

Thinking About Nature Phillip R. Sloan

I. Preamble:

The general topic of this summer's alumni seminar deals in several ways with what is meant by "nature" over a long historical period, including its manifestations in literature, political theory, philosophy, and science. This essay is to position some key elements related to my own three sessions that will deal in a limited way with scientific and philosophical aspects of this multi-faceted concept, particular as it becomes important in the issues raised by Darwinism and the implications this Darwinian discussion has for the relation of human beings to the rest of animated nature. In this brief essay I will set out some key issues that I wish to explore in our discussions. As always, our discussions will focus on the texts themselves. This essay is to help us see the linkages between the readings.

Session One: The Concept of Nature: Early Modern Reflections:

Readings: Descartes, *Discourse on Method*, any edition. Available online at

<https://johnstoniatexts.x10host.com/descartes/descartesdiscoursehtm.htm#partfive>

Buffon, "First View of Nature" (PDF supplied on website. Can also be accessed free online at https://archive.org/details/b28775892_0010/page/325/mode/1up)

Early modern scientific and philosophical discussions of 'Nature' (*phusis*, *natura*) developed against the backdrop of a rich historical heritage that was indebted to the complex discussion of this concept carried out in Pre-Socratic, Platonic, Aristotelian, Stoic, and Hellenistic discussions, followed by the syntheses of issues surrounding this notion that developed in Christian, Islamic, Scholastic and late Medieval discussions.¹ I will first make two important distinctions regarding Classical Greek discussions that affected later discussions.

We will ignore in this short essay the complexities of Pre-Socratic reflections and begin with Plato. He does not have explicit discussions of "nature" (*phusis*) in his *Dialogues*, but in his great "creation-story" dialogue, *Timaeus*, he sets out an image of the creation of the world and cosmos in accord with mathematical forms through the action of a creator-designer—the *demiurgos* or "Craftsman," who fashions mathematically-defined forms of matter into concrete bodies, and even organisms and human beings, in accord with the ideal forms. This gives us the image of an *external* designer who fashions the natural world in accord with rational principles.

Aristotle does have explicit discussions of the concept of nature (*phusis*), and this plays an important role in his larger philosophical project. In the glossary of *Metaphysics* V (1014b15 ff), where he defines several key concepts, he summarizes five primary meanings of *phusis*, and emphasizes as the most fundamental meaning "the essence of things which have

¹ For useful discussions of this history I am indebted to G.E.R. Lloyd, "Greek Antiquity: the Invention of Nature," in Torrance, *Concept of Nature*, pp. 1-24.

in themselves, as such, a source of movement.”² This renders Aristotelian *phusis* primarily *internal*, and associated with the inherent teleology or “goal directedness” of natural beings, particularly living beings.

The subsequent Hellenistic tradition was in position to draw on Presocratic, Platonic and Aristotelian sources. This period also displays the emergence of reflections on “Nature” as an all-encompassing ground of being, and also as a benevolent, ethical, and legal foundation for human action. This was developed especially in writings by the Stoic and neo-Platonic philosophers in the Hellenistic period. *Phusis* is a component of an overarching world soul in which the world reveals an intelligent design by “nature” that draws on Plato’s concept of the external rational designer, but now considered as an *impersonal power* that is life-giving and sustaining. We see an important development of this notion in authoritative Greek medical sources, particularly the writings of the great synthezer of medicine and Hellenistic philosophy, Claudius Galenus (Galen, 129-216 AD), whose anatomical works drew especially on the idea of nature as the designing fashioner of the marvelous parts and details of the body, developed particularly in his great anatomical and natural-theological treatise, *On the Usefulness of the Parts*. This providential and designing Nature designs and crafts organisms and the human body on the analogy of a sculptor working on clay, with the designing role of *phusis* displayed in every part and structure.³ It is not difficult to see how this concept was easily adopted by Jewish, Christian, and Islamic interpreters in the language of an external Creator who creates all animals and plants according to a rational design.⁴ These views, in new dress, persist today in “Intelligent Design” arguments that form a prominent feature of contemporary “evolution debates”, with arguments appealing to the obvious design of organic beings opposed to the notion that this design is purely a matter of chance.⁵

The complex reworking and synthesis of these issues by later Medieval philosophers and the great Scholastics is a story that goes beyond the confines of this short essay. It is, for example, difficult to find in St. Thomas an explicit discussion of the concept of “nature” in itself, distinct from discussions of grace, essence and form, although his development of these concepts in dialogue with Aristotelian philosophy directs the discussion to “nature” as an internal teleological principle, rather than an external designer as we might see in Galen.

