

Nature's Finality and the Stewardship of Creation According to Saint Thomas Aquinas

STEPHEN A. HIPPI
University of St. Thomas
St. Paul, MN

Introduction

MORE AND MORE people have become aware of the crisis of unrestrained technology and its corresponding devastation of the environment. The solution to contemporary ecological concerns, though most often sought in technology itself, can only come from a profound transformation of man's way of viewing the world and of relating to it. It is here that theology has much to contribute toward healing man's relation with the created order. The real root of the ecological problem is sin. The solution involves healing through a discovery or rediscovery of the mystery of God the Creator and Redeemer, of man, and of nature.

It is often argued today that the Christian doctrine of creation and the Christian understanding of God have fostered, rather than opposed, the destructive relationship existing between man and nature. The perceived anthropocentrism of Christianity and its, allegedly, patriarchic conceptions of God and of man's dominion over the world have contributed, it is argued, to a domineering and disinterested attitude toward the world, with regard to which the Christian views himself as superior and removed.¹

¹ For salient examples of this viewpoint see: Leonardo Boff, *Cry of the Earth, Cry of the Poor*, trans. P. Berryman (Maryknoll, NY: Orbis Books, 1997); Roderick Nash, *Wilderness and the American Mind*, 4th rev. ed. (New Haven, CT: Yale University Press, 1978); A. Primavasi, *From Apocalypse to Genesis: Ecology, Feminism and Christianity* (Minneapolis, MN: Fortress Press, 1991); idem., "Ecology and Christian Hierarchy," in *Sacred Custodians of the Earth?: Women, Spirituality, and the Environment*, ed. A. Low and S. Tremayne (New York: Berghahn Books, 2001), 121–39; R. Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing* (San Francisco: Harper Collins Publishers, 1992).

From this perspective, the categories and attitudes of traditional Christianity are inept to express the true meaning of man's relationship to the rest of the world; its outmoded doctrines must be substituted with environmentally salutary concepts, such as those of "equality" (non-hierarchy) and "interrelationality," "healing," "community," and the "rights of nature." Nothing could be further from the truth about Christianity.

The Catholic response to the environmentalist critique offers a vision of the world in which man and nature form an inseparable and symbiotic unity, in which the well-being of the world is intimately bound up with that of man, and vice versa. Four distinct subjects—the inhabitants of the visible world besides man, man himself, the universe as a whole (of which man too forms a part), and God—are brought together in a complexus of dynamic and mutually constructive relationships according to which the perfection of the whole world and of each of its members, in accord with the intentions of their divine author, are brought to fruition. Drawn into a synthesis through the philosophical and theological apparatus of St. Thomas Aquinas, the Catholic view of the relationship between man and nature attains a coherence, clarity, and beauty offering a pathway to environmental reconciliation in many ways unmatched by any other system of thought. Within this system, the distinction and adequation (harmony) between man and the elements, between reason and faith, between nature and grace, and between the universe and God simultaneously defends the deepest truths about man and nature (safeguarding their intrinsic value) and manifests and honors the sublime wisdom of the Creator.

In the pages that follow, I intend to examine, from a Thomistic theological perspective, several basic structural features of the relationship between the constantly changing world (including man) and God, and between the world and man, features that, in the final analysis, reveal a fundamentally Trinitarian (and Christological) physiognomy of the ecological world. The primary goal of this exposition is to unfold the Thomistic understanding of the overall perfection of the universe, in which the general principles of Thomas's doctrine of natural finality and its implications for man and the rest of the world illustrate the contours of a responsible stewardship of creation.² The special place that the Trin-

² It must be emphasized that the purpose of this article is not to spell out specific regulatory norms or to suggest particular solutions regarding contemporary environmental practices; it attempts only to trace the general contours of Christian stewardship from the perspective of St. Thomas. The article prescinds, therefore, from questions concerning the concrete application of the general principles explored. Nevertheless, these principles are numerous, complexly interrelated, and

ity and Jesus Christ hold in the drama of nature's perfection and purpose will also be intimated, since these revelatory data are indispensable to Thomas's cosmological vision. However, I shall treat in fuller detail the specifically Trinitarian and Christological aspects of the origin, perfection *in fieri* (movement), and finality of the world in a follow-up to this study.

While Thomas's doctrine of finality may have received its fair share of attention in various works on Thomas, it has not yet been sufficiently developed in connection with the environmental/ecological issues so relevant to our day.³ The present study is intended to contribute (in an introductory way) toward filling this lacuna. It has been said that Thomism is impotent to speak about the environmental crisis of modern man. I want to show that this is not so, while allowing the wisdom of Thomas to illuminate the true meaning of the vibrancy of creation, its intimate relation to man, and the Thomistic meaning of Christian "stewardship."

Following the procedure of Aquinas, I will begin with considerations of more general or more readily known features of creation's perfection/end and move from there to a consideration of their implications or more hidden preconditions. The arguments contained here are predominantly philosophical but unapologetically informed by a Christian theology of creation; they are sometimes corroborated (if admittedly also outstripped) by the data of Revelation, and other times complemented by (and necessarily deferring to) revealed truths wholly beyond philosophy's connatural scope. The ministration of angels, the centrality of Christ, the Trinitarian roots of creaturely identity—these and their significance for stewardship are all theological concerns. However, they concretely correspond to, confirm, exemplify, and more fully illuminate the very things natural reason has to tell us about a proper stewardship of creation. Therefore I include them, either as points of reference for, or as

metaphysically and theologically sovereign regarding man's interactions with creation. The goal here is to organize them in a synthetic manner, and this has not yet been done in the current literature.

³ Studies that address the significance of Thomas's worldview for ecological and environmental questions are only very few and recent. Particularly noteworthy are: Francisco Benzoni, "Thomas Aquinas and Environmental Ethics: A Reconsideration of Providence and Salvation," *Journal of Religion* 85 (2005): 446–76; Celia Deane-Drummond, *The Ethics of Nature* (Oxford: Blackwell Publishing, 2004); Robert Grant, *A Case Study in Thomistic Environmental Ethics: The Ecological Crisis in the Loess Hills of Iowa* (Lewiston, NY: The Edwin Mellen Press, 2007); Willis Jenkins, "Biodiversity and Salvation: Thomistic Roots for Environmental Ethics," *Journal of Religion* 83 (2003): 401–20; Jill LeBlanc, "Eco-Thomism," *Environmental Ethics* 21 (1999): 293–306; Christopher Thompson, "Beholding the Logos: The Church, the Environment, and the Meaning of Man," *Logos: A Journal of Catholic Thought and Culture* 12, no. 3 (2009): 33–52.

auxiliary demonstrations of, or as necessary supplements to, what is knowable on the basis of sound metaphysical reasoning. Thus the properly philosophical content of this study—concerned primarily with the teleological structure of reality and occupying most of the first half of the article—finds its culmination and deepest meaning precisely in connection with the theological truths brought into fuller relief in the second half.⁴ These theological connections are not artificially superimposed on Thomas's thought. It is precisely the height of Thomas's speculative grasp of these revealed mysteries, combined with the analytical depth of his natural philosophy, that allows him (indeed impels him) to view creation and its deepest ontological principles in terms of a highest cause who is simultaneously flesh and transcendental multitude, relationship and order.

The Perfection of the Universe Consists in Order (Relation)

According to Thomas Aquinas, the good of the universe consists primarily in relation, in the order of things to themselves and, more fundamentally, in the order of things to God. Removal of this order results in confusion and disintegration, in a manner analogous to what happens to an army when it is deprived of coordination and subordination among its soldiers.⁵ The architecture of this order is expressed in terms of finality: creatures (and their operations) are ordered to specific ends, and the fulfillment of these ends is itself ordered to higher ends. When treating of the finality or purpose of the created world, Thomas distinguishes several, harmoniously related, layers of finality.⁶ Their major divisions can be schematized as is seen in Figure 1.⁷

⁴ Because of limitations of space, I cannot address certain methodological issues that this alternating between philosophical and theological argumentation will inevitably raise for some. The context of the discussion should suffice to distinguish them. Of course, for Thomas, the exercise of theology often is simultaneously a philosophical enterprise, insofar as rational argumentation, through the medium of any number of premises, philosophical or otherwise, supplies conclusions on the basis of a revealed premise (cf. *ST* I, q. 1, a. 8; *In Boethii. De Trinitate*, q. 2, a. 3). "Those who use the works of the philosophers in sacred doctrine, by bringing them into the service of faith, do not mix water with wine, but rather change water into wine" (*In Boet. De Trin.*, q. 2, a. 3, ad 5). Translations of this work will be taken from *Thomas Aquinas: Faith, Reason and Theology*, trans. A. Maurer (Toronto: Pontifical Institute of Mediaeval Studies, 1987).

⁵ See Aquinas, *ST* I–II, q. 100, a. 6; *ScG*, Bk. I, c. 42; *De potentia*, q. 7, a. 9.

⁶ See Aquinas, *ST* I, q. 65, a. 2 & ad 2; q. 73, a. 1; q. 103, a. 2; I–II, q. 5, a. 6, obj. 1; *ScG*, Bk. I, c. 78; Bk. II, c. 42; *Quaestiones super libros Metaphysicorum Aristotelis*, Bk. V, lect. 2; *De pot.*, q. 1, a. 2, ad 1; q. 7, a. 2, ad 10; a. 9.

