independent beings, each supposed to have been separately created for its proper place in nature, be so invariably linked together by graduated steps? Why should not Nature have taken a leap from structure to structure? On the theory of natural selection, we can clearly understand why she should not; for natural

¹⁶ *Id.* 65-66.

¹⁷ *The Theory of Economic Development* 79.

¹⁸ Joseph A. Schumpeter, “*Entwicklung* [1932?],” tr. Markus C. Becker and Thorbjørn Knudsen as “Development,” 43 *Journal of Economic Literature* 108; 114, 113 (2005).

selection can act only by taking advantage of slight successive variations; she can never take a leap, but must advance by the shortest and slowest steps.”¹⁹

Leaving aside the question of gradualism in non-human biota,²⁰ the irruption of *das Neue* in human existence shows up as the aprons-in-Paradise phenomenon: “And the eyes of them both were opened, and they knew that they were naked; and they sewed fig leaves together, and made themselves aprons.” *Genesis* 3:7 (KJV). Casting this fable of novel combination into Heideggerese we take ‘opened eyes’ to signify the understanding of being, the way of life in which beings show up as beings and thereby become accessible for interpreting anew, requisitioning anew, transforming, recombining, and redirecting to a new purpose. “Of course,” Heidegger says, “only as long as Dasein *is* (that is, only as long as an understanding of Being is ontically possible), ‘is there’ Being. . . . only if the understanding of Being *is*, do entities as entities become accessible.”²¹

The core of human understanding per Heidegger is the ‘as-structure;’ “a structure of λόγος that first makes λόγος as such possible. . . . That is, all speech speaks about something that is somehow [*irgendwie*] already disclosed [*Aufgeschlossenes*].”

“Every act of having things before our eyes, every act of perceiving them, is held within this [prior] disclosure [*Aufschluß*] of those things, a disclosure that things get from a primary making-sense-of-things [*einem primären Bedeuten*] in terms of their what-they’re-for [*aus dem Wozu*]. Every act of having something before our eyes and perceiving it, is in and of itself a matter of ‘having’ something *as* something [*ein »Haben« von etwas als etwas*]. Our directional being-onto-things-and-people functions within this structure of ‘something as something.’ In short, it has the *as-structure* [*hat die Als-Struktur*].”²²

The distinguishing feature of the human as-structure is its unconstrainedness. All other organisms are ‘poor in world’ (*weltarm*), though they all do have a kind of proto-as-structure, something as *for* something: “even a vegetable lives its not-too-bright life in terms of an end-for-which [*Wozu*].”²³ And organisms have *Befindlichkeit*; even “a very primitive unicellular

¹⁹ *On the Origin of Species* 194.

²⁰ For the current state of the question see Mary Jane West-Eberhard, *Developmental Plasticity and Evolution* (2003), ch. 24, ‘Gradualism.’

²¹ Martin Heidegger, *Being and Time* (tr. John Macquarrie and Edward Robinson 1962) 255; *Sein und Zeit* (Niemeyer 2006) 212. *Allerdings nur solange Dasein ist, das heißt die ontische Möglichkeit von Seinsverständnis, »gibt es« Sein. . . . nur wenn Seinsverständnis ist, wird Seiendes als Seiendes zugänglich . . .*

²² Martin Heidegger, *Logic: The Question of Truth* (tr. Thomas Sheehan 2010) 120, 121; GA 21: 144: <https://www.beyng.com/gaselis/?vol=21&pg=144> . In other words, every language-game is an as-structured comportment: “Children do not learn that books exist, that armchairs exist, etc. etc.,—they learn to fetch books, sit in armchairs, etc. etc.” Ludwig Wittgenstein, *On Certainty* (tr. Denis Paul and G. E. M. Anscombe 1969) 62e, ¶ 476.

²³ *Logic: The Question of Truth* 129; GA 21: 154: <https://www.beyng.com/gaselis/?vol=21&pg=154> .

form of life . . . will already find itself [*wird sich schon befinden*], where this disposition [*diese Befindlichkeit*] can be the greatest and darkest dullness, but for all that it is in its structure of being essentially distinct from merely being on hand like a thing.”²⁴ Yet in contrast to the ‘captivation’ (*Benommenheit*) of all other organisms, “we can characterize the relation man possesses to the world by referring to the extendability [*Vermehrbarkeit*] of everything that he relates to. This is why we speak of man as world-forming.”²⁵

Seinkönnen, ‘pan-possibility-and-connection,’ is our deal, *cosa nostra*. So when he’s talking about τέχνη Heidegger can sound like Schumpeter talking about the entrepreneur; viz.:

“The proper and most concealed Greek meaning of τέκω is not ‘making’ [*Machen*] or ‘manufacturing’ [*Anfertigen*], but is rather the bringing-forth [*Hervor-bringen*] of something into the unconcealed [*das Unverborgene*] by the human so that it may presence there in the unconcealed as something that has been brought forth, so that it may shine out of the unconcealed and ‘be’ in the sense that the Greeks understood it. . . . τέχνη is what pertains intimately to all bringing-forth in the sense of human setting-forth. If bringing-forth (τεκεῖν) is a setting into the unconcealed (i.e., the world), then τέχνη means the knowledge of the unconcealed and the ways of attaining, obtaining, and implementing it.”²⁶

