

Aquinas, Darwin and Natural Law: Teleology and Immutability of Species

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Abstract

Natural Law theory is the theory that nature has built within it a set of objective norms or laws which are universally applicable and can be discovered by reason. It is derived from nature rather than from the rules of society in determining an objectivist moral theory. It has a long history of tradition beginning with the ancient Greeks and Romans up to the present day.

The purpose of this essay is to argue Darwin's theory of natural law can be accommodated by Aquinas' theory of natural law. The secondary literature of both figures is vast and changing, but this essay will mostly be restricted to looking at their primary texts on the topic. From this, it will be evident they shared many thoughts in common – the primary one being that morality begins with biology. There are objections to the compatibility of their theories, but space restricts me to addressing only two of them: teleology and immutability of species.

Keywords

Aquinas, Darwin, natural Law, teleology, immutability of Species

Thomas Aquinas' (1225-1274) natural law theory is still influential today and is most specifically described in his *Summa Theologiae* Part 2 questions 90–97. Aquinas understands law to be “a rule and measure of acts, whereby man is induced to act or is restrained from acting”¹. Natural law is one of four types of law: eternal, divine, natural and human. Natural law is instilled in man's mind so as to be known naturally by him/her. It is participation in eternal law. Human law is extension of natural law to provide for particularity and context.

¹ Thomas Aquinas, “Summa Theologiae,” in *The Collected Works of St. Thomas Aquinas. Electronic Edition*. (Charlottesville, Virginia, U.S.A.: IntelLex Corp., 1993). Part Two Q 90 A 1 Body.

Aquinas has a teleological view of creation: that all natural substances seek their own perfection. Species of natural substances are defined by their particular activities generated by their substantial forms. Each form has particular powers, potential and inclinations that act to final ends.² Every created thing has acts and ends proper to them with natural inclinations derived from those ends imprinted within them by the eternal law. For a substance to be perfect it is to be fully actual or complete – exercising all the powers and potentials that belong to it. A substances natural inclination are what draws something to make actual its specific powers and potentialities.

So every living agent acts towards its completion or its good. How “good” it is is determined by how well it functions towards its natural end. In this way, as Aquinas says, even something “bad” like a robber can be “good” in that “a man is called a good robber, because he works in a way that is adapted to his end [to robbing].”³

Eternal law imprints this teleology innately on all things and the participation of this in the rational creature is defined as natural law. The function of natural law is to discern what is good and what is evil and this is done through exercising reason, which Aquinas understands to be God given via participation in the eternal law.⁴ Natural law is practical reason in man that is founded on the idea of good and shows man “good is to be done and pursued, and evil is to be avoided.”⁵ This is the primary precept of natural law. All other precepts follow from this.

When it comes to man, there is a certain order of precepts. Firstly, as every substance is inclined to its good or complete end, self-preservation is one of those natural inclinations. Therefore, whatever preserves human life belongs to natural law and man shares this inclination with all other substances. Secondly man (as an animal) shares certain natural inclinations in common with other animals such as mating and the raising of offspring. These things “which nature has taught to all animals”⁶ are part of the natural law for man. Thirdly man is a rational animal – reason being a power proper to his particular form and end. Aquinas understands this to mean humans are naturally inclined to know how to live well in society and ultimately, to know truth. Nature has provided us with these extra powers for such an end. Furthermore, to act according to reason is to act according to virtue. While virtue is part of natural law, some

² Scott MacDonald, “Egoistic Rationalism: Aquinas’ Basis for Christian Morality,” in *Christian Theism and the Problems of Philosophy* ed. Michael D. Beaty (London: University of Notre Dame Press, 1990). 329.

³ Thomas Aquinas, *Summa Theologiae* Part Two Q 92 A 1 Body and Q 91 A 2 Body.

⁴ Thomas Aquinas, *Summa Theologiae* Part Two Q 91 A 2 Body.

⁵ Thomas Aquinas, *Summa Theologiae* Part Two Q 94 A 2 Body Para 2/3.

⁶ Thomas Aquinas, *Summa Theologiae*, Part Two Q 94 A 2 Body Para 3/3.

virtuous acts may act against man's natural inclinations. But through the use of reason, can be discovered to be conducive to good living and well-being.

Having outlined the ideal of natural law at this point, Aquinas then has to deal with the reality of failure. He does this in two ways. First by arguing the general precepts are available to all but when generalities descend to particulars and contingent matters, things are more prone to error. Secondly reason can be occluded by passions, bad habits and evil disposition.⁷ Natural law can change, but its primary precept does not.⁸ For the most part Aquinas uses Aristotle's naturalism, so I will use the names interchangeably when relevant.