Early modern science and philosophy, the starting point from where we will begin, did pick up on the pre-existing discussions of “nature” and the “natural,” but then took a new departure that we will explore selectively. The main conceptual architects of the so-called “mechanical” philosophy particularly associated with the work of René Descartes in the

² Aristotle, *Metaphysics* v.1015a 13.

³ See esp. Galen, *On the Usefulness of the Parts of the Body*, trans. M.T. May 2 vols. (Ithaca: Cornell University Press, 1968), vol. 2, bk. xvii, 726-27.

⁴ By this I mean that the externalized Platonic-Stoic design-contriver conception of nature made it more easily reconciled with the notion of an intelligent and providential external creator of nature who fashions a passive domain of divinely created matter in providential ways.

⁵ E.g. the writings of Michael Behe (*Darwin’s Black Box: The Biochemical Challenge to Evolution* (1996), in opposition to those of Richard Dawkins, *The Blind Watchmaker* (1996).

seventeenth century, provides the source we will discuss initially.⁶ These reflections are grounded in the new concept of “Laws of Nature” (*Lex naturae*) as fixed mathematical principles, imposed by God, that govern the action of material bodies. “Nature,” in this latter sense, is deprived of the internal teleological activity of the Aristotelian tradition, although it may establish a system of interactions that work for a larger external goal. This “nature” is also not a designing world-soul of the Platonic-Stoic-Galenic traditions, nor an internal principle of action, but simply a system of bodies governed by fixed laws. As Descartes wrote in his early *Le Monde*, written around 1630 but only published posthumously, nature is not,

some Goddess, or some other sort of imaginary power, but I use this word to signify Matter itself, insofar as I consider it with all the qualities that I have attributed to it, taken altogether, and under the condition that God continues to conserve it in the same way that he created it.⁷

Later in the published (1641) *Meditations*, Descartes defined nature as “nothing other than God himself, or rather the order and the disposition that God has established in created things.”⁸

We will explore some features of this understanding of nature as a system of bodies working according to imposed laws in our reading from Descartes’s *Discourse on Method*, part 5 (1637). In this text he publically summarized his general arguments of the unpublished *Le Monde* and presented his cosmology and even his account of the human body in this system. The body is now interpreted as a created machine within this system, driven by the mechanism of Harvey’s new theory of the circulation of the blood, to which the soul is then joined by divine action as a separate substance. This gives us classic “Cartesian dualism” that we will reconsider later in our discussions.

Subsequently, Isaac Newton’s great scientific work, the *Mathematical Principles of Natural Philosophy* (first edition 1687), would synthesize the prior work of Descartes, Galileo, Copernicus and Kepler into a grand synthesis. But this will also involve a deep criticism of Descartes’s general physics and cosmology and his theory of the natural order. Newton will develop even further the concept that “nature” is a domain governed by fixed natural laws acting upon material bodies. However, the great new concept that Newton will interject into this conversation is the re-introduction into the material world of the concept of “active” forces, such as gravitational attraction and even invisible microforces acting to explain chemical bonding and electrical phenomena, in addition to the contact forces allowed by Descartes.

⁶ One can trace a considerable debt to theology, and particularly the tradition of theological Voluntarism and its specific developments in Reformed theology. See especially Gary Deason, “Reformation Theology and the Mechanistic Conception of Nature,” in D. Lindberg and R. Numbers (eds) *God and Nature : Historical Essays on the Encounter Between Christianity and Science* (Berkeley: University of California Press, 1986), 167-91

⁷ Descartes, *Le Monde*, (1630) AT VII, XI, 36-37.