⁷ Figure 1 represents only the most general divisions of finality considered in precision from further distinctions able to make, for example, between the *finis operis* and the *finis operantis*, or between the *finis qui*, *finis cui*, and *finis quo*.

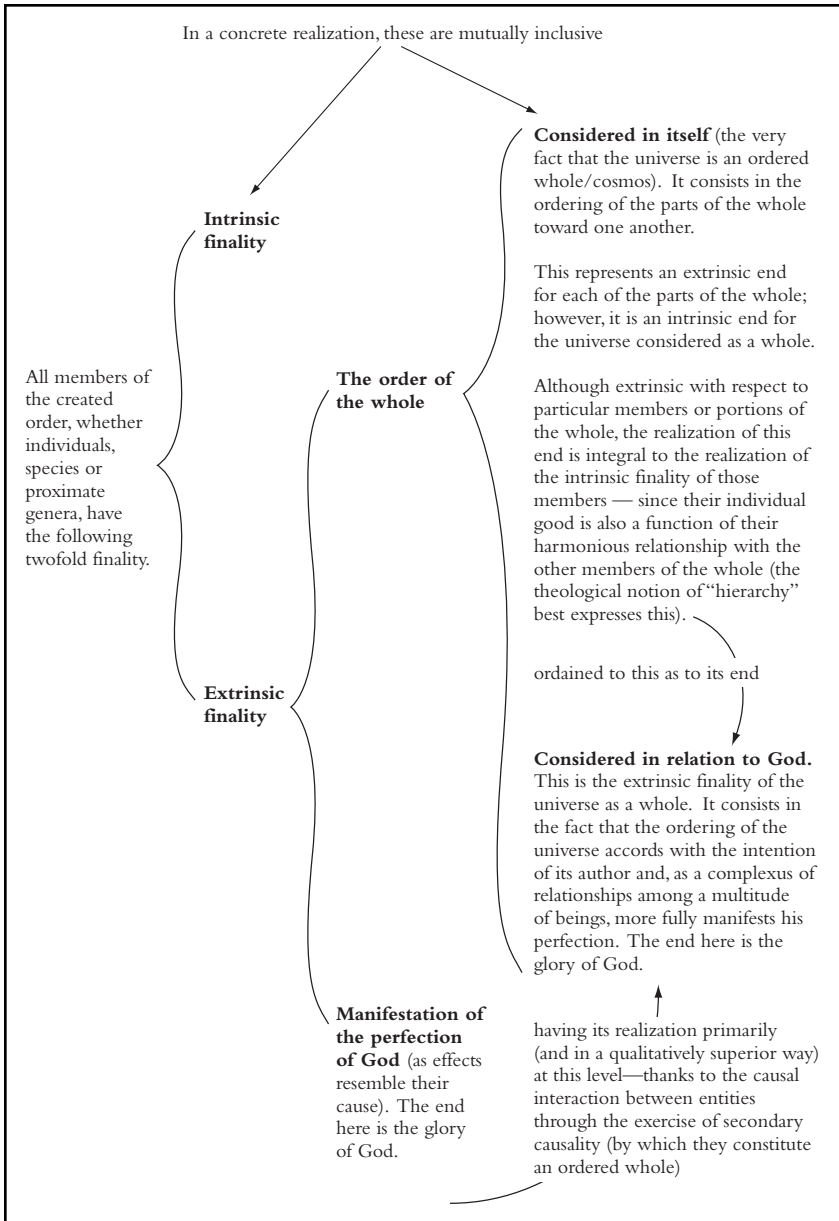


Figure 1. Principle Divisions of Finality

The Ordering of Things to Their Proper Ends

Every creature in the universe tends toward its natural good, the good for *it*, which it seeks through its natural operations.⁸ Through these natural operations, which (as a rule) are consistently the same, creatures actualize themselves and come to resemble their causes (which possess the perfections proper to their effects in a more eminent manner).⁹ The fact that the acts of natural things always, or nearly always, attain to the *same object* illustrates that their proper activity is ordered to obtaining a particular effect or goal.¹⁰ This is called “intrinsic finality”—the ordering of a faculty or natural capacity to a specific object (for example, eyes to seeing, lungs to breathing, hands to grasping, etc.). Thomas summarizes the principle in this way:

A natural thing, by the form that perfects it in its species, has an inclination to its proper operations, and to the proper end to which it attains by its operation: since, such as a thing is, such is its operation, and such the end to which it tends.¹¹

The idea of intrinsic finality is established from observation and common sense. For every being there exists a natural good, a good proportionate to the kind of being that it is, and which it tends naturally and spontaneously to pursue. To deny the principle would be to deny that there are distinct activities truly *proper* to diverse kinds of beings. Such a denial would be to subtract from modern science the very foundation for its predictive claims and its inductive conclusions concerning the world around us. Evolutionary biologists and proponents of philosophical naturalism (whose theory of causes excludes the order of finality) often contest the notion on the basis of the observably non-productive, even self-destructive, activity sometimes found in nature. Death, disease, pain, and other imperfections are pointed to as evidence that natural things do not have a natural tendency directed toward their perfection and survival. The objection bears weight; however, there are a number of considerations that abate its force. First of all, the self-destructive activity in question appears to be not the rule but the exception. Most proponents of evolution acknowledge this; any evolutionary theory based on the principle of adaptation and natural selection implies that selected natural

⁸ See especially, Aquinas, *De veritate*, q. 22, a. 1; *ScG*, Bk. III, c. 3; cf. *ST* I, q. 75, a. 7, obj. 1 & ad 1.

⁹ See Aquinas, *ScG*, Bk. I, c. 29; *De substantiis separatis*, c. 12.

¹⁰ See Aquinas, *ST* I, q. 2, a. 3; q. 44, a. 4; q. 65, a. 2; q. 115, a. 6; I–II, q. 1, a. 2; III, q. 46, a. 3, ad 1; *ScG*, Bk. II, c. 24; Bk. III, cc. 2–3; Bk. IV, c. 19; *In De anima*, Bk. II, lect. 4 (sect. 266); *De ver.*, q. 22, a. 1.

¹¹ Aquinas, *ScG*, Bk. IV, c. 19.

changes—those that, *de facto*, made (or will make) the cut—are those favoring survival, those which benefit their subjects. Moreover, the simple occurrence of harmful agency in no way negates the (far more prevalent) occurrence of self-promoting agency. In the second place, nature, in any case, is not perfect, and a whole variety of factors can be responsible for defects in nature affecting the agency of things (wherefore, in a worst case scenario, even were self-destructive activities an apparent norm, it would not follow from this that they are natural).¹² Third, a certain measure of destructiveness in nature is a necessary condition for the existence of a specifically diversified material order. Unlike moral evil, physical evil, Thomas explains, was caused (indirectly) by God himself when he determined to bring forth such a material universe.¹³ Such evil is integrated within a higher finality that gives it meaning, but outside of which it appears to have no value or purpose. There is no reason to preclude the possibility that even self-destructive forces recognizable in nature can similarly serve a more universal good. The existence of such a higher finality is the whole point about the “extrinsic finality” we have yet to consider. Fourth, the very recognition of such self-injurious activities and imperfections requires the recognition of an *ideal* of natural activity and perfection with respect to which standard the agency is being compared and judged to be defective. To the extent, therefore, that the objection employs the language of “defect” and “imperfection,” it seems to presuppose the very object of its denial.¹⁴

¹² Besides the inherent corruptibility of matter, there are other antagonistic forces that can intervene against particular cases of natural agency, not least of which is sin, the effects of which upon the world cannot be underestimated.

¹³ See Aquinas, *ST* I, q. 22, a. 2, ad 2; q. 49, a. 2; q. 103, a. 7; *ScG*, Bk. III, c. 1.

¹⁴ The very concepts of self-injury, imperfection, death, disease, destruction, etc. are meaningful only with reference to the positive reality of which they are the negation. By itself, however, this is not a refutation of the objection, since the adversaries of intrinsic finality could reply that there exist indeed the positive realities with respect to which alone the negative notions make any sense, but this does not mean that individual beings have any tendency toward those positive realities; certain things might simply always tend toward self-disintegration instead of self-preservation. The difficulty for opponents of intrinsic finality arises when they (intuitively and rightly) begin to interpret and describe instances of self-disintegration (at least when it concerns living organisms) as instances of “imperfection,” or as “harmful,” or “evil,” etc. For one cannot refer to the relevant destructive activities as “defective” unless he is willing to admit that there exists a “perfect” or “ideal” form of activity, and such a form of activity would have to be rooted stably within the agent (in other words, it would have to characterize a thing’s *nature*), lest it cease to be a standard of measure at all.

