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POCHODZENIE CZŁOWIEKA: O EWOLUCJI, DEWOLUCJI PRZYRODY, HISTORII I PRAWDY

THE DESCENT OF MAN: ON EVOLUTION AND THE DEVOLUTION OF NATURE, HISTORY, AND TRUTH

Abstract

In „The Descent of Man: On Evolution and the Devolution of Nature, History, and Truth", Michael Hanby discusses how Darwinian theory's collapse of ontological perfection into historical process undermines the intellect's proper capacity to grasp natural wholes. Once we can no longer speak meaningfully of an intrinsic end for the sake of which a given thing exists, we can no longer speak meaningfully of things at all, let alone of a mind that can know them. „The negation of transcendence in the conflation of being and history, the 'de-Platonization' of nature that reaches the apex of its authority in Darwinian evolution, effected a corresponding transformation of what thinking now means, indeed in what we think there even is to think about" In order for science to operate at all, Hanby points out, it must continually borrow from the very metaphysics it purports to jettison.

Keywords: Evolution, Devolution of Nature, Truth, history, Darwinian evolution

Streszczenie

W artykule *„Pochodzenie człowieka: O ewolucji, dewolucji przyrody, historii i prawdy"* Michael Hanby omawia, w jaki sposób rozpad doskonałości ontologicznej teorii Darwina w proces historyczny podważa właściwą zdolność intelektu do rozumienia całości naturalnych. Skoro nie możemy

już dłużej mówić konkretnie o wewnętrznym celu, dla którego dana rzecz istnieje, nie możemy w ogóle już mówić o rzeczach konkretnie, nie mówiąc już o umyśle, który może je poznać. „Negacja transcendencji w połączeniu bytu i historii, ‚deplatonizacja' natury, która osiąga szczyt swojego autorytetu w ewolucji darwinowskiej, spowodowała odpowiednią transformację tego, co obecnie oznacza myślenie, a nawet o tym, co myślimy, że istnieje" Aby nauka w ogóle działała, wskazuje Hanby, musi nieustannie zapożyczać z samej metafizyki, którą rzekomo odrzuca.

Słowa kluczowe: ewolucja, dewolucja przyrody, prawda, historia, ewolucja darwinowska

> „The apprehension of a frog or a muskrat, [. .] is inseparable from the implicit identification of a good in whose light the functional parts are intelligible as parts"

1. An Intellectual Revolt

The crisis of truth in the modern world, and even in the modern Church, was an enduring theme in the thought of Joseph Ratzinger and the pontificate of Benedict XVI. In *Principles of Catholic Theology,* Ratzinger identified this crisis, a function of the modern reduction of being to history, as among the greatest challenges facing the Catholic Church in the modern world[1]. His magisterial *Introduction to Christianity* supplies the intellectual and historical backdrop for understanding this claim, as he succinctly and powerfully traces the history of truth itself from its Platonic-Aristotelian equation with being (*verum est ens*), to its identification with historical construction (*verum quia factum*), to its reduction to the technologically possible (*verum quia faciendum*)[2].

This history was a long time in the making. It follows ineluctably from advent of modern science, with its conflation of nature

[1] Joseph Ratzinger, *Principles of Catholic Theology: Building Stones for a Fundamental Theology*, trans. by Sr. Mary Frances McCarthy S.N.D., (San Francisco, Ignatius Press, 1987), 15-17.

[2] Ratzinger, *Introduction to Christianity,* trans. by J.R Foster, (San Francisco: Ignatius Press, 1990), 57-66.

and art and its ontology of mechanism[3]. It found philosophical expression in the great philosophies of history that prevailed in the nineteenth century. Yet it only achieved its status as a comprehensive cultural paradigm in the aftermath of Charles Darwin's *On the Origin of Species.* In a 1909 lecture commemorating the fiftieth anniversary of its publication, the American pragmatist, John Dewey, extolled Darwin's *Origin* as the harbinger of an „intellectual revolt" far exceeding both its considerable importance within the history of natural science and what Dewey regarded as the relatively insignificant row with the (mostly Protestant) theology of his day. „*[T]he Origin of Species*", Dewey writes, „introduced a mode of thinking that in the end was bound to transform the logic of knowledge, and hence the treatment of morals, politics, and religion"[4]. Here we see the seeds of that familiar contemporary phenomenon that I have called the „Darwinization of everything"

What lies at the heart of this „intellectual revolt" that has come to be associated with Darwin's name, and why should it have had such extensive effects, both for our thinking about nature and for the nature of thought itself? There were, after all, theories of evolution before Darwin. The term derives from the Latin infinitive *evolvere*, meaning to unfold or to disclose. In this original sense of a given nature unfolding its potentialities in time, theories of „evolution" have existed since antiquity under other names and were sometimes used to articulate the doctrine of creation. St. Augustine, for example, speculated in *De Genesi ad litteram* that creation is a once and for all event completed on the first „day", with the latent possibilities contained within the original *rationes*

[3] I have already treated this on a number of occasions in the pages of *Communio.* See, Michael Hanby, „Technology and Time, „*Communio ICR*, vol 43:3 (Fall 2016),342-64 ; „Gospel of Creation and the Technocratic Paradigm: Reflections on a Central Teaching of *Laudato Si*", *Communio ICR,*vol. 42:4 (Winter 2015), 724-47; „Reconceiving the Organism: Why American Catholic Bioethics Needs a Better Theory of Life", *Communio ICR,* vol. 41.3 (Fall 2014), 614-53; „*Aggiornamento* and the Sciences: What Does it Mean?", *Communio ICR,* vol.39:2 (Spring-Summer, 2012), 294-313.

[4] John Dewey, „The Influence of Darwin on Philosophy", in Philip Appleman (ed.), *Darwin: A Norton Critical Edition,* 2nd ed. (New York: W.W. Norton, 1979), 305.

causales or *rationes seminales* subsequently unfolded in the course of time. There is more to this view, even scientifically speaking, than immediately meets the eye, for the simple reason that everything that is actual within the world, *ipso facto*, must have originally been possible[5]. When the term was first employed with regularity in natural philosophy beginning in the late seventeenth century, it was used in a similar way to describe the various theories of embryological preformationism, according to which the mature form of living organisms is somehow pre-contained in the germ plasm or in its earliest embryonic stages. In the late eighteenth and early nineteenth centuries, preformationist theories began to give way to recapitulationist theories, „as many embryologists detected in the development of the fetus, not the expansion of the already-formed adult of that species, but the serial unfolding of the adult forms of more primitive species", an indication of a shift in meaning toward species transformation[6]. By the middle of the nineteenth century, the term had come to refer to both embryological and species transformation. Though none of these would ignite the revolutionary fires in the way that Darwin did, it is not as if evolution had never before been considered until he appeared on the scene.

That Darwin's thought was immediately seized upon for its revolutionary implications within his own lifetime – his friend T.H. Huxley coined the term „Darwinism" as „a flag to march under" – is no doubt one part of the answer and one reason why, sociologically speaking, „Darwin" and „evolution" perform a religious function within secular culture unlike any other branch of science[7] Yet, there are other, less ideological and more intellectually formidable factors. Prior to Darwin, Dewey maintains, the application of the new scientific method upon life, mind, and politics had been arrested by the barrier of the plant and animal

[5] Augustine, De Gen ad Litt., v.1.1-5.16, vi.16.17-19. Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: Cambridge University Press, 2003), 1-31, 283-330.

[6] Robert J. Richards, *The Meaning of Evolution: The Morphological Construction and the Ideological Reconstruction of Darwin's Theory* (Chicago: University of Chicago Press, 1992), 15.