Charles Darwin (1809 – 1882), like Aristotle, was a great naturalist. Through the observation of nature, he discerned new species were not independently created by God but descended from other species. This idea better explained the many similarities between living beings, their embryonic relations, their distribution and other such natural facts. Naturalists of his day explained variations of species by external conditions such as food and climate or of habit but this he believed was an insufficient explanation. The primary means of modification and adaptation he attributes to his theory of natural selection. This theory rests on the doctrine of Malthus which observes many more individuals of species are born that can possibly survive so there is a struggle for existence. Mr Herbert Spencer coined the more familiar term survival of the fittest which Darwin acceded was more accurate and equality convenient.⁹

Following this, the theory of natural selection maintains that any being that has a variation that is useful to its adaptation to its particular environment has “a better chance of surviving, and thus be naturally selected”.¹⁰ This advantageous variation is inherited by the next generation and therefore becomes the norm. This he believes is a better explanation as to how we can observe acquired “perfection of structure and coadaptation” in the animal and vegetable kingdoms which “justly excites our admiration”.¹¹ Darwin came up with his theory of natural selection by observing how humans selected and bred for traits in domesticated animals which were useful to them. He speaks metaphorically of nature as almost a being itself that daily and hourly scrutinized the world for the slightest variations, rejecting what is bad and preserving good for the improvement of life in relation to particular organic and inorganic conditions.¹² This is a very

⁷ Thomas Aquinas, *Summa Theologiae*, Part Two Q 94 A 4 Body Para 3/3.

⁸ Thomas Aquinas, *Summa Theologiae*, Part Two Q 94 A 5.

⁹ Charles Darwin, *The Origin of Species* (London: HarperCollins Publishers, 2011). 59.

¹⁰ Charles Darwin, *The Origin of Species* xvii.

¹¹ Charles Darwin, *The Origin of Species*, xvii.

¹² Charles Darwin, *The Origin of Species*, 81.

slow process so we as humans cannot see it, except for the results or ends it produces.

Today it is commonly considered that there is no purpose or end in this process but Darwin clearly and regularly states and uses language to suggest otherwise: such suggestions are scattered throughout the *Origin of Species*. It is worth quoting two such passages at length:

We can see why throughout nature the same *general end* is gained by an almost infinite diversity of means, for every peculiarity when once acquired is long inherited, and structures already modified in many different ways have to be adapted for the same *general purpose*.¹³
[Italics mine]

Or even more explicitly:

Recent forms are generally looked upon as being, on the whole, higher in the scale of organisation than ancient forms; and they must be higher, insofar as the later and more improved forms have conquered the older and less improved forms in the struggle for life; they have also generally had their organs more specialised for different functions.¹⁴

And in his final chapter of *The Origin of Species*: “From the war of nature . . . the production of the higher animals directly follows” and “as natural selection works solely by and *for the good* of each being, all corporeal and mental endowments will tend to *progress towards perfection*.”¹⁵ [italics mine]

Regardless of contemporary disputes, it is clear from Darwin’s own words he understands this process and nature having an end and purpose – that of improvement towards adaptation for survival for the good of each being. Like Aquinas, he uses terminology of perfection or full development innate potentiality. The contemporary confusion lies in whether this teleology is an extrinsic one (as current arguments from Intelligent Design – based on William Paley’s theology argue), or an inherently intrinsic one (as Aristotle and Aquinas understand *telos*) that understands things developing to ends internal to their particular natures, powers and inclinations. Darwin and Aquinas understand teleology or final causality as intrinsic to substances rather than extrinsic that requires a dabbling creator to fill in the gaps.

The issue of “progress” also confuses the issue. Is progress hierarchical or sideways? If we compare Aquinas’ understanding of *telos* and Darwin’s we can see both relate to particulars. Aquinas understands what kind of a thing is (its form) determines what its natural ends are. Full development of its potential is defined as “progress” or perfection. Darwin’s understanding is also contextual

¹³ Charles Darwin, *The Origin of Species*, 545.

¹⁴ Charles Darwin, *The Origin of Species*, 549.

¹⁵ Charles Darwin, *The Origin of Species*, 564.

and particular in terms of adaptation to local environmental context. Potential powers and abilities blossom through natural selection as an agent is better suited to survive – to achieve one of its “ends”.