⁸ Descartes, *Meditations* (1641), VI, AT IX, 64.

This new Newtonian view of “nature,” one that now includes active forces, is important for our second reading of this first session. With this reading we jump eight decades to the latter part of the eighteenth century to a text from the writing of the French naturalist Georges Louis LeClerc, comte de Buffon (1707-1788). Although little read by English readers today, Buffon was one of the most widely read authors of the late 18th century, more influential than Rousseau or Voltaire by some estimates. He is also writing in the period before the American Revolution and was a good friend and influence on Thomas Jefferson (e.g. *Notes on the State of Virginia*, 1785), who knew Buffon personally during his period as Ambassador to France. Buffon’s massive multi-volume *Natural History, General and Particular* (49 volumes between 1749-1788) was translated into numerous languages. Buffon’s work also formed the background of the development initiated by his understudy Jean Baptiste de Lamarck, and eventually synthesized by Charles Darwin as the theory of evolution of species in history by natural causes.

Buffon was also an avid student of Newtonian physics, English philosophy and early modern philosophy generally. In his latter volumes of the first series of the *Natural History* (1749-1766), he published two explicit discourses on the concept of Nature from which we will read the first. These present us with an influential commentary on “nature” before the rise of what is generally termed the “Romantic” movement that developed particularly in the early nineteenth century internationally. In reading this selection (complete with 18th century orthography!) look carefully at how he is incorporating aspects of Newtonian physics and its “active” forces in notions of attraction and a dynamism of an “active” matter. Nature is no longer an inert machine. Nature has its own creative powers. Attend to the interaction between this active “Nature” and human action. Is this harmonious? oppositional? How is “nature” related to a Divine order? What are some of the continuities and contrasts between Descartes and Buffon.

Session Two: Is Nature a Benevolent Gardener or a War of Each Against All?

Readings: Ralph Waldo Emerson, “Nature” Available online at

<https://www.gutenberg.org/files/16643/16643-h/16643-h.htm#NATURE>

Darwin *Origin of Species* first edition (1859, chp. 4 up to Sexual Selection and

Concluding Summary online at <https://www.gutenberg.org/files/1228/1228-h/1228-h.htm>

Darwin *Origin of Species* sixth edition (1872, chp. 4 up to Sexual Selection and

Concluding Summary online at <https://www.gutenberg.org/files/2009/2009-h/2009-h.htm#link2HCH0004>

Before turning attention to Darwin, we want to see some additional reflections on “Nature” as an active and creative domain from the early nineteenth century that can be compared to Buffon’s reflections, using an essay by Ralph Waldo Emerson (1803-1882). Emerson was an important member of the circle of American intellectuals and writers in the early nineteenth century that included Henry David Thoreau (1817-1862), Hermann Melville (1819-1891), and Nathaniel Hawthorne (1804-1864).

In the background here are German reflections that created a philosophical program that affected the arts, literature, and science in the movement known as *Naturphilosophie*.

This is particularly the product of the University of Jena philosopher Friederich Schelling (1775-1854). Aspects of this are developed more popularly in the writings and poetry of Johann Goethe and many others in an international body of writers and philosophers and much of this feeds into what is called “Romanticism.”

At least three issues differentiated this analysis of nature from those we have examined.⁹ First, there is an abolition of the traditional distinction between God and nature that we still see in our reading from Buffon. Second, Nature is posited as a “self-existent” (*Selbständig*) agency that is both product and productive.¹⁰ It develops dynamically in the interplay of the “creative” and dynamic aspects of nature, captured in the term *natura naturans*, and the “created” and completed dimensions of the universe (*natura naturata*), with these two dimensions interacting in a dynamic two-faceted duality of creative force. This is not a *static* relationship, but rather a dynamic and dialectical (i.e. back and forth) relation that progressively creates the world in history through its developmental dynamic. Schelling’s views were thus able to enter into speculations about historical geology and the origins of the world and even the origin of living beings through “natural” dynamic causes, forming another component of the “evolutionary” views that emerge in the nineteenth century.