The Proper Intrinsic End or Good of Natures Is, for Thomas, a Matter of Being

It is important to note that Thomas's teleological view of nature and natural activity cannot be accused of committing the "naturalistic fallacy." For Thomas, an action is good or (for what concerns rationally governed activity) morally acceptable, not merely because of its regular occurrence in nature; nor is it good because of its identity or intrinsic connection with some natural property or properties in terms of which the nature of the good is defined. The notion of the "good" in Thomas is conceived in terms of the fullness of being,¹⁵ in terms of the fulfillment of a thing's capacities for being, with respect both to a thing's substance as such (essence as a potency for being) and to its end (along with all its intermediary ends).¹⁶ This (intrinsic) end, however, which admits of various degrees of realization (as, for example, in the developmental stages in living beings), is determined by the thing's natural constitution, nature. The "good," from this perspective, is an actualization of the potencies rooted in the formal cause (essence) of a thing.¹⁷ Understood as the *perfection* of a being and as that which is "desirable,"¹⁸ the "good" is objectively set forth in the formal principles of each being. The "desirable" responds to what is teleologically inscribed in *form*; and the notion of "desire" in this context expresses the appetitive élan toward that fulfillment flowing from (and built into the subject by reason of) the same form.¹⁹

¹⁵ See Aquinas, *ST* I–II, q. 18, aa. 1–2; a. 3, ad 3.

¹⁶ Cf. See Aquinas, *ST* I, q. 22, a. 1; I–II, q. 18, a. 1; *ScG*, Bk. III, cc. 6–7.

¹⁷ See Aquinas, *ST* I, q. 5, a. 5; q. 26, a. 2; I–II, q. 18, a. 2; a. 4, ad 2; II–II, q. 141, a. 6; *ScG*, Bk. III, c. 129; *In Boethii De hebdomadibus*, 2. "The good or evil of an action, as of other things, depends on its fullness of being or its lack of that fullness. Now the first thing that belongs to the fullness of being seems to be that which gives a thing its species. And just as a natural thing has its species from its form, so an action has its species from its object. . . . And just as the primary goodness of a natural thing is derived from its form, which gives it its species, so the primary goodness of a moral action is derived from its suitable object" (*ST* I–II, q. 18, a. 2); "Whatsoever has a determinate nature must have determinate actions, becoming to that nature, since the proper operation of a thing is consequent to its nature. . . . Those things are natural to every man, whereby he tends to his natural end; while those which are of a contrary nature, are naturally unbecoming to him" (*ScG*, Bk. III, c. 129); "Each thing first of all and as such desires its own perfection, which is the good of anything, and is *always proportioned to what is perfectible of it*" (*In Boeth. De hebdomadibus*, 2; emphasis mine).

¹⁸ See Aquinas, *ST* I, q. 5, a. 1, ad 1; a. 5; *ScG*, Bk. 1, cc. 39–40; *In Boeth. De hebdomadibus*, 2; *De ver.*, q. 22, a. 1.

¹⁹ As a consequence, neither is the "good" defined according to this or that natural property with respect to which the value of all things and their actions must

Everything is said to be good so far as it is perfect; for in that way only is it desirable. . . . Now a thing is said to be perfect if it lacks nothing according to the mode of its perfection. But since everything is what it is by its form (and since the form presupposes certain things, and from the form certain things necessarily follow), in order for a thing to be perfect and good it must have a form, together with all that precedes and follows upon that form. . . . Further, upon the form follows an inclination to the end, or to an action . . . for everything, in so far as it is in act, acts and tends towards that which is in accordance with its form. . . . Hence the essence of goodness, so far as it consists in perfection, consists also in mode, species and order.²⁰

The notion of intrinsic finality is central to any form of moral objectivism that is not reduced to a mere voluntarism *ex parte Dei*. It also harbors, if in a strangely elusive way, tremendous implications for questions of environmental responsibility. From the theological standpoint, the perceptible teleological ordering of natural operations is the fruit of God's creative work and is intended to be there. Creatures behave as they do because it is their nature to do so; and creatures are what they are—even if they are in the process of becoming what they yet are not²¹—because of the creative intention of God.

The Ordering of Natures to Their Respective Ends Is Itself Ordered, in a Hierarchic Manner, to Other Ends

Every created *ens* exhibits both an intrinsic and an extrinsic finality. "Extrinsic finality" concerns the realization of an end that is outside of the being of a thing, whence the purpose of its existence is the well-being of other things.²² Such finality consists in the subordination of one thing to

be measured, nor is it arbitrarily assigned to diverse natures. While the good for natural beings is indeed conceived with a certain relativity—particular goods being determinable only with respect to the nature or natures in question (as, for example, the good of a frog is not the same as the good for wheat, or the good for a man)—that good is objectively determined by the natures of things, and the latter is objectively determined by God, even if, because of the limitations of human understanding, we might never come to know just what the nature of any material substance really is.

²⁰ Aquinas, *ST* I, q. 5, a. 5.

²¹ The reality of evolution (even the possibility of macro-evolution) in no way undermines the doctrine of intrinsic finality. It simply integrates all instances of intrinsic finality within the broader scope of a greater system to which those instances are ordered. The latter pertains to "extrinsic finality," the reality of which is a necessary presupposition to any intrinsic finality on the part of created (dependent) being. I address this in what follows.

²² See Aquinas, *In Meta.*, Bk. V, lect. 2.

another and is necessary for the harmonious ordering of a multitude. The existence of ends extrinsic to the being of a thing does not imply self-alienation or disintegration of identity; multiple final causes are not in competition with one another, but “for one another.” This is reflected in the fact that, in a system of interdependent agents, the good of the whole serves the good of the individual parts and vice versa.²³ What is more, all intrinsic finality is established on the basis of extrinsic finality, for no particular end can have real meaning unless it is integrated into (subordinated to) a superior universal end that gives it ultimate meaning.²⁴ Now, the ultimate end of all things corresponds to the ultimate principle of their being:

The end of a thing corresponds to its beginning. . . . Therefore, since the beginning of all things is something outside the universe, namely, God . . . we must conclude that the end of all things is some extrinsic good. . . . For it is clear that good has the nature of an end; wherefore, a particular end of anything consists in some particular good; while the universal end of all things is the universal good, which is good of itself by virtue of its essence . . . whereas a particular good is good by participation. Now it is manifest that in the whole created universe there is not a good which is not such by participation. Wherefore that good which is the end of the whole universe must be a good outside the universe.²⁵

God is this ultimate, unparticipated Good (goodness as such), which is the ultimate end, therefore, of the whole universe. This divine finality of the universe can be looked at from two points of view. From the perspective of extrinsic finality, the ultimate purpose of creation (the reason for which it was made) is to *manifest* God, giving him glory, a purpose that is achieved pre-eminently through the communication of his goodness to others: “for he brought things into being in order that his goodness might be communicated to creatures, and be represented by them.”²⁶ However, as intimated in Thomas’s use of the language of participation (in the quote further above), even the *intrinsic* finality of a thing is also God in a

²³ The good of the whole is a properly “common good.” It belongs not only to the whole as such, but to all of the parts; and while communicated, it is never diminished by this extension. To the contrary, the very good of the parts and of the whole consists in the communicative ordering among the parts. Indeed, the common good is not an aggregate of individual goods, but a good transcending the sum of the whole’s parts and having its own formal identity.

²⁴ See Étienne Gilson, *Elements of Christian Philosophy* (Garden City, NY: Doubleday, 1960), 78–80.

²⁵ Aquinas, *ST I*, q. 103, a. 2.

²⁶ Aquinas, *ST I*, q. 47, a. 1. Cf. *ST I*, q. 65, a. 2: “The divine goodness is the end of all corporeal things.”

sense: it is the divine goodness, as participated in a way proper to the creature in question. Thus it is said that all things “long” for God and tend toward him as their end:

All things desire God as their end, when they desire some good thing, whether this desire be intellectual or sensible, or natural, i.e. without knowledge; because nothing is good and desirable except forasmuch as it participates in the likeness to God.²⁷

Theocentrism, Cosmocentrism, and Anthropocentrism

While God is the definitive point of reference for all finality in the world, there exists a layering of ends in the order of extrinsic finality. Each member of the whole exists not merely for itself (intrinsic finality), but precisely for the higher-ordered finality of the whole (extrinsic finality). Thus the universe, precisely as a “*uni*-verse,” is the reason for the existence of the multiplicity of beings. In this sense, we may speak of a “cosmocentric” finality of all things. This end, which is extrinsic to any part or portion of the universe taken alone, itself remains integrated within the higher extrinsic finality of creaturely glorification of God (which is, in fact, more perfectly accomplished thanks to the realization of the order of the universe as whole).²⁸ Thus we observe a subordination amongst multiple extrinsic ends. Furthermore, the material world itself was created for the sake of *man*—since he alone in the visible universe is spiritual, eternal, and valuable in his own right.²⁹ “The creation waits with eager longing for the revealing of the sons of God” (Rom 8:19), for “the final perfection, which is the end of the whole universe, is the perfect beatitude of the Saints at the consummation of the world.”³⁰ This subordination of the

²⁷ Aquinas, *ST I*, q. 44, a. 1 & ad 3. See also *I*, q. 6, a. 1, ad 2; q. 65, a. 2; *ScG*, Bk. III, c. 19; *De ver.*, q. 22, a. 2; *Compendium theologiae*, Bk. I, c. 103; and *ST I*, q. 44, a. 1: “Every creature intends to acquire its own perfection, which is the likeness of the divine perfection and goodness. Therefore the divine goodness is the end of all things.”