All living organisms are immanently teleological in that they have a natural inclination or desire or instinct to survive and to reproduce. Both Aquinas and Darwin share this understanding of biological organisms. Over time in humans’ particular powers and potentials have developed and changed or improved to allow humans to be more in control of their environment, rather than being at its mercy, and therefore might be considered “higher” in form than other organisms. This is at least Darwin’s understanding and Aquinas would attribute this to man’s innate, natural capability for abstract reasoning and language – the form leading to a completion of its given powers and potentials.

Darwin’s theory pre-supposes teleology – at least a pared down version of Aquinas’. Adaptation is means to ends: it is a solution to a problem.¹⁶ Natural selection can be understood in Aquinas’ metaphysics as efficient causation and part of the explanation. Contemporary biologists cannot do away with teleological language because nature acting to certain ends is a fact, regardless of how one explains or understands ultimate or final cause. If nature did not act to certain regular ends and have organising principles, contemporary science would not exist. It presupposes regularities and order in studying natural laws and making predictions. Today, biologists prefer to use the term teleonomy to remove metaphysical connotations. Metaphysically however, both Aquinas and Darwin understand man’s ultimate end or “final cause” to be happiness.

A slight aside is necessary at this point. When Darwin speaks of the struggle for existence or survival of the fittest he is not implying a simplistic individual and against individual fight to the death of self-preservation which conjures up notions of uncontrolled bestial impulses. Rather he accedes this is a very complex, not well understood process that involves a great deal of dependency and interdependency between organisms in the animal and vegetable kingdoms. This dependence includes not only the individual but the collective. Co-operation assists with survival and therefore reproductive success.¹⁷ This co-operation and dependence he attributes to a natural inclination to sympathy that moulds social behaviour and habits.

In *The Descent of Man* Darwin fills out his theory of modification by natural selection specifically in relation to man. His primary point is that we are descended from a lowly origin but then has difficulty accounting for the intellectual and moral powers of man. The mental

¹⁶ Etienne Gilson, *From Aristotle to Darwin and back again: a journey in final causality, species and evaluation*, trans. John Lyon (San Francisco: Ignatius Press, 2009). 213.

¹⁷ Charles Darwin, *The Origin of Species*, 60.

powers of the higher animals are the same in kind to man but vastly different in degree. He attributes this difference to our intellectual powers developed early on that allowed us to make tools, weapons traps, develop language and art, abstraction, self-consciousness etc, and in combination with our social habits, made man dominant over other living creatures. The development and foundation of man's moral qualities lie in the social instincts, including family ties. These ties are complex and in the lower animals tend to certain definite actions, but in man the more important elements are love and sympathy. Animals with social instincts display tendencies to enjoy each other's company and look after each other against harm within the same community of species, but does not extended to all individuals of the species. These social instincts are highly beneficial for the preservation of the community and have been acquired through natural selection. Man shares these social instincts with the lower animals but the greatest distinction between man and other animals is his moral sense or conscience that allows him to compare past and future actions and motives.¹⁸ His moral sense is aided by his intellectual powers to discern standards of right and wrong and is primarily activated through praise and blame of his fellows that rest on the emotion of sympathy.

Sympathy, though gained as an instinct, is also much strengthened by exercise or habit. As all men desire their own happiness, praise or blame is bestowed on actions and motives, according as they lead to this end; and as happiness is an essential part of the general good, the greatest-happiness principle indirectly serves as a nearly safe standard of right and wrong.¹⁹

Darwin sees man's end as happiness. The social instincts we share with other animals, gained by natural selection and the struggle for existence are the foundation of our morality but other agencies are more important in man.

Important as the struggle for existence has been and even still is, yet as far as the highest part of man's nature is concerned there are other agencies more important. For the moral qualities are advanced, either directly or indirectly, much more through the effects of habit, the reasoning powers, instruction, religion, &c., than through natural selection; though to this latter agency may be safely attributed the social instincts, which afforded the basis for the development of the moral sense.²⁰

¹⁸ Charles Darwin, *The Descent of Man and Selection in Relation to Sex*, Wordsworth Classics of World Literature, (Hertfordshire: Wordsworth Editions Limited, 2013). 637.

¹⁹ Charles Darwin, *The Descent of Man*, 638.

²⁰ Charles Darwin, *The Descent of Man*, 646.