Connected to this dynamic interplay of *natura naturans* and *natura naturata* is the dynamic relationship of knower and known, consciousness and matter, subject and object. Both the conscious and the unconscious spring from the same originating source that develops in time through a dynamic duality that overcomes the Cartesian split of mind and matter while avoiding the reductionism either of reality to states of consciousness (e.g. German Idealism), or to atomistic materialism.

A third point differentiating this philosophy of nature from those we have seen in our previous reading from Buffon is the notion of Nature as a developing, goal-oriented, teleological system, recalling aspects of Aristotelianism. The poet Goethe’s philosophy of nature, while different in several respects from Schelling’s, also developed on aspects of these views. He emphasized the pantheistic (God and Nature are one) aspects of nature, and formulated this in relation to aesthetics and poetry in ways that defined important aspects of the Romantic movement. Most important is the tie of aesthetic experience to the human experience of nature that makes it restorative, vivifying and all-encompassing, known through aesthetic awareness. Thus in his poetic expressions, we see the Faustian seer guided,

into the heart of a friend.
 Thou dost conduct the ranks of living creatures
 Before me and teachest me to know my brethren
 In quiet bush, in air, and in the water.

⁹ For a valuable overview of this tradition, I have particularly benefited from the penetrating review article by Michael Heidelberger, “Naturphilosophie,” in Edward Craig (ed.) *Routledge Encyclopedia of Philosophy*.

¹⁰ F.W. J. Schelling, *First Outline of a System of the Philosophy of Nature*, trans. K. R. Peterson (Albany: State University of New York Press, 2004), first published 1799.

And when the storm in forest roars and snarls,
 And the giant fir comes crashing down, and, falling,
 Crushes its neighbor boughs and neighbor stems,
 And hills make hollow thunder of its fall,
 Then dost thou guide me to safe caverns, showest
 Me then unto myself, and my own bosom's
 Profound and secret wonders are revealed.¹¹

Goethe's views become through the reworking of similar views by another German author, Alexander von Humboldt (1769-1859), an important influence on the early Darwin as will be explored below.

Our reading of selections from Emerson's essay reflect many aspects of the thinking about "Nature" as we find it in Schelling and Goethe. Emerson had studied German *Naturphilosophie* and we see this in his reference to *natura naturans* and *natura naturata* in our selection. In reading this, ask yourself how is he conceiving of "nature"? Is it benevolent, violent, restorative? Can you connect this with previous readings? What are divine aspects of this? Is it governed by mathematical laws? How do we as humans relate to nature?

Darwin on Nature:

The preceding discussion has served to illuminate, if it does not exhaust, some of the options that were available to Charles Darwin in his own reflections on the relation of living organisms to nature that begin in the late 1820s and continued to the end of his life. I will discuss some of the insights to be gained in Darwin's discussion in my evening lecture on the voyage of the *Beagle* (December 1831-October 1836), and the complexities of his early thoughts about Nature that I see heavily influenced by German discussions, particularly those of Alexander von Humboldt (1769-1859). Humboldt's narrative of his own journey to South America between 1799-1804 was a constant companion of Darwin during his years on the *Beagle*. Darwin's direct modelling of his personal *Diary* entries and discussions in other manuscripts made during the *Beagle* years on Humboldt's *Narrative* has been noted by others, and is captured in the "landscape reveries" that fill his literary descriptions and in his affective responses to the plants and animals, the rain forests, and to the dramatic contrasts of scenery. As he reflects even at the end of the voyage when the *Beagle* returns to the Bahia, Brazil on its way home, and Darwin again takes a walk in a tropical rainforest in August of 1836:

When quietly walking along the shady pathways & admiring each successive view, one wishes to find language to express one's ideas: epithet after epithet is found too weak to convey to those who have not had an opportunity of experiencing these sensations, a true picture of the mind. . . : the land is one great wild, untidy, luxuriant hot house, which

¹¹ Goethe, *Faust*, trans. C.E. Passage (Indianapolis: Library of Liberal Arts, 1965), Act 1, lines 3220-3240, p. 114-15.