²⁸ Of course, from the point of view of the whole as such, the order among its parts constitutes its intrinsic end. See Aquinas, *ST I*, q. 103, a. 2, ad 3: “A good existing in the universe, namely, the order of the universe, is an end thereof; this, however, is not its ultimate end, but is ordered to the extrinsic good as to the end: thus the order in an army is ordered to the general”; *ScG*, Bk. II, c. 42: “The best among all things caused is the order of the universe, wherein the good of the universe consists.”

²⁹ See Aquinas, *ST I*, q. 65, a. 2; q. 73, a. 1; II–II, q. 64, a. 1; *ScG*, Bk. III, c. 112; *Comp. theol.*, Bk. I, c. 171; cf. *Gaudium et Spes*, 24; *Catechism of the Catholic Church*, §1703.

³⁰ Aquinas, *ST I*, q. 73, a. 1; see also *ST I*, q. 65, a. 2; *Comp. theol.*, Bk. I, c. 171: “the ultimate end of the movement of the heavens is the multiplication of men, who are to be brought into being for eternal life.”

visible world to man (“anthropocentrism”) not only represents another layer of extrinsic finality, but is an essential component of the very order of the universe just described. Subordination to man is part and parcel of both the extrinsic finality proper to each member of the universe and the intrinsic finality of the whole universe considered as such.

The place of man in the realization of the ends of the visible creation is a special case among countless instances of a more general law, namely, the subordination of less noble beings to those which are more noble, and the subordination of all such relationships to the realization of an ordered whole, itself subordinated ultimately to a transcendent cause extrinsic to the whole:

Now if we wish to assign an end to any whole, and to the parts of that whole, we shall find, first, that each and every part exists for the sake of its proper act, as the eye for the act of seeing; secondly, that less honorable parts exist for the more honorable, as the senses for the intellect . . . and, thirdly, that all parts are for the perfection of the whole, as the matter for the form. . . . So, therefore, in the parts of the universe every creature exists for its own proper act and perfection, and the less noble for the nobler, as those creatures that are less noble than man exist for the sake of man, whilst each and every creature exists for the perfection of the entire universe. Furthermore, the entire universe, with all its parts, is ordained towards God as its end, inasmuch as it imitates, as it were, and shows forth the divine goodness, to the glory of God.³¹

Even the beatitude of the saints understood as the final end of the whole universe reflects this law, for the extrinsic finality of this consummation is nothing other than the glory of Christ (and of God) who is its author.³²

As I shall develop more fully below, the material world is ordered to man primarily as the genetic foundation upon which man’s most proper operation, intellection, is erected. Here we encounter the highest and most Godlike activity among the inhabitants of the material universe, the ontological foundation of which is the transcendent spiritual nature of man. To his existence, and to his specifically human activity (contemplation of truth), the whole visible world is finalized, according to the intelligent plan of its intelligent author.

³¹ Aquinas, *ST* I, q. 65, a. 2. See *ScG*, Bk. I, c. 42; *ST* I–II, q. 5, a. 6 & obj. 1.

³² See Council of Trent, sess. VI, c. 7 on the final cause of justification.

The Goodness of Individuals, and of Species, or of Any Portion of the Universe, Is Inconceivable without Reference to That of the Whole to Which They Are Ordered

As is plain from the foregoing, a central principle in all of Aquinas's natural philosophy is that the goodness of individuals, and even of species, is inconceivable without reference to that of the whole to which they are ordered. "The goodness of any part is considered in comparison with the whole . . . nor can the whole be well consistent unless its parts be proportionate to it."³³ It is this whole which is first in intention for God, the perfection principally desired by the Creator, and primarily to be sought (because it is better than any particular good) on the part of each existent, whether implicitly and unconsciously, or explicitly and consciously.

It is part of the best agent to produce an effect which is best in its entirety; but this does not mean that he makes every part of the whole the best absolutely, but in proportion to the whole. . . . Thus, therefore, God also made the universe to be best as a whole . . . whereas he did not make each single creature best, but one better than another. And therefore we find it said of each creature, "God saw the light that it was good" (Gen 1:4). . . . But of all together it is said, "God saw all the things that he had made, and they were very good" (Gen 1:31).³⁴

If we wish to assign an end to any whole, and to the parts of that whole, we shall find . . . that all parts are for the perfection of the whole, as the matter for the form, since the parts are, as it were, the matter of the whole . . . each and every creature exists for the perfection of the entire universe. Furthermore, the entire universe, with all its parts, is ordained towards God as its end.³⁵

Man too forms part of the whole. Therefore his own good is ordered (and subordinated) in some way to that of the whole. This whole, however, is the entirety of creation, including all that is inferior in natural perfection to man, man himself, and the multitude of intelligences ontologically superior to man. One fundamental feature of man's special place should be noted right here. In permitting the rest of the visible world to serve his own natural and supernatural perfection, man serves—by that very fact—the perfection of the rest of the visible world; and while either side of this bilateral exchange already represents a perfecting of the whole, the synergy between them represents a superior perfection (belonging to the whole) qualitatively exceeding the sum of the two.

³³ *ST* I-II, q. 92, a. 1, ad 3.

³⁴ Aquinas, *ST* I, q. 47, a. 2, ad 1; see also *ScG*, Bk. II, c. 42.

³⁵ Aquinas, *ST* I, q. 65, a. 2.

What is more, the realization of the ends of *both* is reduplicatively amplified when man's own (contemplative) end is furthered through his understanding and appreciation of the relationships just described. One thus discovers in the *reflexivity* of human knowledge the possibility of bestowing upon nature an *additional* capacity to bless man in the exercise of his most proper operation (and, therefore, in the attainment of his natural end).³⁶ (Note that this additional capacity goes beyond that which the visible creation already possessed as the experiential foundation for all human knowledge.) Something analogous can be said with regard to man's supernatural end, inasmuch as the sacramental economy of salvation elevates the material order to the dignity of serving (in a wondrous and objectively efficacious manner) his supernaturalized operations and supernatural end.

This law of reciprocity between man's finality and that of the rest of the visible world extends to man's relationship with the invisible creation as well. Just as inferior creatures are the occasion for man to achieve his proper perfection through directing lower things, so man, in being subject to the mediated governance of God on the part of the separated substances (angels), is the occasion for the perfection (in the order of subordinated secondary causation) of those superior to himself. Just as man becomes perfect, more Godlike, in shepherding nature toward its various ends, so angels reflect and are assimilated more perfectly to God through the assistance they render to man. There is this fundamental

³⁶ See Aquinas, *ST I*, q. 94, a. 2: "the intellectual operation of the soul has a natural order to external things . . . and so by the knowledge thereof, our intellectual operation can be known perfectly, as an act through its object. And through the intellectual operation itself, the human intellect can be known perfectly, as a power through its proper act." Man not only knows corporeal things, but, through knowing them precisely as the objects of his knowledge, he comes to know himself better; and to appreciate this is to more fully appreciate the very purpose of the corporeal objects of his knowledge. As shall become clearer below, the whole point of the ordering of creatures to one another is for *contemplation*, and ultimately the contemplation of God in his effects. "Now, in virtue of this [man's natural] mode of understanding, there are three degrees of movement in the soul, as Dionysius says. . . . The first is by the soul 'passing from exterior things to concentrate its powers on itself'; the second is by the soul ascending 'so as to be associated with the united superior powers', namely the angels; the third is when the soul is 'led on' yet further 'to the supreme good' that is, to God" (*ST I*, q. 94, a. 2). Although sin has obstructed the manner in which the hierarchy of beings might elevate man toward God, the redemptive mystery of Christ reestablishes the right relationships by which man ascends to God through the illuminations received from the reflected light of every one of his creatures (see *ST I*, q. 94, a. 1).

difference, however: men perfect themselves, as well as the rest of nature, through *using* nature; angels, on the other hand, perfect themselves, as well as man, not through using men, but by serving the needs of men according to the decrees of God (the superalternate object of these actions). Man is not an *instrument* to be used by angels, but an occasion for the angels to perfect themselves in second act through contributing to the perfection of the whole, of which men and angels are parts. That men cannot be instrumentalized owes to the fact that, unlike beasts and other beings inferior to man, men exist for their own sakes. "Intellectual creatures," explains Thomas, "are ruled by God as objects of care for their own sakes, while other creatures are ruled for the sake of rational creatures."³⁷ The critical difference between human beings and the rest of the visible world is *freedom*, the fact that men are self-determining, having dominion over their own actions. This freedom expresses the essential perfection of man by which he infinitely surpasses irrational creatures; it implies the intellectual capacity of man to know and to love God, and the permanency in being (in corruptibility) deducible from that.³⁸ On this basis, men can never (morally) be made mere instruments for the ends of another agent. For what concerns other earthly creatures, however, not only can they be used as instruments for the ends of man, but that is precisely what they are for. While they give glory to God as a multitude of perfections dynamically unified, the proximate finality and immediate reason for this ordered activity is man himself, and it is only through serving that end, moreover, that they achieve the order they are intended to have and suitably give glory to God (their ultimate finality). The principal reason for their existence, therefore, is that they should be made the instruments of man's cognitive ascent to God.³⁹

This total subordination to man is not in contradiction with the principle that every member of the universe exists for the sake of the whole. For, as Thomas explains, "all the parts are directed to the perfection of the whole, insofar as one part serves another."⁴⁰ Material beings besides man thus serve the good of the whole precisely *by way of* their service to man. The good of the whole is thus a *mediate* extrinsic end for them, while

³⁷ ScG, Bk. III, c. 112. The point is explicitly restated several times in this chapter.