Darwin does not see his theory of modification by natural selection as capable of developing a complete ethic in man, just *a partial one*. The development of his “exalted powers” or “god-like intellect” explains his noble qualities where he is able to feel sympathy for the “most debased” and extend benevolence to those outside his particular social group or species.²¹ Furthermore, Darwin does not see this all as a result of blind chance whether or not we are able to believe it has all been ordained for some special purpose.²² Indeed, in discussing sexual selection he sees it moving for the general purposes of life and incredible to suppose it be purposeless.²³

In the bigger schema, while Darwin’s faith journey changed during his life and is therefore controversial but he (at least initially) understood his theory as being part of natural laws and those natural laws created by God.²⁴ Even in the final edition of the *Origin*, Darwin retains language of the laws of nature being impressed on matter by the Creator.²⁵ To fit Darwin into Aquinas’ theistic schema therefore, is not a problem. Darwin even understands nature and natural selection to act according to secondary causes as Aquinas does: God having given causal agency to creation acting in an intermediary fashion to primary or first cause. This allows for an element of self-determination which Darwin sees as ennobling and Aquinas sees as indicative of God’s regard for creation.²⁶

Besides a confused notion of teleology, another major objection to Darwin’s theories being comparable to Aquinas’ was that Aristotelian biology, on whom Aquinas depended for his naturalism, is outdated because Darwin proved species were not fixed but Aristotle (and therefore Aquinas) believed they were.

Wilkins, Gilson, Franklin and others argue the immutability of species was not an Aristotelean idea. It is a misreading of ancient texts and a confusion of categories. Wilkins argues essentialism or “fixism” is falsely attributed to Aristotle because logical classifications were confused with biological ones. Essentialism, he argues, comes from John Ray in the seventeenth century and was continued in the work of Linnaeus. It was the result of piety and not metaphysics. John Ray, a 17th century botanist was the first to provide a *biological* fixist definition of species rather than a logical one.²⁷

²¹ Charles Darwin, *The Descent of Man*, 647.

²² Charles Darwin, *The Descent of Man*, 642.

²³ Charles Darwin, *The Descent of Man*, 642.

²⁴ R.C. Stauffer, ed., *Charles Darwin’s Natural Selection, Being the Second Part of his Big Species Book Written from 1856 to 1858* (Cambridge: Cambridge University Press, 1975). 224.

²⁵ Charles Darwin, *The Origin of Species*, 563.

²⁶ Charles Darwin, *The Origin of Species*, 563.

²⁷ John S. Wilkins, *Species: A History of the Idea* (Berkeley: University of California Press, 2009). x.

Fixism becomes important by the end of the 17th century but was not in the time of Aristotle.²⁸

Carolus Linnaeus (1707-1778) was the leading biological scientist before Darwin's time. His view was a very religious one, coupled with the belief that without a fixist view of classification, the foundations of botany and zoology would be compromised. He maintained species were similar in form because they had derived from the pairs God created in the book of Genesis. This was a common understanding of species at the time.²⁹

This accords very well with my reading of Darwin's thoughts in *The Origin of Species*. When Darwin talks about the immutability of species, it is almost always in relation to the doctrine of special creation – that God creates new species out of the blue. The two seem to him absolutely related. His primary thesis laid out in the opening chapter has him being fully convinced that the doctrine of special creation is erroneous because it maintains the immutability of species and that this is the prevailing view of naturalists of the time.

I can entertain no doubt, after the most deliberate study and dispassionate judgment of which I am capable, that the view which most naturalists until recently entertained, and which I formerly entertained — namely, that each species has been independently created — is erroneous. I am fully convinced that species are not immutable;³⁰

In his concluding chapter he again counters immutability of species against the backdrop of the doctrine of special creation arguing his theory should not offend the religious sensibilities of anyone. There is no reason God could not create a few original forms capable of self-development, rather than create fresh ones to supply the void which his laws caused.³¹ Darwin's problem, like his contemporaries, was caused by his literal reading of Genesis and it is against this backdrop he is arguing. He attributes the fixism of species to the doctrine of special creation or as he says, over the “old belief in the creation of species from the dust of the earth.”³² Aquinas, being of the classical rather than the protestant tradition, did not have this problem.

But let's turn to Aristotle. Can Aristotelian biology accommodate Darwin's modification by descent through natural selection.? A number of contemporary authors believe so.

²⁸ John S. Wilkins, *Species: A History of the Idea*, 96.

²⁹ s.v. Britannica Academic, “Carolus Linnaeus,” in *Britannica Academic*. accessed April 23, 2019, <https://academic-eb-com.ipacez.nd.edu.au/levels/collegiate/article/Carolus-Linnaeus/48407..>

³⁰ Charles Darwin, *The Origin of Species*, xix-xx.