Heidegger distinguishes natural bringing-forth from the human variety:

“This bringing-forth is essentially different from ‘what is brought forth’ by ‘nature.’ To be sure, we say that ‘nature’ brings-forth plants and animals. But this ‘bringing-forth’ is not the characteristically human activity of setting-forth and setting into the unconcealed. ‘Nature,’ especially if we think it in the Greek way as φύσις, is the self-emerging and self-occluding. Given that this is so, we can easily see that φύσις as emerging and occluding stands in relation to unconcealment and concealing, and in a certain sense is unconcealment and unconcealing themselves . . .”²⁷

²⁴ Martin Heidegger, *History of the Concept of Time: Prolegomena* (tr. Theodoie Kisiel 1985) 255; GA 20: 352: <https://www.beyng.com/gaselis/?vol=20&pg=352> .

²⁵ Martin Heidegger, *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude* (tr. William McNeill and Nicholas Walker 1995) 193; GA 29/30: 284-285.

²⁶ *Heraclitus* 153-154; GA 55: 201, 202: <https://www.beyng.com/gaselis/?vol=55&pg=201> . Cf. Schumpeter: “Here the success of everything depends upon intuition, the capacity of seeing things in a way which afterwards proves to be true, even though it cannot be established at the moment, and of grasping the essential fact, discarding the unessential, even though one can give no account of the principles by which this is done.” *Theory of Economic Development* 85.

²⁷ *Heraclitus* 154; GA 55:201-202.

He says that, “The still-concealed essential feature of the essence of ἐπιστήμη and τέχνη consists in their relation to the unconcealment of what is and what can be [*das ist und sein kann*];” but nevertheless claims that “The relationship between φύσις and τέχνη and the connection of both to unconcealment has yet to be illuminated.”²⁸

Did he not just show it? I.e., that human being is, for better and for worse, the τέχνη of φύσις—φύσις *sensu* ‘life,’ “that dark, driving, insatiably self-desiring power”²⁹—the τέχνη for strip-mining the still-concealed, for accessing entities as entities. Biologists characterize human existence as a ‘major transition’ or a further ‘dimension.’³⁰ Heidegger says matter-of-factly in the Kant book, “With the existence of human beings there occurs an irruption into the totality of beings, so that now being in itself first becomes manifest, i.e., as being, in varying degrees, according to various levels of clarity, in various degrees of certainty.”³¹ And says the same in his late Fourfold-idiom: “Humans as the mortals are the first to dwell in the world as world.”³²

The ‘hidden secret of our essence’ is the ‘having-been’ that is still within us and **is** us, fabricated as we are piece by piece from alien forms, and fabricating as we do piece by piece new forms. “Organisms are internally heterogeneous open systems,”³³ none more opened-up than human being. The problem now is to hack our way past ‘Darwin’s curse’:

“Natural selection will never produce in a being anything injurious to itself, for natural selection acts solely by and for the good of each. No organ will be formed, as Paley has remarked, for the purpose of causing pain or for doing an injury to its possessor. If a fair balance be struck between the good and evil caused by each part, each will be found on the whole advantageous. After the lapse of time, under changing conditions of life, if any part comes to be injurious, it will be modified; or if it be not so, the being will become extinct, as myriads have become extinct.”³⁴

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²⁸ *Id.* 155, 154; GA 55: 203, 202.

²⁹ *das Leben allein, jene dunkle, treibende, unersättlich sich selbst begehrende Macht.* Friedrich Nietzsche, *Vom Nutzen und Nachtheil der Historie für das Leben* (1874) § 3: <http://www.nietzschesource.org/#eKGWB/HL-3>.

³⁰ John Maynard Smith and Eörs Szathmáry, *The Major Transitions in Evolution* (1995); Eva Jablonka and Marion J. Lamb, *Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life* (rev. ed. 2014)—citing Ernst Cassirer: “As compared with the other animals man lives not merely in a broader reality; he lives, so to speak, in a new *dimension* of reality.” 190.

³¹ Martin Heidegger, *Kant and the Problem of Metaphysics* (5th ed. enlarged tr. Richard Taft 1997) 160; GA 3: 228: <https://www.beyng.com/gaselis/?vol=3&pg=228>.

³² Martin Heidegger, *Bremen and Freiburg Lectures: Insight Into That Which Is and Basic Principles of Thinking* (tr. Andrew J. Mitchell 2012) 20; GA 79: <https://www.beyng.com/gaselis/?vol=79&pg=21>.

³³ Richard Lewontin, *The Triple Helix: Gene, Organism, and Environment* (2000) 114.

³⁴ *Origin* 201. For extinction alert, see most recently <https://www.pnas.org/doi/full/10.1073/pnas.2108146119>.