³⁸ See *ibid.*

³⁹ "An instrument is required, not for its own sake, but that the principle agent may use it." Aquinas, ScG, Bk. III, c. 112. It follows from this understanding that man actually has the *duty* to use nature as an instrument. Of course, built within that very duty is the duty to make it an instrument of ends proportioned to the nature of man.

⁴⁰ *Ibid.*

man himself is their immediate extrinsic end. This nowise implies that the good of man takes precedence over or is superior to that of the whole, but only that the good of the whole itself is always dependent upon, indeed formally determined by, the good of the intellectual creature (which, in the case of man, is achieved only through his interaction with the rest of the visible world). As already noted, angels too are directed toward the good of the whole precisely *through* their attending to the affairs of men. They, however, like men, are also ends unto themselves, wherefore the realization of their own advenient good in this matter of reciprocal actualization consists in much more than being “instruments” for the human good. They do not exist for the sake of man. Nevertheless, the perfect ordering of the whole hinges on the interaction of *all* things visible and invisible with *man*, and the very God-like perfection of angels largely consists in the measure in which they mediate goodness to men.⁴¹ But it is especially because of the Incarnation and the redemptive order in Christ that man occupies an essentially pivotal (and, indeed, chief) place in the consummation of the finality of the world.

Man being a compound of a spiritual and a corporeal nature, occupies as it were the borderland of two natures, such that whatever is done for man's salvation pertains to all creation. . . . And thus it is appropriate to see the universal cause of all creatures taking to himself in unity of person that creature whereby he is more readily in touch with all the rest of creation.⁴²

In the order of grace, we even witness a kind of inversion of priority and posteriority among angels and men in the excellence of nature's dignity (that is, the dignity accidentally accruing to the nature), in the hierarchical structure of beings. Within this ordering, Jesus Christ—as *man*—is the summit of creation as well as the central point out of which that order unfolds.⁴³

A Corresponding Ecocentric Theocentrism on the Part of Man

This anthropocentric theocentrism of the whole world is complemented by what may be described as an ecocentric theocentrism on the part man. On account of the ordination of the parts to the whole, and of the whole to God, everything in the universe is ordered (and, therefore, can

⁴¹ See also *ST* I, q. 62, a. 9, ad 3.

⁴² Aquinas, *ScG*, Bk. IV, c. 55.

⁴³ In a follow-up to this study I will deal directly with the thought of Saint Thomas regarding the Christological dimensions of creaturely finality.

be properly understood only with reference) to God: a philosophical grasp of nature is necessarily theocentric. To properly understand man's relationship to the rest of creation, it is necessary, therefore, to understand his relationship to God. Conversely, however, to understand man's relationship to God correctly, we must understand his relationship to the rest of the universe. As Thomas affirms, man stands between the rest of the visible universe and God, forming a bridge, as it were, that unites the physical world to the divinity.⁴⁴ In man, the entire universe (matter and spirit together) is propelled toward God as to its goal in a more perfect and complete manner.⁴⁵ Thus all creation comes to God through man and in man. This is what makes the Incarnation so extraordinarily potent and universal or "cosmic." The substantially fleshly existence of God signifies his entry into solidarity not only with man, but with the whole of creation and its historical destiny. That destiny will be fulfilled at the end of time, when Christ, in the second coming, will consummate God's eternal plan for the whole universe by his physical indwelling.⁴⁶ Here we encounter yet another way in which man is a blessing to the rest of the visible creation. Not only does he serve the world by ordering it to himself, not only does he introduce the element of freedom into the network of agency constitutive of dynamic universal order and responsible for the unfolding of creation's history, but he brings the life of the living God to earth, to dwell in it as within a temple. The very God-centric quality of man, the fact that he is *capax Dei*, becomes (in conjunction with the self-diffusive goodness of God) the *ratio* for the transcendent elevation of the material order. Thus the finality of the whole universe is ultimately made known to us in the revelation of its Christological and (more foundationally) Trinitarian dimensions, mysteries directly corresponding to the very origin of the universe.⁴⁷

⁴⁴ See Aquinas, *ScG*, Bk. II, c. 68; Bk. IV, c. 55.

⁴⁵ See Aquinas, *ST I*, q. 80, a. 1.

⁴⁶ See International Theological Commission, *Communion and Stewardship* (2004), no. 75.

⁴⁷ Man's stewardship, therefore, consists *primo et per se* in the role he plays in the (theo-logical) *reditus* of creation, a role that is specified and set in motion by the incarnational character of the redemption: the universe flows forth from God and returns to God by the power of God through and in man. The Christological shape of this *reditus* and the transcendent efficaciousness of the material order brought about by the economy of the Incarnation have meaningful (permanent) consequences for the whole of nature, including the physical world. For, even if, according to Thomas, the visible world will at the end of time cease to exist as it does, its eschatological status is rescued insofar as its inhabitants endure in precisely three ways: (1) in their effects (*in effectibus*); (2) virtually and preeminently (indeed, according to a more perfect mode of being containing the fullness of all

This Hierarchy of Ends Is Normative for the Exercise of Dominion over Nature

The motive for creation was the self-diffusive goodness of God, and his desire to communicate that goodness to others. It is realized in the substantial or constitutive perfection of each being (first act) and in the perfections they acquire through their proper operations and interaction (second act). The end of the same creative act was the realized perfection of the universe as a whole (including, and by way of, the realized perfection of each of its members), in order to manifest the infinite perfection of and providential plan of God, in which his (extrinsic) glory consists.⁴⁸ Precisely in helping creatures to *be* what they are called to be, what they were intended by God to be, and to *operate* as they were intended to operate, man fulfills that part of his vocation prescribed in Genesis 1:26.⁴⁹

But how can we know what things are supposed to be and do? Neither natural philosophy nor the physical sciences seem capable of telling us much about *what* things are, or about what they are *supposed* to do; for we come to know “nature” only inductively and indirectly, through observing the operations and other accidental features of things, accidents which leave the mystery of the inner nature of things more undisclosed than disclosed to us.⁵⁰ Because of this, were the finality of

their “being”) in their causes (*in causis*); and (3) in their recapitulatory mode of embodiment in Christ and his members (*secundum modum recapitulationis*). See Aquinas, *ST I*, q. 12, a. 8; suppl., q. 92, aa. 2–3; *ScG*, Bk. I, c. 31; *In Ioannem*, c. 1, lect. 2 (ed. Weisheipl, no. 90).

⁴⁸ See in this regard Aquinas, *ST I*, q. 47, a. 1.

⁴⁹ The notion of assisting creatures to be and do what they were intended to be and do is equivalent to the Christian idea of “utilizing” creation and exercising “dominion” over it.

⁵⁰ “A definition ought to reveal a thing’s accidental qualities, as well as its essential principles. If indeed the latter could be known and correctly defined there would be no need to define the former; but since the essential principles of things are hidden from us we are compelled to make use of accidental differences as indications of what is essential. Thus to be two-footed is not of the essence of anything, yet it helps to indicate an essence. . . . It would indeed be easier to grasp even what is accidental to the soul if we could only first understand its essence. . . . Hence the difficulty of our present position.” Aquinas, *In De anima*, Bk. I, lect. 1 (sect. 15); translation is taken from Thomas Aquinas, *Commentary on Aristotle’s De Anima*, trans. Kenelm Foster and Silvester Humphries (South Bend, IN: Dumb Ox Books, 1954). See also Bk. II, lect. 2 (sect. 235 & 237); lect. 3 (sect. 245–246). Cf. *ScG*, Bk. III, c. 56; *ST I*, q. 94, a. 2; *De ente et essentia*, c. 4: “Their proper differences are hidden from us. For in sensible things likewise the essential differences themselves are unknown; hence they are signified by means of the accidental differences which arise from their essential differences, as a cause is signified by means of its effect, as for instance biped is posited as the

things limited to purely intrinsic finalities, our ability to steward creation would be severely truncated. Fortunately, the finality of things is intelligible also at another level, that of extrinsic finality and the interdependencies exhibited among different natural kinds. Natural philosophy can delineate the general principles of this kind of finality, and Revelation in this regard speaks even more decisively. Not only does each creature have its own nature with its unique operative dispositions, but, in the final analysis, it is man and his well-being that supplies the fuller answer to the question. The rest of creation comes to itself when, through man's assistance, it best serves man's own perfection.