³¹ Charles Darwin, *The Origin of Species*, 555.

³² Charles Darwin, *The Origin of Species*, 558.

Tabaczek argues the idea of the immutability of species is more consonant with Plato's static concept of species as existing in the eternal realm of ideas, apart from matter. Aristotle on the other hand, sits between the absolute realism of Plato and the pure nominalism of later science because the forms are instantiated and realised in concrete and contingent organisms. While individuals in species will have a common nature (substantial form), their instantiations are expressed in changes in accidental traits and properties. A sufficient change in these accidents can bring about change in the primary matter (via intermediaries) therefore becoming a new form.³³ Aristotle also understands in his *scala naturae* "Nature proceeds little by little from things lifeless to animal life in such a way that it is impossible to determine the exact line of demarcation, nor on which side thereof an intermediate form should lie".³⁴ Wilkins discusses examples Aristotle uses in *History of Animals* of variation and cross breeding of heterogenous pairs.³⁵

In Aristotle on Species Variation, James Franklin quotes from *De Partibus Animalium* 68 1 a 1 0- 1 5:

The Ascidians differ but slightly from plants, and yet have more of an animal nature than the sponges, which are virtually plants and nothing more. For nature passes from lifeless objects to animals in such unbroken sequence (*metabainez sunechos*), interposing between them beings which live and yet are not animals, that scarcely any difference seems to exist between two neighbouring groups owing to their close proximity.³⁶

Franklin argues the discreteness of species is not attributable to Aristotle but became part of later tradition in classification attributable to Porphyry and his tree. The static and discrete species of Linnaeus came about from filling in the abstract tree with actual species.

Etienne Gilson says Aristotle had grave difficulties in classifying things through hierarchy because of the ever-present problem of universals. Aristotle thought only individuals exist and there shouldn't be species yet denying the legitimacy of all classification goes against common sense.³⁷

³³ Mariusz Tabaczek, "Thomistic Response to the Theory of Evolution: Aquinas on Natural Selection and the Perfection of the Universe," *Theology and Science* 13, no. 3 (2015/07/03 2015), <https://doi.org/10.1080/14746700.2015.1053761>. 327 See footnote 6.

³⁴ Mariusz Tabaczek, "Thomistic Response to the Theory of Evolution: Aquinas on Natural Selection and the Perfection of the Universe," 327 See footnote 7.

³⁵ John S. Wilkins, *Species: A History of the Idea*, 21.

³⁶ Franklin, James. "Aristotle on Species Variation." *Philosophy* 61, no. 236 (1986): 245-52. <http://www.jstor.org.ipacez.nd.edu.au/stable/3750478>. 247-248.

³⁷ Etienne Gilson, *From Aristotle to Darwin and back again*, 45-46.

Alistair MacIntyre also argues Aristotle and Aquinas do not hold such a fixed notion of species. While Aristotle ascribed rationality as the principle difference between man and animal, he did not go so far as to deprive all animals of *phronesis* or the capacity for practical rationality in virtue of their foresight.³⁸ Aquinas rejects a cartesian dualism of mind (or rational soul) and body in his metaphysics as in his scriptural commentary. The soul is only part of the human being and not “I”. MacIntyre also notes Aquinas regularly refers to non-human animals as “other animals” in his writings and thinks we (like Darwin) should think of “the relationship of human beings to members of other intelligent species in terms of a scale or a spectrum rather than a single line of division between ‘them’ and ‘us’”.³⁹

That we share much with animals is evident in Aquinas’ definition of natural law in the *Summa* as natural inclinations that we have in common with other animals. In *Summa Contra Gentiles* Aquinas speaks of the distinction of creatures as the higher body always containing the lower and intellectual creatures.⁴⁰ Similarly he discusses that man is an animal is self-evident, “for animal is contained in the essence of man”.⁴¹ And finally, in the *Summa*, Aquinas argues it is God alone that is immutable: forms are not immutable because their subjects are variable.⁴² Or as William Carroll says, forms pre-exist potentially in matter and are brought about into actuality by natural agency.⁴³

The strict demarcation and classification of species and their variations therefore seems to be a problem for both Aristotelian biology and Darwinian biology.⁴⁴ The problem is that via empirical observation and for the most part, species do have essential differences but the process of evolution is not observable empirically. We can see that humans are substantially different from apes but we can’t see the change from one to the other at any given point in time. During the time of their existence, species are real. The idea of agents acting according to their forms would hold true for the most part on a

³⁸ Alasdair C. MacIntyre, *Dependent rational animals: why human beings need the virtues* (London: Duckworth, 1999). 5-6.