[7] See the magisterial biography of Adrian Desmond and James Moore, *Darwin: The Life of a Tormented Evolutionist* (New York: Norton, 1991), 491.

kingdom. Natural philosophers outside the romantic tradition had fantasized about the possibility of a thorough mechanical analysis of human and animal bodies, though few were able to dispense entirely with some sort of „formal" remainder to account for organismic unity, organization and development, and the resemblance between parent and offspring. Indeed, Darwin himself was heir both to the romanticism of Humboldt and to the formalism of Cuvier and Richard Owen, and he counts „Unity of Type" as one of the two „great laws" for the formation of organic beings[8]. Combine this with the inescapable necessity of teleology for the mere identification of functional wholes, even if teleological notions were regarded as merely „regulative" rather than „constitutive" ideas, and it was unlikely that there would ever be, in Kant's words, „a Newton of a blade of grass"[9].

Debates over what is now called the transmutation of species were thus well underway by 1859, when Darwin, spurred on by an article from Alfred Russel Wallace proposing a theory very similar to his own, hastily published his *On the Origin of Species by Means of Natural Selection.* Darwin firmly cast his lot with the transmutationists, but his theory differed from that of the French transmutationist Jean-Baptiste Lamarck and those of the German *naturphilosophie* in that it shifted the principal responsibility for evolutionary change from vital forces and intrinsic principles of order to the external „mechanism" of natural selection. Darwin's great theory was, in essence, „the doctrine of Malthus, applied to the whole animal and vegetable kingdom", though Malthus is not the only theorist in the young discipline of political-economy whose influence is evident in Darwin's *magnum opus*[10].

The theory, in its original form, is elegantly simple. All living things strive to survive and increase their numbers. As in Malthusian theory, living things tend to reproduce exponentially faster than food supplies, which only increase arithmetically. This creates conditions of scarcity and a struggle for existence,

[8] Darwin, *The Origin of Species by Means of Natural Selection*, 6th ed. (Amherst: Prometheus Books, 1991), 158.

[9] Immanuel Kant, *Critique of Judgment*, trans. by Warner S. Pluhar (Indianapolis: Hackett, 1987), 282.

[10] Darwin, *The Origin of Species*, 3.

particularly among kin vying to occupy the same niche within an ecosystem. Because there are always slight variations in character between parent and offspring, those whose traits are best adapted to the struggle survive to ensure that those traits are passed on to subsequent generations. Those that are less adapted are eventually culled off and equilibrium is restored, as if by an invisible hand, in what some theorists would later call the ecological division of labor[11]. Darwin calls this culling natural selection, drawing on an analogy with the „artificial selection" by which plant and animal breeders chose favorable characteristics of their stocks. The effect of natural selection working on copious variations over many thousand generations and after the extinction of „intermediate forms", is eventually branching taxa and distinct species.

For Stephen Jay Gould calls Darwin's decision to make „adaptation" the central problem and natural selection the solution a „fateful decision" to subordinate „Unity of Type" to the still higher law of the „Conditions of Existence"[12]. Ironically, the tradition of British functionalism which Darwin himself adapted had *theological* origins. Darwin inherited „adaptation" as the defining problem his theory was called upon to resolve from the *Natural Theology* of William Paley, whose ghost haunts the pages of the *Origin* if one knows where to look for it[13]. Paley himself had regarded had made this central question because he conceived of organisms as mechanical contrivances, with quasi-independent parts intelligently organized to achieve an end beyond themselves – what has since come to be known as functional complexity – which he thought necessitated the inference of a contriver. Darwin's debts to Paley are so substantial that he deserves to be regarded as the last great representative of this tradition of Bri-

[11] Stephen Jay Gould, *The Structure of Evolutionary Theory*, (Cambridge: The Belknap Press of Harvard University Press, 2002), 116-24; David J. Depew and Bruce H. Weber, *Darwinism Evolving: Systems Dynamics and the Genealogy of Natural Selection* (Cambridge: Bradford MIT Press, 1997), 113-40.

[12] Gould, *The Structure of Evolutionary Theory*, 251-53.

[13] See Michael Hanby, *No God, No Science? Theology, Cosmology, Biology* (Chichester: Wiley-Blackwell, 2013), 150-249; Gould, *The Structure of Evolutionary Theory,* 116-21.

tish natural theology, albeit unwittingly and in negative image[14]. Paley bequeaths to Darwin the central problem of adaptation, his conception of the organism as a „cluster of contrivances", and the reduced conception of God that subsequent Darwinians don't believe in[15]. It is simply that Darwin „inverts" Paley, as Gould puts it, and substitutes „natural selection for God as the creative agent" to account for the mutual adaptation of part to part and the fit between biological insides and environmental outsides[16].

As Darwin subordinates the Romantic dimension of his thought to the functionalist dimension, Owen's Goethe-inspired archetype, perhaps the last gasp of semi-Platonic biology in the English-speaking world, is transmuted into a purely immanent and thoroughly historical figure, the „common ancestor" This completes the dissolution of nature into the „conditions of existence" By accounting for organic diversification by means of adaptive functions and the extrinsic „mechanism" of natural selection working „horizontally" across infinite generations rather than intrinsic drives and „vertical" principles that transcend these conditions, Darwin was able to bring the science of life under the

[14] I have argued, in fact, that Darwin represents not one, but two strands of this tradition. The other is the tradition of 'social theodicy,' which becomes increasingly (and arbitrarily) 'secular' as one moves from Malthus to Adam Smith, that sought to give a 'scientific' account of providence. One sees a similar transition in Darwin's own notebooks prior to the *Origin*, in which natural selection is prefigured, where, according to Phillip Sloan, Darwin „had collapsed the traditional role of the creating and sustaining deity of traditional theism" into the constellation of meanings attributed to „nature". See Sloan, „'The Sense of Sublimity': Darwin on Nature and Divinity, in *Orisis* 16 (2001), 265. On Darwinism as a species of natural theology, see Hanby, *No God, No Science?* 186-249. For more on Darwin's debts to Paley, see Gould, „Darwin and Paley Meet the Invisible Hand", *Natural History* 99.11 (1990), 8-16; on Paley and Adam Smith, see Gould, *The Structure of Evolutionary Theory,* 116-25.

[15] Though Paley merits scarcely a footnote in the history of theology—Newman looked „with the greatest suspicion" on this and other forms of „physical theology", he is a monument in the history of English-speaking biology, as attested by the sort of ritual abuse he continues to undergo at the hand of Dawkins, et al. For a critique of Paley's defective theology, see Hanby, *No God, No Science?* 150-85. See also John Henry Newman, *The Idea of a University* (New York: Longmans, Green, & C0, 1947), 337-42.

[16] Gould, *The Structure of Evolutionary Theory*, 119, 127.

Newtonian canons of respectability governing Victorian science[17]. Darwin becomes, in effect, the „Newton of a blade of grass"[18]. His late (and somewhat embarrassing) *Descent of Man* showed that this form of functional explanation could be retrospectively extended to every facet of human life – from morals, to music, to romantic love – albeit not without a vulgar reductionism that evacuates the world of inherent beauty, goodness, and truth and reduces all ends to the status of provisional means[19] This seems to be partly what Dewey had in mind when he said that „the influence of Darwin upon philosophy resides in his having conquered the phenomenon of life for the principle of transition, and thereby freed the new logic for application to mind and morals and life" – though not, as we shall see, without some equivocation about the meaning of „change"[20].