The natural world exists for the sake of man, affirms St. Thomas.⁵¹ But this is no sanction for arbitrary exploitation. It is precisely the good of *man*, an authentically *human* culture that specifies the higher (intermediate) ends of earthly ecological structures. This culture must be understood—in keeping with the etymological sense of the term, and in the words of *Gaudium et Spes*—as “a cultivation of the goods and values of [human] nature,”⁵² a nature that is both bodily and, more specially, spiritual. True culture perfects the *spiritual* side of man, inasmuch as it conserves and fosters religious sensitivity, moral sensitivity, and social sensitivity; such is culture's finality formally considered. These values are expressed in the attitudes of admiration of truth, goodness, and beauty and contemplation, qualities that express and intensify (in second act) human dignity.⁵³ This anthropological perspective has far-reaching consequences for the exercise of human freedom in the harnessing of nature. Does the exercise of our mastery over creation better illuminate to man the truth about the world? Does it bring into relief the wisdom and goodness of God who designed the world? Does it nurture our sense of gratitude and contemplative awe? These are the sorts of questions that must be posed antecedently to those concerned with a purely material, technological or economic gain, the latter of which categories are but means to the former.⁵⁴ Authentic stewardship means interacting with nature so as to facilitate its serving the spiritual finality of man. The extrinsic

difference of man. But the proper accidents of immaterial substances are not known to us, and accordingly their differences cannot be signified by us either by virtue of themselves or by virtue of their accidental differences.”

⁵¹ Aquinas, *ST* I, q. 65, a. 2. See also *ST* I, q. 73, a. 1; *ScG*, Bk. III, c. 112; *Comp. theol.*, Bk. I, c. 171.

⁵² *Gaudium et Spes*, 53.

⁵³ See *Gaudium et Spes*, 59.

⁵⁴ It stands to reason that some form of authoritative guidance is required for man to address these questions in a non-arbitrary way. That authority comes down to natural reason (as perfected by grace), on the one hand, and, on the other, the revealed word of God. Catholic anthropology, Catholic theology of creation and

finality of things inferior to man is, immediately, the well-being of man and, mediately, the perfect ordering of the whole (of which man also forms a part). By serving the intrinsic finality of man (contemplation, and a civic order conducive to contemplation and spiritual communion), the various parts of the visible creation fulfill their extrinsic finality both vis-à-vis man himself and vis-à-vis the universe as a whole, the latter of which is a function of the former and a necessary component in the fulfillment of the intrinsic finality of the universe as a whole—since the intrinsic finality of the universe resides precisely in that order whereby lower beings exist for the sake of the higher, and the higher act upon the lower.⁵⁵

What implications does this hold for responsible human action in regard to nature? Namely, that man use and direct other creatures always in a manner that enhances his humanity, for to act so is to enhance the very good of nature.⁵⁶ This fulfillment of the extrinsic finality of creatures beside man (and of the intrinsic finality of the universe) is not without concrete checks. For, on the one hand, the true good of man delimits the scope of acceptable activity: something truly advantageous to the spiritual nature of man must be achieved through man's interaction with nature;⁵⁷ and, on the other hand, the very intrinsic good of the natural objects in question (however vaguely understood) similarly delimits the parameters within which man can pursue his self-promotion: no attempt to fulfill the extrinsic finality of things (to subordinate inferior creatures either directly to man or to the cosmological whole) can knowingly violate the intrinsic finality of those things without a compelling reason (it being necessary for the good of man).⁵⁸ Although that intrinsic finality is known to us very imperfectly, science remaining particularly ignorant of the properly specific differences among natural kinds, certain things, and indeed many things at a more generic level, are obvious to

a Catholic understanding of providence are the necessary starting points for a humanly (i.e. spiritually) fruitful and responsible engagement with nature.

⁵⁵ See Aquinas, *ST* I, q. 65, a. 2; q. 109, a. 2; *ST* I–II, q. 5, a. 6, obj. 1.

⁵⁶ In the words of *Gaudium et Spes*, “all things on earth should be related to man as their center and crown” (12).

⁵⁷ Again, the ultimate authority in this matter is none other than the Catholic Church, to whom the ultimate truths about man have been entrusted (*Gaudium et Spes*, 22). In regard to the normativity of the Catholic vision of man, see the Wednesday audience of Paul VI, “Authentic Christian Life Develops Social Spirit,” *L'Osservatore Romano*, September 12, 1968.

⁵⁸ The good of man to be obtained in this case, moreover, it seems, must be proportionately superior to the perceived intrinsic finality of the creature in question. For Thomas, the killing of animals and of other men always finds its justification with reference to a superior and superordinate good (whether the common good or good of the whole, or a superior good of a higher-ordered being): see *ST* II–II,

us—such as, for example, the responsibility to avoid all unnecessary suffering on the part of animals in their utilization to the benefit of man (suffering being contrary to the intrinsic finality of every living being);⁵⁹ or the responsibility not to destroy the capacity of a natural kind to effectively reproduce (thus effacing it from the ecosystemic whole) unless it is necessary to defend an essential good of man.⁶⁰ While this appears to constitute a recipe for an (environmental) ethics of proportionality, it

q. 64, aa. 1–3. “It is lawful to kill dumb animals, in so far as they are naturally directed to man’s use, as the imperfect is directed to the perfect. Now every part is directed to the whole, as imperfect to perfect, wherefore every part is naturally for the sake of the whole” (ST II–II, q. 64, a. 2). Notwithstanding Thomas’s repeated claims that man can do whatever he want with animals (for example, ScG, Bk. III, c. 112; ST I–II, q. 102, a. 6, ad 8), the hierarchy of created goods and their subordination to that of the whole supplies the premise that is implicit in his thinking. Both the “unrestrained” and “restrained” sides of Thomas’s thought in this regard are expressed with particular concision when he declares: “There is no sin in using a thing for the purpose for which it is” (ST II–II, q. 64, a. 1). In other words, a thing can be used “in any way whatever” (ScG Bk. III, c. 112), *provided* its use is governed by the hierarchy of ends that defines its ordination. Here again, the spiritual good of man is the ultimate criterion for stewardship.

⁵⁹ Note that the proscription pertains to *unnecessary* suffering, and not to every form of suffering under any circumstance. For some suffering on the part of animals may be (and, in fact, often is) required to procure a good for man the magnitude or quality of which outweighs that of the good deprived by suffering.

⁶⁰ The necessity able to justify such an act cannot be just any good of man whatsoever, but must be an *essential* good, or at least one which meaningfully—i.e. qualitatively, and with relevance to the good of the universe as a whole—outweighs the losses incurred. Only thus, it seems, is such a subordination of the intrinsic finality of creatures to that of man permissible. Moreover, only in so valuing and seeking to preserve (if only to an extent compatible with the human good) the intrinsic finality of inferior creatures can the finality of man himself be attained, since man also exists to perfect the rest of creation (by which he imitates God). Regardless of the human good to be obtained, however, that good is never a sanction for performing an action which is intrinsically evil (even were it, *ex hypothesi*, to secure an essential good for man). The deliberate performance of any intrinsically evil action is necessarily destructive of the essential good of man, in any event. The implication of the above, therefore, is that such uses of nature are not intrinsically evil, even if they require a substantial reason for their justification. If, however, those actions were to hinder the intrinsic finality of the universe as a whole (to which man’s own activity is subordinated as to the end intended by his maker), they would constitute objectively evil acts; and, were man to have knowledge of this, it would be intrinsically evil on his part to perform them. Perhaps the greatest lesson to be gleaned from this is the need to be *extremely* cautious in the manner in which we manipulate creation, given the radical deficiency of man’s understanding of natures and their intrinsic finalities and the relationships these bear toward the good of the universe as a whole.

remains guided by the objective features of both human nature, on the one hand, and the (disparately known) generic and specific natures of things themselves, on the other. Furthermore (as discussed in footnote 60), any deliberate action contrary to the intrinsic finality of the universe considered as a whole must be considered intrinsically evil and can never be permitted, regardless of questions of proportion. Therefore our understanding of the relationship between the intrinsic finalities of the various members of the ecological system, on the one hand, and the intrinsic finality of the universe as a whole, on the other, also imposes constraints on (and offers recommendations for) man's environmental practices. Unfortunately, man is in no real position to judge these relationships, since he has little grasp of the exact natures of things. Consequently he must proceed with great caution.⁶¹ Indeed, man's freedom to utilize and manipulate natural beings must, in certain respects, be measured by the degree to which he is ignorant of nature. Not unlike the case of a hunter whose moral obligation it is not to shoot at an undetermined source of movement behind a group of bushes that may be hiding another man, our technological domination of the world may owe the benefit of a doubt to nature and its hidden role in God's plan for the world. Nevertheless, unless we are content to be agnostic about the world around us (a position that is theologically problematic in light of the divine authorship of man's rational nature),⁶² we must be able to make certain reasonable assumptions about the natures of things—as, for example, that the genetic substitution of the DNA of a tomato with the foreign DNA of human beings constitutes a direct alteration of the tomato's proper nature (whatever it might be); or that it is inappropriate to employ a banana as a hammer, or a dog as firewood. Furthermore, at the level of extrinsic finality, the harmonious ordering of different natural kinds of beings is exceedingly clear even to the simplest observer. The marvels of ecosystemic interdependency are a spectacular, symphonic drama to the probing eyes of the modern biological sciences. The complex interspecific associations of the natural world (symbioses of cooperation, competition, and predation) arouse man's admiration, lead him to knowledge of God,

⁶¹ Ultimately, he must depend on a higher authority which, humbly accepted, can steer him toward a fuller understanding of the mystery of creation, a mystery hidden in the mystery of Christ.