nature made for her menagerie, but man has taken possession of it, & has studded it with gay houses & formal gardens. How great would be the desire in every admirer of nature to behold, if such was possible, another planet; yet at the distance of a few degrees from his native country, it may be truly said, the glories of another world are open to him.—In the last walk I took, I stopped again & again to gaze on such beauties, & tried to fix for ever in my mind, an impression which at the time I know must sooner or later fade away . . . ; the thousand beauties, which unite them all into one perfect scene, must perish; yet they will leave, like a tale heard in childhood, a picture full of indistinct, but most beautiful figures.¹²

As we move into Darwin's creative post-*Beagle* (after October, 1836) reflections, carried out in his pocket *Notebooks* and drafts of his theory made between 1842 and 1858, there are unquestionably new elements that enter into his thought, but also strong signs of continuity with his "Romantic" *Beagle* reflections.

In the first transmutation, or "B" Notebook, opened in July of 1837 and covering reflections up to about March of 1838, Darwin speaks of a "creative power" that acts as a secondary cause in the creation of the natural world. It works in response to the establishment of laws by a creator to explain the origin of different species on such locales as the Galapagos islands.¹³ Furthermore, this "creative power" is not the same as the Creator of traditional theology. It need not act intentionally, and for this reason the existence of "useless" structures perpetuated by generation does not need to be attributed to divine design. Darwin also introduces the language of creation by secondary causation that harkens back to Newton that I have not located in earlier documents:

Astronomers might formerly have said that God ordered, each planet to move in its particular destiny.—In same manner God orders each animal created with certain form in certain country, but how much more simple, & sublime power let attraction act according to certain laws such are inevitable consequen [sic] let animal be created, then by the fixed laws of generation, such will be their successors.—¹⁴

Language such as this gives us only the image of a creator who establishes the laws of nature that might then work as secondary causes to create organisms and structures in a passive domain of created matter, harkening back to the "mechanical" view of nature we encountered with Descartes.

This appeal to fixed physical laws operating mechanically in nature is also reinforced by Darwin's reading of Thomas Malthus's *Essay on Population* between September 28 and

¹² Darwin, *The Diary of the Voyage of the H.M.S. Beagle*, ed. N. Barlow, in: P. Barrett and R.B. Freeman, *The Works of Charles Darwin* Vol. 1 (London: Pickering, 1986), pp. 378-79.

¹³ Darwin, "B Notebook," fol. 98, p. 195.

¹⁴ Darwin, "B Notebook," fol. 101, p. 195.

October 2 of 1838. This introduces a new language about nature and a new set of metaphors into his writings that we do not encounter in Darwin's earlier discourse. As Darwin characterizes this "Malthusian" view in his "D" Notebook, the incessant pressure of population increase on *all* of nature—a universalization that he develops beyond Malthus—offers now the image of a "...force like a hundred thousand wedges" being pounded into the gaps in the "oeconomy of Nature."¹⁵ This certainly disrupts the "sublime" imagery of the *Beagle* years and that of Romantic theories of nature as we found this expressed by Emerson, replacing these with a new "mechanical" language. Along with this enters the metaphor of Nature as a super "selector" that acts for teleological purposes. "Nature" is now characterized as a rigid schoolmaster who perfects the human race by unerring punishment of violations.

The synthesis of these diverse themes, drawn from diverse sources, in Darwin's complex body of readings and reflections in the late 1830s finally took shape in the first thirty-two page draft of his evolutionary theory in 1842, the first text to employ the language of "natural" selection. In this text we also can see beginning of an interplay of the "Romantic" and "Malthusian" conceptions of nature. One conception sees Nature as the source of life, vitality, the source of instinct, the foundation for a concept of continuity of consciousness through all of nature, and the source of the power driving population increase. This earlier image is now *combined with* the "Malthusian" model of Nature involving a selective demiurge, much wiser than human beings, working for teleological ends by harsh mechanical means. Thus we see him write:

Nature lets <an> animal live, till on actual proof it is found less able to do the required work to serve the desired end, man judges solely by his eye, and know not whether nerves, muscles, arteries, are developed in proportion to the change of external form.¹⁶

He expands and deepens this synthesis of views in the long 230 page draft of 1844. Darwin continued to speak in this draft of a "being with penetration sufficient to perceive differences in the outer and innermost organization quite imperceptible to man, and with forethought extending over future centuries to watch with unerring care and select for any object the offspring of an organism produced under the foregoing circumstances."¹⁷ This masculine gendered, all-penetrating being is still not identified *with* nature, but rather is more on the side of the *creative designer* of nature.

Then in the so-called "long manuscript" or his "Big Species Book," often termed *Natural Selection*, of 1856-58, the massive incomplete draft of his theory that was in progress when he received the paper of Alfred Russell Wallace in the summer of 1858 proposing something close to his theory of natural selection, we see now the image of a single wise, perceiving "Nature," now with a feminine gender. This "Nature" takes on the role of both

¹⁵ Darwin, "D" Notebook," fol 135, p 375.

¹⁶ Darwin, Selection from "1842 Draft" in: T. Glick and D. Kohn (eds.) *On Evolution* , pp. 9-10.

¹⁷ Darwin, Selection from "1844 Draft" in: T. Glick and D. Kohn (eds.) *On Evolution* , p. 101.

the “sagacious being” who selects, and also that of the vital source of life and consciousness:

She [Nature] cares not for mere external appearance; she may be said to scrutinise with a severe eye, every nerve, vessel & muscle; every habit, instinct, shade of constitution, —the whole machinery of the organisation. There will be here no caprice, no favouring: the good will be preserved & the bad rigidly destroyed. . . . Nature is prodigal of time & can act on thousands of thousands generations: she is prodigal of the forms of life, if the right variation does not occur under changing conditions so as to be selected & profit any one being, that form will be utterly exterminated as myriads have been. No complications are too great for nature: a contingency happening once in a thousand generations may lead to the extermination of a variety: she can gradually select, either simultaneously or successively, slight changes adapting the selected variety to a score of other beings, most widely apart in the great scale of nature.

Can we wonder then, that nature’s productions bear the stamp of a far higher perfection than man’s product by artificial selection. With nature the most gradual, steady, unerring, deep-sighted selection,—perfect adaption [sic] to the conditions of existence. . . .¹⁸

My purpose in pursuing the concept of nature in Darwin’s thought in such detail is to display the complexity and the varied sources that seem to feed in to the final language of the published *On the Origin of Species By Means of Natural Selection* (first edition, 1859), and what he even means by “natural” selection. The rapid condensation between the summer of 1858 and publication in December of 1859 of the “long manuscript” on which Darwin had worked between 1856-58, resulted in a highly “generalized” presentation of his ideas, and for this reason he always characterized the published *Origin* as an “abstract” of a book that was in fact never actually written, unless we consider all his later books the completion of the *Origin*. The published *Origin* presented his theory without tables of data, footnotes, reference to contemporary literature, all put forth in a non-technical language that could be read by the educated layman without specialized scientific expertise. For this reason, the influence of this work reached far beyond the borders of the professional scientific community and its views were soon reflected in literature, art, theology, politics, economic theory, and popular lay science.

As presented in the *first* edition of the *Origin* from which our first reading is taken, we see “Nature” presented as a repository of laws, a “polity,” an “oeconomy,” a producer of variations and as a wise selector and “careful gardener,” who selects with greater wisdom than humans those best adapted forms. Note in your reading the ways “nature” and “natural” are used in this *first edition* selection. In our comparison of the *first* edition reading with that we find in the final *sixth* (1872) edition, we can then see much of the historical discussion and controversy that surrounded his concept of “natural” selection. This difference in

¹⁸ In Robert Stauffer (ed.), *Charles Darwin’s Natural Selection*, (Cambridge: Cambridge University Press, 1975), 224-225.

presentations has affected the reading of Darwin ever since. The first edition shows clear continuity with his pre-publication discussions of Nature we have described above. The sixth edition gives us some very different ways of conceiving nature, and gives us new imagery about “nature” and the “natural” that underlies much of the historical controversy surrounding Darwin’s evolutionary theory in popular discourse as well as more technical philosophy and theology. Think about these different readings as you compare these two parallel selections and the meaning of “natural” selection.