Darwinism evolution eliminates an order of being distinct from the order of history, at least in thought. It was this distinction of orders, for Aristotle, that had warranted the recognition that what is ontologically first – the nature (what-it-is) of an oak, e.g. – is last in the historical order of development, i.e., the mature tree. This distinction was repeated analogously in the orders of knowledge and intention, where too the last were first and the first were last, and it was an indispensable condition for maintaining substantial continuity through time and attributing developmental

[17] Depew and Weber, *Darwinism Evolving,* 113-40.

[18] Darwin's own Darwinism could not be perfectly Newtonian, as evidenced by its comparative lack of precise predictive power, and this apparent „failure" accounts for Darwinism's own adaptability as theory. In future years, the concept of natural selection could be continually reworked on the basis of different dynamical backgrounds. Nevertheless the core elements of basic entities (living organisms) proceeding along their inertial trajectory (the tendency toward exponential reproductive increase) until deflected by an extrinsic force (Malthusian scarcity)—all without recourse to internal principles of growth and change or other 'occult' qualities—was sufficiently Newtonian in form as to seize the Whig imagination in Britain.

[19] „The foregoing remarks lead me to say a few words on the protest lately made by some naturalists, against the utilitarian doctrine that every detail of structure has been produced for the good of the possessor. They believe that many structures have been created for the sake of beauty, to delight man or the Creator, or for the sake of variety...Such doctrines, if true, would be absolutely fatal to my theory". Darwin, *On the Origin of Species*, 151.

[20] Ibid., 308.

changes and actions *to* subjects. Darwinism in its metaphysical meaning represents the triumph of „process" over being, though the concept of process remains a slippery one, philosophically speaking, or rather, the reduction of being from a self-transcending ontological identity to temporary moments in a temporally extended process[21]. The concept of „process" was virtually unknown before the modern age, according to Hannah Arendt[22]. Its discovery has spawned a plethora of new sciences operating under the umbrella of „systems theory", to explain the emergence and dynamics of systems whose adaptive, ensemble behavior is irreducible to the behavior of their individual components.

The concept of process is the ontological lynchpin uniting biology with other sciences such as history, economics and geology as manifold expressions of a single underlying ontology, whose essential features persist despite in spite of the evolution of its fundamental concepts and elements. It has its origins in the mechanistic turn of the seventeenth century which, in banishing substantial form, had already eliminated the distinction between ontological and historical orders. The effect was to shift scientific attention toward the mechanical relations extrinsically governing the interactions of things and away from the *relata* themselves, to the point, Amos Funkenstein says, „that the very notion of things was made to fit the mathematical relationships governing them"[23]. Things, in other words, cease to be regarded as substances and are reconceived as processes, systems, or in the most ontologically extreme instances, mere „time segments" in a process continuum[24]. Nowhere is that more evident than in contemporary sys-

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[21] The difficulties have to do with the kind of unity exhibited by processes and the ontological preconditions for their intelligibility. See Hanby, *No God, No Science?,* 268-84.

[22] Hannah Arendt, *The Human Condition* 2nd ed. (Chicago: University of Chicago Press, 1958), 116.

[23] Amos Funkenstein, *Theology and the Scientific Imagination: From the Middle Ages to the Seventeenth Century* (Princeton: Princeton University Press, 1986), 151.

[24] „Time segments" is the term used by developmental systems theorist, Susan Oyama. Nature, to the extent this word has application in her thought, refers not to „an a priori mold in which reality is cast", but to processes that never exist outside of „ecological embeddedness", which is always historical. Thus, we see once again, that nature is virtually identical to history itself. „The

tems biology, where the conception of the organism as an entity has given way to the organism conceived as an „auto-catalytic dissipative system", distinguished from other such self-organizing systems in that they are „bounded and informed" and just „entiative enough" to give natural selection something to work on[25].

This transformation to the objects of scientific explanation entailed a corresponding transformation to the meaning of explanation itself, about which I have here written many times[26]. It begins by taking apart experience and analyzing it, as Francis Bacon originally put it, destroying in thought or by practical intervention the unity of reality and its elements as they present themselves to experience, a unity from which experimental abstraction always commences and within which it always remains, illusions to the contrary notwithstanding[27]. In a subtle inversion of reality, the actual world is premised upon the abstract world. Scientific explanation is thus reconceived as discovery of the laws by which the former is derived from the latter, the processes which the natural artifact that is the present was constructed over the course of history. The pervasive historicism of the nineteenth century thus follows quite naturally form the ontological and epistemic premises of the seventeenth and eighteenth.

All of this underlies what I have elsewhere called the disappearance of the organism, and it leads to a radical reconstitution

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developmental system...does not have a final form, encoded before its starting point and realized in maturity. It has, if one focuses finely enough, as many forms as time segments". Oyama, *The Ontogeny of Information: Developmental Systems and Evolution* (Cambridge: Cambridge University Press, 1985), 23, 76-81, 123-32. For a critique of the tacit ontology of DST, see Hanby, *No God, No Science?* 262-84.

[25] Depew and Weber, „Developmental Systems, Darwinian Evolution, and the Unity of Science", in Oyama, Griffiths, and Gray (eds.), *Cycles of Contingency: Developmental Systems and Evolution* (Cambridge: Bradford/ MIT Press, 2001), 245.

[26] See especially Hanby, „Reconceiving the Organism", 615-53.

[27] Hannah Arendt offers an insightful observation on the nature of the experiment. „In the experiment man realized his newly won freedom from the shackles of earth-bound experience; he placed nature under the conditions of his own mind, that is, under conditions won from a universal, astrophysical viewpoint, a cosmic standpoint outside nature itself" Arendt, *The Human Condition,* 265.

of the life sciences. This disappearance has a two-fold aspect. With the advent of a mechanistic ontology and the elimination of the self-transcending unity and interiority conferred on things by substantial form and *esse,* the organism begins to disappear from beneath the biological gaze as what the scholastics would call a *per se unum*, a subject of its own being and an existentially indivisible whole. The advent of the gene in the aftermath of Mendelian genetics, first a system requirement of Darwinian theory to account for the transmission of heritable bits of data across generation before it was ever identified as a physical entity residing on chromosomes, would only hasten its departure, simultaneously pushing the real drama of evolutionary development „over the heads" of organisms to the population level and „behind their backs" to the genetic level[28]. Hence while „classical" Darwinism tended to atomize the organism into a bundle of heritable traits individually transparent to the „action" of natural selection; genetic Darwinism has tended to treat organisms as the epiphenomenon of their genes.

Yet the triumph of process over being and the corresponding transformation of the meaning of „scientific explanation" meant that the organism would disappear not only as the subject of its own being, but as the principal *subject matter* of evolutionary biology. The real subject of evolutionary biology is not living creatures and their lived lives, but the evolutionary process itself and its chief mechanisms of undirected variation and natural selection. „For over 2000 years", writes Lenny Moss, „from Aristotle through the nineteenth century, the living organism within the confines of its own life span was the center of naturalistic explanation"[29] But with what Moss calls the „phylogenetic turn", and

> as the gene and genetic program became understood to be the principal means by which adapted form is acquired, the theme of adaptation changed from that of individual life histories, that is, ontogenies, to that of populations over multiple generations, that is, phylogenies. As the ge-

[28] Hanby, *No God, No Science*?, 250-95. This helps to explain why 'gene' is almost an equivocal term, whose meaning is context dependent in different scientific applications.

[29] Lenny Moss, *What Genes Can't Do* (Cambridge: MIT Press, 2004), 4.

> netic program moved to the explanatory center stage, the individual living organism, with its own adaptive capacities began to recede from view[30].