⁶² If man could not know *ens*, if he could not know the essences of material substances (which is the proper object of the human intellect), then the human nature will have been made in vain. See Aquinas, *ST* III, q. 9, a. 4; *ScG*, Bk. III, c. 48; *Comp. theol.*, Bk. II, c. 4; *In libros Politicorum Aristotelis expositio*, Bk. I, lect. 1; *In De caelo*, Bk. I, lect. 8 & 12.

and solicit his care. Wanton destruction of manifest ecological balances for any reason other than human survival itself is an abuse of the role given by God to man within the greater whole of the cosmos.

But Revelation tells us something more. Because of man's vocation to intimate communion with God and because of the redemptive means by which that communion is brought about, the construction of an authentically human culture means infusing human life and the whole of creation with God, through the mediation of Jesus Christ. Ordering the world to *man* means ordering it to, and according to, Jesus Christ. Ultimately, the cosmic and historical Lordship of Christ must inform the way in which we view and treat the reality around us. Every scientific investigation and every exercise of mastery of nature should seek to discover and manifest to others the mystery of Christ there contained.⁶³ Through the contribution of man to the rest of the world, moreover, "humanizing" the world—that is, centering it on man and the true good of man—means nothing less than "divinizing" the world; for, notwithstanding his distinction, man remains in intimate communion with the rest of creation, to which he gives (himself) in the very act of taking from it. The special, intermediary place of man between the rest of creation and God allows man to shepherd creation through its sanctification. It is God's will not only to fill man with his fullness, but to fill the entire creation with divine life, that the whole world should be his temple. "Far from encouraging a recklessly homocentric disregard of the natural environment, the theology of the *imago Dei* affirms man's crucial role in sharing in the realization of this eternal divine indwelling in the perfect universe. Human beings, by God's design, are the stewards of this transformation for which all creation longs."⁶⁴

⁶³ This is by no means the only or even the first thing scientific activity should pursue; the natural sciences are defined and methodologically determined by their respective formal objects, which constitutively hold the center of their attention. But the relationship of creation to man and to Jesus Christ should never be bracketed out of consideration, not only because the material order is included in the Incarnation and in the spiritual perfection of embodied human beings, but, more to the point here, because the very truth about (i.e., the reality of) every being is intrinsically tied up with and dependent upon Christ. No material object of scientific investigation can be adequately understood outside of its Christological (and Trinitarian) dimensions. If, among other things, stewardship means using the material creation to enrich human life, and if the enrichment of human life means ordering man to Christ, then, if the practice of stewardship should indeed affect the way (or reasons for which) science is done, God and Jesus Christ must, at some point, be brought into the picture (even if this is not formally the task of the scientist as such).

⁶⁴ International Theological Commission, *Communion and Stewardship* (2004), no. 76.

A Dynamic and “Interrelational” Conception of Order and Perfection in Thomas

For Thomas, the ordering of creatures is especially manifested in two things. First of all, it is apparent in their consistently acting for specific ends proportionate to their natures.⁶⁵ The ordering here consists at once in the teleological (objective) determination of the acts and in the consistency with which they are performed.⁶⁶ Second, the ordering of creatures is evident in their exercise of secondary causality, that is, their subordination in the collaborative causing of other effects, by which they are mutually instrumental in bringing about the perfection of the whole (and benefit to each other).⁶⁷ “Creatures do not attain to the perfection of their goodness through their own being alone, but through many things.”⁶⁸ “Therefore things tend to a divine likeness by being causes of other things.”⁶⁹ From the perspective of Thomas, therefore, the ordering in the universe is something much greater than merely a static arrangement of parts, like the relative disposition of the pieces of a mosaic. Cosmic (and ecological) order consists especially in the interdependency of distinct entities and principles of causation at the operative level. It is ironic that, in the controversies over evolution, advocates of what is usually referred to as “intelligent design” tend (often inadvertently) to limit their understanding of design to more or less *statically* conceived notions of complexity and order (essentially amounting to the notion of “arrangement” responsible for “functional advantages”). What is too often lacking is a fuller understanding of “order,” enlarged by a consideration of the consistency of natural operation, teleology, and the interdependency of essentially subordinated natural causes. Thomism attempts to synthesize these.

⁶⁵ “Each and every part [of a whole] exists for the sake of its proper act, as the eye for the act of seeing. . . . So, therefore, in the parts of the universe also every creature exists for its own proper act and perfection.” Aquinas, *ST* I, q. 65, a. 2. See also *ScG*, Bk. IV, c. 19: “A natural thing, by the form that perfects it in its species, has an inclination to its proper operations, and to the proper end to which it attains by its operation: since, such as a thing is, such is its operation, and such the end to which it tends.”

⁶⁶ The success of the observational sciences is based on the latter matter of fact. On the relationship between consistency or regularity of operation and determinate finality, see especially Aquinas, *ScG*, Bk. III, c. 3.

⁶⁷ See Aquinas, *ST* I, q. 22, a. 3; *De ver.*, q. 5, a. 9, ad 3–4; q. 11, a. 2: “God wills not only that man should be, but that he should be a cause.” See also *Comp. theol.*, Bk. I, c. 3.

⁶⁸ Aquinas, *ScG*, Bk. III, c. 20.

⁶⁹ Aquinas, *ScG*, Bk. III, c. 21.

Specific Nature as the Foundation for Mereological (Ecological) Perfection

The distinctive operations of each creature, by which they are instruments of order through dynamic *inter*-action, are the consequence of each creature's constitutive structure; they are, in other words, the consequence of "nature." It is the different operational capacities of differing natures that provides for the possibility of a "collaboration" in causation on the part of diverse creatures—for their being related to one another as mutually instrumental in the bringing about of joint effects dependent upon the causal interaction of each. This is the meaning of the classical axiom "*operatio sequitur esse*."⁷⁰ The communication of *form* moreover, is the very essence of and reason for causation in nature; for whenever a being operates, something of *itself* is always communicated to its effect.⁷¹ Formal causality is, therefore, the necessary presupposition and naturally prior to any sort of physical interaction among creatures on the basis of which an ecological system arises. What is more, the fact that the relationships of specific natural forms to one another in the order of operation account for the unity and identity of an ecological system (the collective whole that is thereby formed) reveals that form (a higher-ordered form) is also *logically* prior to the same ecological dynamism—inasmuch as the *formal* ordering among the members of an ecological system is itself the (ulterior) finality of their individual causal contributions to the system.⁷²

⁷⁰ See, for example, Aquinas, *ST I*, q. 75; *ScG*, Bk. II, c. 21; Bk. III, c. 42.

⁷¹ "Now in every disposition of providence, the order of effects is derived from the form of agents: since the effect must needs proceed from its cause in some kind of likeness. Now it is for the sake of an end that the cause communicates the likeness of its form to the effect. Hence the first principle in the dispositions of providence is the end; the second is the form of the agent; the third is the appointment of the order of effects. Consequently in the order of the intellect the highest degree is the consideration of the idea of order, in the end; the second degree is the same consideration, in the form; while the third is the knowledge of the disposition of order in itself and not in a higher principle. Wherefore the art which considers the end governs the art which considers the form, as the art of sailing governs the art of shipbuilding. And the art which considers the form governs the art which considers only the order of movements which prepare the way for the form, as the art of shipbuilding governs the handiwork of the builders." Aquinas, *ScG*, Bk. III, c. 80. In some respects, even certain final causes of things are rooted in the formal cause, inasmuch as the intrinsic finalities of beings, the ends which they pursue through their operations, are predetermined by their specific natures (on the basis of which they operate). "Each thing is ordained to its proper end by the nature of its species, whence is derived its inclination for that end." Aquinas, *ST I*, q. 75, a. 7, obj. 1.

⁷² See Aquinas, *ScG*, Bk. II, c. 42: "Secondary causes . . . are directed to the end of the first cause . . . and this is the distinction and order of the parts of the universe,

The Manifest Causal Interdependencies of the Natural World Rest upon Another, More Hidden Level of Order

It must be emphasized that the scope both of the causal coordination discussed in the last two sections and of the mereological subordination spoken of in the sections preceding them is not limited to the convergence or coincidence of multiple partial causes of the efficient order (*à la* Scotism),⁷³ but finds its highest and metaphysically most profound expression in the reciprocal causality of mutually ordered *total* causes—as is the case with matter and form in the constitution of a material substance, or with the efficient and final cause as principles of motion.⁷⁴ The ordering that occurs between the essential components of a subjectively indivisible *ens* or of a single operation is, for Thomas, integral to the relational perfection of the universe. In fact, the dynamism between them is the very source of the distinction of natures (and not only of numerically distinct individuals) necessary for structural order in the world.⁷⁵ It is especially clear in the case of total and reciprocal causes that the “parts” are ordered not only to one another, but especially and primarily to the whole of which they are the cause. Furthermore, this ordering of the essential parts of the individual substantial whole is itself ordered to the higher finalities of that

which order is the ultimate form, so to speak.” (See also *ScG*, Bk. II, c. 39.) As already noted, particular finality is always integrated into universal finality, wherefore the intrinsic ends of natural non-violent activity serve (are finalized toward) an extrinsic finality determined by a superior agent.