Session Three: Repositioning the Human in Nature: Toward a Phenomenology of the Human World:

Readings:

Darwin, *The Descent of Man and Selection According to Sex* (1871), Chp. 4 up to “More Enduring Social Instincts”. Online at <https://www.gutenberg.org/cache/epub/2300/pg2300-images.html#link2HCH0004>.

Erwin Straus, “On the Upright Posture” (1952, PDF Supplied on Website)

Our third session will deal selectively with two primary readings. The first is a chapter from Darwin’s later *Descent of Man* (1871). The second is a 1952 essay (reprinted 1966) by German emigré Phenomenological psychiatrist Erwin Straus (1891-1975).

Prior to the publication of the *Descent of Man*, it was uncertain what Darwin really thought about the human being in relation to his theory of descent and species transformation. Even religious thinkers were not necessarily opposed to his theory, as illustrated by the responses of John Henry Newman. But with the publication of the *Descent of Man*, stark battle lines began to be drawn. Darwin demonstrated his willingness to take on not simply the historical biological relations of species, but explicitly now included human beings in this picture, and in doing so was willing to apply his theory to the broader questions of ethics, sociology, religion, human distinctness, and all other aspects that make us human, such as consciousness and self reflection, with each of these properties reduced to a continuity with the animate world.

We see Darwin’s development of some of these radical claims in our reading from Chapter Five of the *Descent of Man* on the “Moral Sense.” This gives his treatment of the foundations of ethics and several other properties of human beings. We can see how radically Darwin has broken down the sharp distinction of humans and animals, set out starkly in our first reading from Descartes’s *Discourse*. All human properties are now treated as *continuities* of prior animal properties, and in an important way are *reduced to* those animal beginnings. This provides us with his most controversial insights into the analysis of human origins and what we might consider the most distinctive properties of human beings and their reasons for action.

We will pair the Darwin reading with our final reading from an imaginative essay by the German emigré philosopher and practicing psychiatrist Erwin Straus. Straus is not arguing against Darwin, but is instead beginning his reflections from a different beginning point, one that we can call that of “descriptive Phenomenology.” This is a component of the

philosophical movement first developed by Straus's teacher and founder of the Phenomenological movement, Edmund Husserl (1859-1938). To adopt a "phenomenological" perspective is to begin from a standpoint that seeks to confront the phenomena of the senses as we *directly experience them*, suspending or "bracketing" explanatory theories, accounts of sense perception, or other explanations of what we do experience, whether these be scientific theories of perception, psychological theories of the mind, or even theological accounts. The attention is directed to the immediacy of phenomena and how these appear to the apprehending consciousness. Think about adopting such a standpoint as you existentially experience yourself. What is novel about beginning from this starting point?

As we see, Straus develops the implications of our unusual orientation to the world, and its implications for our anatomy, use of language, social relations with other human beings, mode of eating, and also how this defines a difference from that of our closest animal relatives, such as the great apes, which we resemble in so many physical respects. However humanity came to be, and this does not exclude either natural-scientific or theological answers, this starting our inquiry from a careful "Phenomenological" description of our direct experience of ourselves, focuses on our unusual physical *positioning* in the world, and how this defines our human existence as we move from infancy to adulthood in relation to other organisms and other human beings. If we are to see human origins as *emerging from* a world of pre-human life in long historical time—the basic vision of Darwinism and that of other evolutionary theories—is there something that is revealed when we take a "phenomenological" starting point that gives us a new way to look at what constitutes human distinctness given this historical continuity, and the way in which "nature" plays a role in these reflections?

For those interested in the science-religion dimensions of this, I can supply a supplementary document in which I discuss these issues in relation to Roman Catholic thought on the subject of evolution. I will post this on the website.