This is why evolutionary biology has been able to get by for so long with reducing living organisms to atomistic bundles of heritable traits or to an epiphenomenon of their genes. Living creatures and their lives were never really the point of evolutionary theory; the evolutionary process was. This is apparent even in Darwin himself. Despite his exalted reputation as a Victorian „muddy boots" naturalist and the copious amounts of empirical data collected in his works, the point of these data in the *Origin* is not to explain or understand living things in the context of their actual existence, but to vindicate the evolutionary process and its chief mechanism of natural selection. Living organisms have functioned largely as place holders within evolutionary theory, serving to vindicate Darwin's account of the „summing up" process by which they were slowly built[31]. Only with the relatively recent advent of the so-called evo-devo synthesis and its fusion of the older synthesis of the Neo-Darwinian evolution and the developmental tradition originating in Goethean morphology, does there seem to be some hope that Darwinism's endemic reductionism may eventually be superseded. One may remain skeptical, however, unless and until the sciences undergo radical ontological reform that permits them to give rational expression to the ontological principles, expelled at their origins, that articulate the self-transcending unity, existential indivisibility, and intensive infinity that characterize life *as lived.* In the meantime, the damage both to our conception of nature, and to thought itself, has already been done.

The Darwinian concept of nature reflects Darwinism's internal tension over whether evolutionary biology is to be understood principally as a nomothetic, law governed discipline like physics or an idiographic discipline, that is, as a species of natural history. Darwin himself seems to want both at once, which places his theory within the long tradition of British „social theodicy" that had

[30] Ibid.

[31] Darwin, *The Origin of Species*, 406.

sought to give a scientific account of „providence".[32] Defending his frequent personification of „Nature" as a device of rhetorical economy, Darwin clarifies that he means by „Nature, only the aggregate action and product of many natural laws, and by laws the sequence of events as ascertained by us"[33]. Nature no longer denotes ontological identity – what a thing is – or an interior principle of motion and rest in accordance with a thing's kind. Indeed the very notion of species/kind oscillates in Darwinism between mere nominal appellation and genealogical connection, giving rise to the so-called 'species problem' for subsequent generations of evolutionists[34]. Nature no longer provides a criteria for distinguishing things that exist in and for themselves and have their being and structure from within from artifacts that exist for us for us and have being and structure from without, though T.H. Huxley would revive the distinction to preserve a place for ethics in nature now overwhelmingly conceived as „red in tooth and claw" Much less can „nature" supply a criterion for determining whether certain actions or behaviors are „natural" or „unnatural", that is, in accordance with or contrary to the given good of the thing.

Nature from what Darwin called „this view of life" is simply whatever observable phenomena happen to occur in history and whatever functional explanations can be given for these phenomena prior to their unfolding[35]. Eventually this will mean statistical explanations that circumvent difficult questions of causality and smooth out deviations. A functionalist and historicist conception of nature thus goes hand and hand with the hegemony of the social sciences, which goes hand in hand with the elimination of all that was heretofore human from human society[36]. Already statistical methods originating in the social sciences had begun to

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[32] See John Milbank, *Theology and Social Theory: Beyond Secular Reason* (Oxford: Blackwell, 1990), 27-48.

[33] Ibid., 60.

[34] On the „species problem" see Depew and Weber, *Darwinism Evolving,* 300-7, 333-4; Hanby, *No God, No Science?,* 203-5, 263-4.

[35] Darwin, *The Origin of Species,* 408.

[36] Hannah Arendt discusses this point in her examination of the rise of the modern concept of „the social" and the corresponding triumph of „behavior" over „action"

transforming Darwinism's central concepts within Darwin's own lifetime[37]. Anything that can be observed in history is as „natural" as anything else, especially if it can be registered statistically. And yet, by the same token, anything that happens in history is as artificial as anything else; all such phenomena are merely the product of that historical process of trial and error that accidentally produced the present; and none can present either an ontological or a moral obstacle to our seizing control of this process to give it rational direction and make it more efficient. After all, morality, too, is merely one of the products evolved by this system, „an illusion fobbed off on us by our genes", for the sake of adaptive utility[38].

It is not accidental that Darwin begins his great work with an analogy between natural selection and the artificial selection of plant and animal breeders, a beginning made all the more ominous by the manifest proto-eugenical anxieties that emerge later in the *Descent of Man*[39] Nor is it accidental that the survival of

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„The application of the law of large numbers and long periods to politics or history signifies nothing less than the willful obliteration of their very subject matter, and it is a hopeless enterprise to search for meaning in politics or significance in history when everything that is not everyday behavior or automatic trends has been ruled out as immaterial...

The unfortunate truth about behaviorism and the validity of its „laws" is that the more people there are, the more likely they are to behave and the less likely to tolerate non-behavior. Statistically, this will be shown in the leveling out of fluctuation. In reality, deeds will have less and less chance to stem the tide of behavior, and events will more and more lose their significance, that is, their capacity to illuminate historical time. Statistical uniformity is by no means a harmless scientific ideal; it is the no longer secret political ideal of a society which, entirely submerged in the routine of everyday living, is at peace with the scientific outlook inherent in its very existence" Arendt, The Human Condition, 43.

[37] Depew and Weber, *Darwinism Evolving,* 193-216.

[38] See Michael Ruse and E.O. Wilson, „The Evolution of Ethics", *The New Scientist* (October 17, 1985), 50-52.

[39] „A most important obstacle in civilized countries to an increase in the number of men of a superior class has been strongly insisted upon by Mr. Greg and Mr. Galton, namely, the fact that the very poor and reckless, who are often degraded by vice, almost invariably marry early, whilst the careful and frugal, who are generally otherwise virtuous, marry late in life, so that they may be able to support themselves and their children in comfort. Those who marry early produce within a given period not only a greater number of generations,

Darwinism as a theory in the early twentieth century depended to a great extent on the work of the early eugenicists in reconceiving fitness and natural selection on a statistical basis. As a matter of contingent history, the relationship between Darwinism and eugenics is complex[40]. John Dewey, staunch opponent of whiggish philosophical principles whether in politics or science, objected to the philosophical premises underlying classical Darwinism and the mostly negative eugenics of his own day. These to him to him indicated „a somewhat gross and narrow vision" of evolution, a failure, as it were, to come to terms with the scope of the revolution[41]. Dewey argued that the 'artificial' environment evolved and continually adapted by man had to be numbered among the conditions of existence; that this then required a broader conception of fitness and selection that included not just negative selection pressures that could be mimicked by eugenical action but man's positive 'social' action in transforming the world and setting the conditions for a viable social future; that 'altruistic' behavior should be considered no less adaptive than selfish behavior, and that this should undermine our confidence both in our ability to identify fitness, which can never be a fixed property transcending the concrete conditions that determine it from moment to moment,

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but, as shown by Mr. Duncan, they produce many more children. The children, moreover, that are born by mothers during the prime of life are heavier and larger, and therefore probably more vigorous, than those born at other periods. Thus the reckless, degraded, and often vicious members of society tend to increate at a quicker rate than the provident and generally virtuous members. Or as Mr. Greg puts the case: „The careless, squalid, unaspiring Irishman multiplies like rabbits: the frugal, foreseeing, self-respecting, ambitious Scot, stern, in his morality, spiritual in his faith, sagacious and disciplined in his intelligence, passes his best years in struggle and in celibacy, marries late, and leaves few behind him. Given a land originally peopled by a thousand Saxons and a thousand Celts—and in a dozen generations five-sixths of the population would be Celts, but five-sixths of the property, of the power, of the intellect, would belong to the one-sixth of Saxons that remained. In the eternal 'struggle for existence,' it would be the inferior and *less* favored race that had prevailed—and prevailed by virtue not of its good qualities but of its faults" Charles Darwin, *The Descent of Man* (Amherst: Prometheus Books, 1998), 145.