³⁹ Alasdair C. MacIntyre, *Dependent rational animals*, 57.

⁴⁰ Thomas Aquinas, *Summa Contra Gentiles. Book Two: Creation*, trans. James F Anderson (New York: Doubleday & Company, Inc., 1975). 141-142.

⁴¹ Thomas Aquinas, *Summa Theologiae* Part One Q 2 A 1 Body.

⁴² Thomas Aquinas, *Summa Theologiae* Part 1, Q9 A2 Reply 3.

⁴³ William E Carroll, “Aquinas on Creation and the Metaphysical Foundations of Science” (Paper presented at the Thomistic Institute Summer July 23th 1975, Jacques Maritain Center of the University of Notre Dame Indiana, 1975). <https://maritain.nd.edu/jmc/ti98/carroll.htm>.

⁴⁴ Darwin regularly discusses his contemporaries being haunted by the difficulty in terming distinct species over well marked varieties of species. Charles Darwin, *The Origin of Species*, 560-561.

smaller temporal scale, even if they changed over longer periods of time.

For Darwin, at this stage of our human development, the human species is fairly stable, or as Stephen Jay Gould puts it:

Homo sapiens has been stable for tens of thousands of years, and any proper understanding of macroevolution as a speciation process must yield this very expectation. . . . The only sensible biological prediction about human futures envisions continued stability into any time close enough to warrant any meaningful speculation.⁴⁵

Ethics from a macroevolutionary perspective operates at too long a time scale to be meaningful for us today. This time relative point can explain why Aquinas and Darwin can come up with a very similar ethical naturalism.⁴⁶ Aquinas understands moral standards can be known through our natural inclinations. These fundamental goods are self-preservation, propagation and sociability that we share with other animals as well as knowledge which pertains to our potential as rational animals. Practical ethics derive from these fundamental goods. Given that we all share these inclinations, we ought not get in the way of others pursuing these fundamental goods.⁴⁷

Self-preservation, propagation and sociability are all-natural inclinations Darwin's theory can get behind. They are essential for survival, the struggle for existence. When it comes to competing natural inclinations, man "differs profoundly from the lower animals" because of his capability of reflection.⁴⁸ The extermination of the weak is a case in point. He understands not caring for the weak as a deterioration of the "noblest part of our nature" and an "overwhelming present evil".⁴⁹ In civilised societies, natural selection is not a big factor in the development of morality. More important is reason, instruction and religious feelings.⁵⁰ Aquinas' third natural law precept of reason being a power proper to humans who are therefore naturally inclined to know how to live well in society and pursue knowledge and truth agrees with this.

In conclusion, Darwin's theory of modification by descent through natural selection can be accommodated by Aquinas' natural law theory. Aquinas, like Darwin, believes morality to be rooted in biology but is not exclusively biological: biology is a partial explanation of

⁴⁵ John Mizzone, "Darwin and Normative Ethics," *Biological Theory* 9, no. 3 (2014), <https://doi.org/10.1007/s13752-013-0151-x>. 277.

⁴⁶ For examples on sexual mating, parental care and familial bonding see Larry Arnhart and Larry Arnhart, "Thomistic natural law as Darwinian natural right," *Social Philosophy and Policy* 18, no. 1 (2001), <https://doi.org/10.1017/S026505250118101X>.

⁴⁷ John Mizzone, "Darwin and Normative Ethics," 277.

⁴⁸ Charles Darwin, *The Descent of Man*, 69.

⁴⁹ Charles Darwin, *The Descent of Man*, 130.

⁵⁰ Charles Darwin, *The Descent of Man*, 133.

morality. Man shares with other animals natural inclinations to survival (self-preservation), propagation and sociability. The fact that these natural inclinations exist at all presuppose an innate teleology or purpose to, at the very least, survive and thrive. They both understand secondary causality as explanation of efficient cause, which presupposes final causality with nature acting to ends particular to them. They both believe man does differ substantially from other animals in view of his reason. Aquinas would describe this as being a power proper to man's form and end. Darwin does not use this explanatory terminology but does acknowledge the fact of its existence and both understand man's final end to be happiness. Whether man is different in kind or in degree does not substantially effect their shared ethical naturalism because of the temporal scale on which evolution operates. Nevertheless, Aristotelean biology and metaphysics does theoretically have the ability to accommodate the transformation of species: immutability belonging more to Plato and protestant piety.

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