[40] Depew and Weber, *Darwinism Evolving,* 193-216.

[41] John Dewey, „Evolution and Ethics", in Jo Ann Boydston (ed.), *The Early Works of John Dewey 1882-98*, vol. 5 (Edwardsville: Southern University Press, 1972), 49.

and in our statistical methods for determining transmission of the characteristics associated with it.

Some contemporary apologists for the Darwinian tradition distance evolutionary science from the pseudo-science of eugenics, some even blaming the „biblical" concept of „race" for infecting science with bias and crediting advances in eugenics for disabusing us of the illusion. The role of progressive Christianity in advancing the eugenical aims of early twentieth century science is indeed a chilling one that deserves to be told more widely[42]. Nevertheless this exculpatory effort trades on a reductive understanding of the meaning of eugenics, typically equating it with state control and racism, just as the effort to exonerate Dewey fails to consider the role of pragmatism in establishing the intellectual conditions for the new positive eugenics that is now upon us, a new eugenics more powerful if less obviously authoritarian than the old[43]. But all of this really misses the point, which is neither a historical point about twentieth century eugenics nor a polemical point about the predilections and motivations of this or that thinker. It is rather that the concepts of nature and science that were born in the seventeenth century and come to maturity with Darwinism are *ontologically* eugenical. They conflate the natural and the artificial, making nature essentially plastic and manipulable and necessitating understanding in the form of biotechnical *control* and ensuring that some form of eugenics, old or new, is a fated event[44].

[42] *See* Christine Rosen, *Preaching Eugenics: Religious Leaders and the American Eugenics Movement* (Oxford: Oxford University Press, 2004); Amy Laura Hall, *Conceiving Parenthood: American Protestantism and the Spirit of Reproduction* (Grand Rapids: Eerdmans 2008).

[43] On the folly of this simplistic understanding of eugenics, see Brendan P. Foht, „While Bioethics Fiddles", *New Atlantis: The Journal of Technology and Society* (Winter 2019), 26-35.

[44] I have made versions of this argument in numerous places. See Hanby, „Reconceiving the Organism", 614-53' „The Brave New World After Obergefell", available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3501246.

2. Evolution and the Devolution of Nature

I have elsewhere elaborated at some length both my philosophical objections to the coherence of all this and my theological objections to defective conception of God and creation presupposed and perpetuated by it[45]. Neither amounts to a denial that evolution has taken place, nor that there are many episodes in the drama of life amenable to a Darwinian description of it. Indeed it seems part of Darwinism's great success, as well as its failure if one accepts Popper's falsifiability thesis, that *every* event in the history of life can be retrospectively given a Darwinian explanation. Hence the proliferation of Darwinian 'just-so' stories famously criticized by Gould and Richard Lewontin[46]. It is to suggest, however, that Darwinism may be more *truism* than true and that the coherence of Darwinian evolution may depend upon there being more things in heaven and on earth than are dreamt of in Darwinian theory. And once one re-admits in theory what Darwinism necessarily confirms in practice, namely an order of being distinct from the order of history and the *ex nihilo* structure of being that makes each concrete act of being simultaneously an intelligible universal and an existential novelty irreplaceable with and irreducible to every other, then all bets are off as to what evolution might really be.

I can do little more than list these objections here. Let it be noted, first of all, that the Darwinian conception of nature as process and the corresponding reduction of the organism to a cluster of contrivances depends upon the conflation of three questions that are logically quite distinct: what a thing is, how it came to be, and how it works[47] Yet this conflation is only warranted if

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[45] Hanby, *No God, No Science?,* 107-250.

[46] Stephen Jay Gould and Richard Lewontin, „The Spandrels of San Marcos and the Panglossian Paradigm: A Critiaue of the Adaptionist Programme", *Proceedings of the Royal Society of London* (B205), 581-98.

[47] As Balthasar says, „What man is in his totality cannot be 'explained' in terms of the process by which he has become what he is. It makes no difference whether the attempt at 'explanation' takes as its starting-point man's evolutionary pre-history in the realm of plant and animal existence, or the hereditary history of man's ancestors, or the conditioning forces of the cosmos, or finally, man's own life-history—the elements of his subconscious, or the variety of his shocks, traumas and instinctual motives. All these dimensions produce material which

one has already made the prior *metaphysical* decision to conflate ontological identity and causal history, i.e., the order of being and the order of time, and to reduce what a thing is to what it does. In scholastic terms, to dissolve substance wholly into its operations.

Darwinian theory is not free of the burden of metaphysical judgment, even if these judgments usually remain implicit and unacknowledged. Nor is it free of the exigencies which the truth of being – which no theorist ever truly escapes – imposes upon thought. This means that that these attempts at conflation can only ever by half-hearted, though the impossibility of escaping the realm of intelligible forms to which we ourselves belong does not stop people from trying. J.B.S Haldane famously observed that „Teleology is like a mistress to a biologist: he cannot live without her but he's unwilling to be seen with her in public"[48]. The inescapable necessity of teleology runs deeper for Darwinian thought than Haldane or most other biologists imagine. The mere identification of living wholes is a teleological act. The apprehension of a frog or a muskrat, like the differentiation of a watch from a bracelet or a mere scrap of metal, is inseparable from the implicit identification of a good in whose light the functional parts are intelligible *as parts*. This is an ancient insight. „Abolish the good, wrote Pseudo-Dionysius, „and you will abolish being, movement, life, desire, everything"[49] Michael Polanyi helps us to understand why this remains true and operative in even the most abstract forms of analysis. „For in order that we may formalize the relations that constitute a comprehensive entity, for example, the relations that constitute a frog, this entity, i.e., the frog, must be first identified by tacit knowing, and indeed, the meaning of the mathematical theory of a frog lies in its continual bearing on the tacitly known frog[50]. Aristotle, in his advance criticism of

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is then subsumed by the form of man" Hans Urs von Balthasar, *The Glory of the Lord I: Seeing the Form*, trans. By Erasmo Leiva-Merikakis (San Francisco: Ignatius Press, 1998), 26.

[48] Quoted in David Hull, „Philosophy and Biology", in Philosophy of Science, vol. 2 of Contemporary Philosophy: A New Survey, ed. Guttorm Fløistad (The Hague, Netherlands: Nijhoff Publishers, 1982), 298.

[49] Dionysius the Areopagite, *Div. Nom.* IV.720c.

[50] Michael Polanyi, *The Tacit Dimension* (Gloucester: Peter Smith, 1983), 20-21.

evolution by natural selection in the *Physics,* saw the absurd consequences of attempting to deny a principle that one must who understands anything that is[51]. Without form and finality, it becomes strictly impossible even to identify teeth, eyes, and ears and differentiate them from each other, much less to say that teeth are *for* eating, eyes are *for* seeing, and ears are *for* hearing. At best we could say that a creature happens to have teeth, and eyes, and ears in a world that happens to be edible, visible and audible, at least until we recognize that form has already been operative in our recognition and differentiation of these parts[52]. Nor can we say that these activities occur for the sake of the organism who performs them; for without tacit recourse to a principle of form and finality it is not only impossible to identify an organism; it is even more impossible to attribute a *sake* to it. To deny this teleological necessity ontological status, to relegate it to the status of a „regulative idea" imposed by the transcendental structure of subjectivity on the raw data of the external world, is thus to render the entire evolutionary drama unintelligible in a single stroke.

Of course, if Darwinism is the ultimate truth, then nothing is really as it appears. This is why Dewey, beginning from Darwinian premises, proves to be no less a 'master of suspicion' than Marx or Freud, explaining away the in-principle activity of religion or philosophy, indeed the origin and nature of thought itself, as so many functional adaptations to circumstance. But if nothing is as it appears, then this must be true of Darwinism as well, which is why Darwinism is, *stricto sensu,* incredible: unbelievable and therefore unbelieved even by those who profess it religiously. It is rather, as Aristotle might say, that such people

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[51] Aristotle, *Metaphysics* IV.3, 1005b15.

[52] Aristotle, *Physics* II.8, 198b 20-35. Compare with Darwin:

„Hemholtz, whose judgment no one will dispute, after describing in the strongest terms the wonderful power of the human eye, adds these remarkable words: 'That which we have discovered in the way of inexactness and imperfection in the optical machine and in the image on the retina, is as nothing in comparison with the incongruities which we have just come across in the domain of the sensations. One might say that nature has taken delight in accumating contradictions in order to remove al foundation from the theory of a pre-existing harmony between the internal and external worlds" Darwin, The Origin of Species, 155.

One might also note that Darwin himself delighted in drawing attention to examples of in-utility in order to refute arguments for 'design'

suffer a dearth of philosophical self-knowledge and fail to grasp the nature of their own cognitive act[53].

That the organism is a teleological whole with a stake in being – that being is good – is not only a principle of metaphysical and epistemic necessity; it is also a fundamental, unarticulated presupposition of Darwinian theory. Without this supposition, the entire „struggle for existence" becomes an illusion, and we could just as well say that life is a race to the death which some organisms lose by living longer. Perhaps this is one reason why latter-day Darwinism has tended to push the real evolutionary drama behind the backs of organisms to the genetic level, where it is resolved into chemistry and physics.

The failure of Darwinian biology to acknowledge the primacy of the good, to see that „nothing that is incidental is prior to what is per se", and to understand that a „pre-existing harmony between the internal and external worlds" is the ontological precondition for any struggle for existence is rooted in the constitutive tendency of modern science to make the abstract the basis of the real[54]. Metaphysically speaking, this presupposes the ontological privileging of possibility over actuality, consequent upon the attempted rejection of form and finality.

Yet we have seen that Darwinian biology necessarily takes recourse in practice to metaphysical principles theoretically denied by its „view of life". Darwin himself can scarcely compose three sentences in *The Origin* without adverting to teleological formulations for how some organ evolved „in order to" perform a certain function or achieve a certain end. Even if we were to give Darwin the benefit of the doubt and grant this a concession to the necessities of speech, we would still have to wonder whether and to what extent Darwinian theory really constitutes an explanation. Earlier we noted Darwin's justification for personifying Nature and natural selection. Natural selection is routinely said to be a „power" that „acts", „seizes", „works", „scrutinizes", „improves", modifies", „preserves", „rejects", „masters", and „favors", actions still echoed in Gould's description of natural se-

[53] Aristotle, *Metaphysics* IV.3, 1005b5-35.
[54] Darwin, *The Origin of Species,* 155.

lection's as the „creative agent of evolutionary change"[55]. Phillip Sloan is right to doubt whether Darwin's *apologia* does justice to all the meanings that came to be concentrated in his concept of natural selection[56]. Nevertheless the real scandal, philosophically speaking, is not that Darwin personifies the action of natural selection but rather that he depicts it as a causal agent positioned ontologically if not temporally prior to its effects, as necessitated by a mechanistic understanding of causation. Even among later Darwinians, where it is noted that natural selection, strictly speaking, does not „create" anything, but „works" by subtraction, it is claimed that natural selection's „focal action of differential preservation and death could be construed as the primary cause for imparting direction to the process of evolutionary change"[57]. Here again natural selection is depicted as a subject of agency, albeit somewhat passively.

However, unless one wishes to hypostasize natural selection as some kind of occult force in violation of Darwinism's own metaphysics, it must be acknowledged, with Depew and Weber, that natural selection „is not a single force but a single *name* for a vast number of different causal transactions sharing an analogous structure"[58]. But in this case, all the talk of natural selection as a cause or an agent appears to be what Richard Lewontin calls a „bookkeeping trick" that confuses cause with effect[59]. Here we are back to Paley's criticism of internal principles of order, which Darwin uses, in his turn, to attack Paley's notion of „contrivance": „that we think we give an explanation when we only restate a fact"[60]. Only in this case the fact seems to be „whatever happens" This may be a great way to win every argument in advance, but it is hardly an explanation to say that some things live and others die. Besides, we knew that already.

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[55] Darwin, *The Origin of Species*, 33, 47, 59, 62, 62, 63, 92, 108, 112, 117, 348, 363, 376, 381, 391, 392. Gould, *The Structure or Evolutionary Theory*, 202,

[56] Hanby, *No God, No Science*? 252, n. 67.

[57] Gould, *The Structure of Evolutionary Theory*, 140.

[58] Depew and Weber, *Darwinism Evolving,* 155.

[59] Richard Lewontin, *It Ain't Necessarily So: The Dream of the Human Genome Project and Other Illusions* 2nd ed., (New York: New York Review of Books, 2001), 335.

[60] Darwin, *On the Origin of Species*, 402.

Then there is the confused question of „species change", which rests on an apparent equivocation about both terms. On the earlier, Aristotelean understanding, species change would have been unintelligible. Aristotle allowed for substantial change, of course, which he distinguished from mere alteration, but the subject of such change could not be species, since this was first a designation of the ontological identity of the individual as one-in-many. Though an underlying material substratum may be receptive to different forms, form or species, the principle by which a thing is this or that, cannot strictly change. To assert the contrary would be tantamount to saying that a thing could be both x and not-x at the same time. This not only points to the profound difference between Aristotelean and Darwinian species, a mere class in the latter case.[61] It also indicates an equally profound difference in their respective notions of change. Aristotelian motion is a function of the primitive distinction between potency and act. For Aristotle, motion or change, *kinesis*, is an activity undertaken or undergone by a subject, interposed between pure potency and perfect actuality. He thus defines *kinesis* as „an actuality of a potency *qua* potency" to designate the activity of chang*ing* or undergoing change, an activity, especially when transitive, that implicates the activity and its object in the all-at-onceness of a „single actuality"[62]. Descartes had pretended not to be able to make sense of this, perhaps because Aristotle rightly understood that both the subject and this activity would be lost sight of should motion be subjec-

[61] Whether the class be purely nominal or genealogical is immaterial here.

[62] This is most obvious in the example of sense experience.

„The activity of the sensible object and that of the percipient sense are one and the same activity, and yet the distinction in their being remains. Take as illustration the actual sound and actual hearing: a man may have hearing and yet not be hearing, and that which has a sound is not always sounding. But when that which can hear is actively hearing and that which can sound is sounding, then the actual hearing and the actual sounding are merged in one... The same account applies to the other senses and their objects. For as the-acting-and-being-acted--upon is to be found in the passive, not in the active factor, so also the actuality of the sensible object and that of the sensitive subject are both realized in the latter... Since the actualities of the sensible object and the sensitive faculty are on actuality in spite of the difference between their modes of being, actual hearing and actual sounding appear and disappear from existence and one and the same moment..." Aristotle, De Anima III.2, 425b25-426a20.

ted to *mathesis*[63]. But in Darwin's hands, change itself undergoes a transformation not unlike the transformation to the meaning of motion in the aftermath of Cartesian and Newtonian *mathesis*. Newton dispenses with the act (and question) of being, and thus the act/potency distinction. Motion in Newton ceases to be an activity undergone by a thing but is rather redefined as a state qualitatively indistinguishable from rest. Rest, as Simon Oliver puts it, is simply „motion reduced numerically to zero. That is, motion and rest are quantitively different instances of the same state"[64]. Motion is no longer a qualitative activity undergone by a subject, much less the proper and per se activity of a thing being what it is and doing what it does in virtue of what it is. It makes no difference to Newtonian motion what the moving object *are*, save for its effect on the relevant mathematical variables. The „change" that is motion really designates the measurable difference between two static points. Despite Darwin's renown as an apostle of change, there is a similar stilling of the world in his concept of transmutation. Darwinian „species change" does not refer to the actuality of chang*ing*, a transformation undergone by some one thing – for species is a mere class, not a subject, and there is no subject of change in the relation between parent and offspring – but the measurable difference between two things.

In between lies an enormous gap of unknowing that cannot be bridged on Darwinian terms alone. Hans Driesch, the intellectual godfather of today's developmentalism, was right to say that „In speaking of the 'explanation' of the origin of living specific forms by natural selection, one confuses the sufficient reason for the non-existence of what there is not, for the sufficient reason for the existence of what there is"[65]. The origin of species, is above all, the one thing that *The Origin of Species* does not explain. But this is not the only thing. Once the evolutionary paradigm took hold, questions which preoccupied earlier generations of naturalists – Why procreation? Why maternal care? Why instincts? Why

[63] Aristotle, *Physics* II.2 193b30-35.

[64] Simon Oliver, *Philosophy, God and Motion* (London: Routledge, 2005), 168.

[65] Hans Driesch, *The Science and Philosophy of the Organism vol. 1* (London: Adam and Charles Black, 1908),

recognition? Why play? – would either be given the most banal utilitarian explanation or fall outside of the bounds of biological reason altogether. It is no explanation of the origin and nature of sexual reproduction to say that the consequent genetic variability protects against harmful mutations, confers an advantage of ecological adaptability, or enhances parasite resistance better than asexual reproduction, though all of these may be true[66]. The almost universal provision of care that parents make for their offspring, though it varies from species to species and between individuals, is not explained by saying that those organisms which provide for their young during the most vulnerable stages of their existence have a long-term competitive advantage over those do not, though again, this is most certainly true. To say that these are matters of instinct is merely to „substitutes names for causes" once again. To say that mothers are programmed by their genes to care for their young is not to explain the phenomenon, but to do away with it.

3. Evolution and the Devolution of Reason

It is perhaps here, in what we no longer seem able to see or think about, that the „influence of Darwin upon philosophy" would be most keenly felt, if this revolution „intellectual revolt" did not also deprive of us the wherewithal to know what we are missing. The negation of transcendence in the conflation of being and history, the „de-platonization" of nature that reaches the apex of its authority in Darwinian evolution, effected a corresponding transformation of what thinking now means, indeed in what we think there even is to think about. The extension of the „intellectual revolt" heralded by Darwinian evolution beyond the bounds of science and philosophy themselves into every sphere of life, the ubiquity of „evolution" as a cultural paradigm even among those with only the faintest grasp of Darwinian theory, is the extension of this unthinking beyond the sphere of science into modern Western civilization as a whole. It was this implication of

[66] D.C. Geary, *Male, Female: The Evolution of Human Sex Difference*. (Washington: American Psychological Association, 1998), 16-20.

Darwinism, at least, that Dewey celebrated in making Darwinian evolution the ontological basis of his pragmatic philosophy, which he regarded not merely as *prescriptive* for what thinking ought to become, but *descriptive* of what it has always really been[67].

The Darwinian reduction of being to history, and of historical „progress" to the history of functional adaptation, presupposes and absolutizes the Baconian reduction of truth to utility, about which I have already written a great deal in the pages of this journal. In brief, the conflation of contemplation and productive action encapsulated in our modern word „technology" equates the truth of our knowledge with our power or success in controlling the phenomena of nature, the forms of this control ranging from the retrodiction and prediction of the course of natural processes to the manipulation of physical nature to realize ends it could not achieve on its own. As we have already seen, this reduces the meaning of explanation *per se* to functional explanation, isolating the effects that follow from the control of antecedent variables, even where theory bears only an analogous relation to direct experimentation. Reason thus reduced can no longer intelligibly pose questions in the 'what is' form, and it should be observed that with the negation of both form and *esse* as metaphysical principles, reason can no longer see anything in nature corresponding to this unavoidable question. Nor does it need to. Rather, as we have already seen in the Darwinian reduction of ontological identity to causal history and functional organization, technical, scientific reason can only conceive such questions in functional terms: Where from? Where to? How many? Under what influence? To what effect? If one can answer these questions by manipulating conditions x and y or construct a plausible retrospective explanation of the history of some natural process on this basis, then traditional philosophical questions into the nature of being, cause, entity and truth simply become obsolete. The most authoritative form of reason in our culture; indeed the *only* publicly recognizable form if Stephen Gaukroger is correct and the essence of modernity consists in the „assimilation of all cognitive values to scientific ones", is both uninterested and incapable of thinking about *what* anything is, even as the technical interventions into

[67] See Dewey, *Reconstruction in Philosophy*, 1-27.

nature necessitated by technical rationality answer in practice that nature is a plastic artifact subject to human control[68].

Philosophical reason founded on evolutionary premises brings traditional speculative philosophy to an end not by better answering traditional questions, but by changing the subject and setting them aside[69]. Long before Thomas Kuhn conceived of the notion of „paradigm shifts" to describe the gestalt switches that characterize the actual history of scientific development, in contrast to whiggish myths of inevitable, uninterrupted scientific progress, pragmatists like Dewey and James recognized this dimension of the structure of this scientific revolutions. „The new logic", writes Dewey, „outlaws, flanks, dismisses – what you will – one type of problems and substitutes for it another type[70]. „Philosophy foreswears inquiry after absolute origins and absolute finalities in order to explore the specific conditions that generate them"[71]. For now „reason is experimental intelligence", concerned with „the intelligent administration of existent conditions"[72]. And „once admit that the sole verifiable or truthful object of knowledge is the particular set of changes that generate the object of study together with the consequences that then flow from it, and no intelligible question can be asked about what, by assumption, lies outside" Teachers of what James calls the „ultra-rationalistic" type of philosophy – which, from the pragmatic point of view, means the whole history of thought from Plato to Hegel in one unbroken thread – is to be „frozen out, much

[68] Stephen Gaukroger, *The Emergence of a Scientific Culture: Science and the Shaping of Modernity 1210-1685* (Oxford: Clarendon Press, 2006), 3. For more on „a reason that can't say what anything is, see Henry B. Veatch, *The Two Logics: The Conflict Between Classical and Neo-Analytic Philosophy* (Evanston: Northwestern, 1969). For another classical argument along these lines, see Charles de Koninck, *The Hollow Universe* (London: Oxford University Press, 1960).

[69] The pragmatic perspective confers a curious and controversial unity on the history of philosophy as a kind of imprisonment within the shadow of Plato that makes strange allies out of Dewey, Wittgenstein and Heidegger. See Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press, 1979), 3-69.

[70] Dewey, „The Influence of Darwin on Philosophy", 311.

[71] Ibid.

[72] Dewey, *Reconstruction in Philsophy,* 96; „The Influence of Darwin on Philosophy", 311.

as the courtier type is frozen out of republics, as the ultramontane type of priest is frozen out in protestant lands"[73].

We have already seen, in an intellectual culture that cannot think „what anything is", one consequence of this reduction of reason/ The loss of existential unity, interiority, form and finality corresponding to this reduction the very „object of study together with the consequences then flow from them" makes both the world and the act of scientific cognition less than they must be for their intelligibility, and thus less than we cannot help knowing them to be. Another consequence can be seen in the quality of the atheism it has produced. The nineteenth century gave us Nietzsche, whose sense of what the „death of God" would mean for the West is so profound that he almost deserves to be considered Christianity's friend. Twentieth century Darwinism has given us Richard Dawkins, who evidently has difficulty distinguishing thinking from advertising and Daniel Dennett, who, under the guise of thinking, projects a cartoon image of God in order to reject it with as little real thought as possible[74]. The sociological function of these men, and the source of their authority, seems to derive from the comfort that they give to a public desperate not to think seriously about the question of God and being. That they are regarded as oracles of wisdom by our most prominent media and our most influential publishing houses is the fruit of freeing „the new application to mind and morals and life"[75]. And by their fruit ye shall know them.

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[73] William James, *Pragmatism and the Meaning of Truth* (Watchmaker Publishing, 2011), 30.

[74] Dawkins' atheism has evolved into a profitable industry with books, t-shirts, bumper stickers, and an advertising campaign, partially funded by Dawkins himself, promoting atheist slogans on the side of London buses, spawning similar campaigns in Washington, DC and elsewhere. *The Guardian* quotes Dawkins as saying, apparently with no sense of irony, „This campaign to put alternative slogans on London busses will make people think—and thinking is anathema to religion" See the October 21, 2008 edition of *The Guardian:* http://www.guardian.co.uk/commentisfree/2008/oct/21/religion-advertising. For premium example what I call a negative „cartoon theology" in his argument against infinite regress to „Supergod" and „Superduper God", see Daniel C. Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (New York: Simon and Schuster, 1995), 70-71.

[75] Dewey, „The Influence of Darwinism on Philosophy", 308.

If Darwin has indeed made it possible to be an „intellectually fulfilled atheist", as Dawkins famously proclaimed, it is arguably because contemporary atheism, indeed contemporary reason, has forgotten how to recognize a serious question[76]. This is the logical result of deciding that all such questions are meaningless before they are even posed. Richard Rorty is perhaps the best spokesman for this point of view. „Such secularists are not saying that God does not exist, exactly; they feel unclear about what it would mean to affirm his existence, and thus about the point of denying it. Nor do they have some special, funny, heretical view about God. They just doubt that the vocabulary of theology is one we ought to be using"[77].

The ultimate result of this intellectual revolt, as Rorty's remark suggests, is something less than atheism, which is still a privative form of theology parasitic upon the God in which it disbelieves. This is the phenomenon that Augusto Del Noce calls „irreligion"[78] and what John Paul II and Benedict XVI seemed to mean in speaking of the „eclipse of the sense of God and man"[79]. It is not so much that faith in God is adamantly repudiated; an indication that God remains a substantive object of contention, a matter of existential concern[80]. It's rather that in our days, „in vast areas of the world the faith is in danger of dying out like a flame which no longer has fuel...The real problem at this moment of our history is that God is disappearing from the human horizon, and, with the dimming of the light which comes from God, humanity is losing its bearings, with increasingly evident destructive effects"[81].

Ratzinger's claim that the reconciliation of being and history is among the greatest intellectual and theological challenges facing the Church in the modern world is a warning that the eclipse of God is not merely external to Christianity but also threatens it

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[76] Richard Dawkins, *The Blind Watchmaker* (Norton: New York, 1986), 6.

[77] Richard Rorty, *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), xiv.

[78] Augusto Del Noce, *The Age of Secularization*, ed. and trans. Carlo Lancellotti (Montreal: McGill-Queen's University Press, 2017), 94.

[79] John Paul II, *Evangelium Vitae* 21.1

[80] See Ratzinger, *Introduction to Christianity*, 39-47.

[81] Benedict XVI, *Letter to the Bishops of the Catholic Church Concerning the Remission of the Excommunication of the Four Bishops Consecrated by Archbishop Lefebvre*, Vatican City, 10 March, 2009.

from within. The result of acquiescing in it would be an „irreligious Christianity" that ex no longer apprehends, represents, and mediates the presence of the eternal within nature and time but is reduced to its social function as an instrument of psychological well-being or social progress. There is historical precedence for this in the „social gospel" in the Protestant liberalism of the early twentieth century. Del Noce detected a similar reduction in the progressive Catholicism that blossomed in the 1960s, in which „de-Platonized" nature finds its counterpart in a „de-Platonized Christianity that subordinates contemplation to praxis and the „vocabulary of theology" to the authority of psychology and the social sciences[82]. Del Noce refers to this as „sociologism" (to which we could add „pastoralism"), and it is far from metaphysically and theologically innocent. The substitution of the technical rationality of psychology and the social sciences and their functionalist conception of truth for the contemplative rationality of theology and philosophy has as its counterpart the substitution of the horizontal transcendence of futurity for the vertical transcendence of the eternity that upholds and indwells all things. He explains,

> „Primacy of contemplation just means the superiority of the immutable over the changeable. It expresses the essential metaphysical principle of the Catholic tradition, which says that everything *that is* participates necessarily in universal principles, which are eternal and immutable essences contained in the permanent actuality of the divine intellect...The primacy of contemplation, the primacy of the immutable and the realm of the eternal order are equivalent affirmations, which coincide with taking intellectual intuition as the definition of the model of knowledge. The recognition of this form of knowledge is inseparable from the very possibility of metaphysical thought[83].

[82] For an example of Catholic acquiescence to a mechanistic conception of nature in its naked facticity" of nature, see Todd Salzman and Michael Lawler, *The Sexual Person: Toward a Renewed Catholic Anthropology* (Washington, DC: Georgetown University Press), 48-9.

[83] Augusto Del Noce, *The Age of Secularaization*, trans. by Carlo Lancellotti (Montreal: McGill-Queen's University Press, 2017), 219, 241.

The „sociologistic" view, on the other hand, „reduces all conceptions of the world to ideologies, as expressions of historical-social situation of some groups, as spiritual superstructures of forces that are not spiritual such as class interests, unconscious collective motivations, and concrete circumstances of social life".[84] The natural metaphysical backdrop to this sociologistic mindset is the conflation of being, nature, and history that in its most reputable and authoritative form, goes under the name of Darwinian evolution. And like the very „conditions" that determine its functional „truth", the „concrete circumstances of social life" so precious to this understanding are, ironically, a reductive abstraction from the totality of being, form and truth on which they actually depend. Karol Wojtyla recognized this with great clarity. „The expression 'order of nature'" he wrote, „cannot be confused nor identified with the expression 'biological order,' as the latter, even though also signifying the order of nature, denotes it only inasmuch as it is accessible for the empirical-descriptive methods of natural sciences"[85]. But the „'biological order' as a work of the human mind separating some elements of this order from what really exists, has man as its immediate author"[86]. The 'order of nature', by contrast, „constitutes a group of cosmic relations that occur among beings that really exist. It is thus the order of existence, and the whole order present in existence finds its basis in the one who is the unceasing source of this existence, in God the Creator" Only by defending this order in its fullness, alone if need be, can the Catholic Church hope to prevent the descent of man into something less than human.

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[84] Ibid., 219.

[85] Karol Wojtyła, *Love and Responsibility*, trans. by Grzegorz Ignatik (Boston: Pauline Books and Media, 2013) 40-41.

[86] Ibid., 41.

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