⁷³ See Scotus, *Ord.* I, d. 2, p. 2, qq. 1–4; d. 3, p. 3, q. 2, nn. 497–500, 503 & 545; d. 4, p. 1, q. un; d. 8, p. 1, q. 4, n. 192; *Ord.* II, d. 1, q. 5, nn. 203–209; d. 3, p. 1, q. 4, nn. 91–92; p. 2, q. 1, nn. 271, 278, & 280–281 (ed. Vatican for all the above); d. 25, q. un., nn. 22–24 (ed. Wadding); *Ord.* IV, d. 11, q. 3, n. 46 (ed. Wadding).

⁷⁴ See Aquinas, *ST* I, q. 45, a. 3, ad 3; q. 77, a. 6; *De pot.*, q. 7, a. 2, ad 9; *De spir. cr.*, a. 8, ad 9. On the soul and its relation to the body, as well as on the general relationship between matter and form, see Aquinas, *ST* I, q. 75, a. 3; q. 76, a. 1, ad 5; aa. 3–4; *In De anima*, Bk. II, lect. 1–2; *De ente et essentia*, cc. 1 & 5 (ed. Leonine); *De principiis naturae*, cc. 4 & 6 (ed. Leonine). On the inseparability of final causality from the very notion of efficient causality, see Aquinas, *ST* I–II, q. 1, a. 2; *ScG*, Bk. III, c. 2; *In Meta.*, Bk. V, lect. 2; *De ver.*, q. 22, a. 2; *De princ. nat.*, c. 4 (ed. Leonine); *Expositio libri Posteriorum Analyticorum*, Bk. II, lect. 9.

⁷⁵ Although matter is a principle of numerical distinction among members of a common nature, the very matter in question is proportioned to the kind of form, of which it is a principle of individuality. Matter exists for the sake of its form, Thomas explains, not vice versa (see Aquinas, *ScG*, Bk. III, c. 128; *ST* I, q. 47, a. 2; q. 65, a. 2; q. 76, a. 5; q. 91, a. 3). In order for certain forms to exist, in order for the world to be populated by certain specific natural kinds, properly proportioned matter must be provided as the subject of their instantiation. Thus a specific hylemorphic relationship is a necessary condition for the realization of the natural kind in question.

substantial whole (in relation to the greater whole of which it too is but a part and to the glorification of God for which it exists).⁷⁶

Thus the foundation for all other order is what we might call “deep order,” reflected not only in the relation between matter and form, but also in that between essence and existence. In the final analysis, these relationships (all of which are related to one another according to an analogy of proportion) come down to the distinction between potency and act. If we consider that all of the operations of nature and every active and passive principle responsible for ecosystemic unity are ordered to the actualization of specific, ecosystemic and cosmic potentialities, the movement/dynamism of the whole world represents a “groaning”⁷⁷ on the part of potency for act,⁷⁸ on the part of the creature *qua* creature (whose very essence is a potency for being and whose distinction from God is rooted in the limitation of *esse* by that potential principle)⁷⁹ for God (who is pure Act).

This infrastructural “deep ordering” between potency and act, in all of its forms, translates, furthermore, into the infrastructural order of the

⁷⁶ Interestingly enough, even from a Scotistic angle regarding the unity of a supposit of a natural kind—where the possibility of a multiplicity of substantial forms within a single individual, and the possibility of distinct existence on the part of partial substantial principles appear to dissolve real formal unity or nature—the identity of the subsistent and the concept of a unitary concrete nature are safeguarded by recourse to another principle of unity, namely, the unity of order, which is responsible for a truly singular essence of a really unified being (see Scotus, *Quaestiones quodlibetales* 19, n. 2, 13 & 23; *Ordinatio* III, d. 1, p. 1, q. 1, nn. 2, 8–14, 23 & 79–84; *In Meta.* 7, q. 7, nn. 21–24). The role that this kind of unity plays in the thought of Scotus manifests—in some respects more vividly even than the system of Aquinas—the subordination of a multiplicity of beings to the ordered whole they constitute and the primacy of the order among them. On the other hand, it diminishes the centrality of *operation* in one’s concept of nature and, correspondingly, in the manner in which many beings effectively constitute an ordered whole. By way of contrast, the Thomist doctrine in this regard recognizes not only the strictly unifying and actuating role of substantial form, but also its indispensable contribution to a cosmic order essentially constructed on the causal interaction between specifically different kinds of things—where things (*res*) are differentiated precisely on the basis of distinct operational capacities proper to the subsisting whole as such.

⁷⁷ See Rom 8:22–23.

⁷⁸ Indeed, the very definition of motion, for Thomas, is “the act of a thing in potency.” “That is being moved which is midway between pure potency and act, which is partly in potency and partly in act. . . . Whence the Philosopher most aptly defines motion as the *entelechy*, i.e., the act of a thing existing in potency insofar as it is in potency.” *In libros Physicorum*, Bk. III, lect. 2.

⁷⁹ See Aquinas, *De ente et essentia*, c. 3.

analogicity of being. Creatures “are,” in a derivative and sub-ordinated sense of “being,” because God “is,” in the plenior and ordering sense of “being”/“act.”⁸⁰ Thus it is in terms of the distinction between potency and act that the radical and *first-ordering* distinction between Uncreated Being and created being is articulated in Thomas.⁸¹ This analogy of being is the first concrete principle of order in the universe. All creatures are ontologically ordered, by the participatory character of their very being, toward Unparticipated Act. And this order is a question not merely of origination and dependence, but also of the tendential dynamism (finality) rooted in natures. The very trajectory of creaturely existence is first of all (and continuously) defined by this ordination to God. Such is the meaning of “analogy”: it is an *ordo ad unum* (the “πρὸς ἓν” of Aristotle).⁸²

An important corollary must be mentioned here. The singular point of reference upon which all of the movement of nature is focused is God understood as Pure Act. Act as such, then, is the intrinsic end of the universe. But act is the fundamental principle of intelligibility for everything. Time and again, Thomas reminds us that a thing is intelligible precisely insofar as it is in act.⁸³ The whole universe along with each of its parts, therefore, is ordered toward intelligibility, toward cognition and truth in both its objective and subjective senses. I deal specifically with nature’s ordination to truth below. Note here, however, that on the basis of the same analogy of being between God and creatures, for Thomas, all things are “true” through uncreated Truth⁸⁴—such that creation’s ordination to truth and its fulfillment of that destiny are themselves grounded on, and an expression of, the “deeper order” examined above.

The relationship between matter and form, finally, also illustrates, in an extraordinary way, that law of natural order by which less noble beings (and principles) are subordinated to higher beings (and principles). Every material substance, inasmuch as it is a composite being with operative

⁸⁰ With respect to existence (and any pure perfection), created *ens* stands in relation to God according to an analogy of intrinsic attribution. Creatures are “beings” because they participate in the divine self-subsistent being (being *per essentiam*), the prime analogue with respect to which “*ens*” is predicated of all of the secondary analogates (being *per participationem*). See Aquinas, *ST* I, q. 13; I-II, q. 66, a. 5, ad 4; *In I Sent.*, d. 19, q. 5; *In Meta.*, Bk. VII, lect. 4–5; *De princ. nat.*, c. 6.

⁸¹ See Aquinas, *ST* I, q. 2, a. 3; q. 54, a. 1; *De ver.*, q. 24, a. 7; *De pot.*, q. 2, a. 1.

⁸² “There are many senses (*multis modis*) in which being (*ens*) can be said, but they are related to one central point (*ad unum/πρὸς ἓν*)”—*Metaphysica*, Bk. IV, c. 2 (1003a33).

⁸³ See especially *ST* I, q. 16, a. 3; q. 87, a. 1; q. 89, a. 7, ad 3; *ScG*, Bk. II, c. 98; Bk. III, c. 54; *In De causis*, lect. 6; *In Perihermeneias*, Bk. I, lect. 5.

⁸⁴ See Aquinas, *In I Sent.*, d. 19, q. 5, a. 2.

capacities distinct from those of its physical constituents, is a self-contained microcosmic expression of this law. In a unique way in man, moreover, hylemorphism expresses the orientation of the whole material order to the spiritual order. As has already been alluded to, according to Thomas, man's bodily nature exists and is proportioned as it is precisely for the sake of man's rational activity, that is, for his unique (abstractive) mode of understanding by which he constitutes an ultimate grade upon the spectrum of intelligent life.⁸⁵ Ultimately, the natural order found in creation is directed to the supernatural enjoyment of God on the part of his rational creatures. In fact, nature is nothing less than a presupposition to and potency for the supernatural agency and supernatural life of God in his creatures. This last point will be developed more fully with reference to Christ (and the sacramental economy), where the exalted dignity of the material order is revealed in its capacity to receive the very divinity and to communicate (instrumentally) divine life.

Necessity of Inequality and Hierarchy in Light of the Purpose of Creation

Intimately related with Thomas's essentially Aristotelian understanding of the role of nature and formal causality in natural movement, is another critical element in his cosmology, one that is common to the whole theological tradition but especially prevalent in the thought of Augustine and Pseudo-Dionysius, and within which Thomas fully deploys his doctrine of participation: namely, the necessity, in light of the purpose of creation, of *inequality* and *hierarchy*. "The perfection of the universe required various grades of being," Aquinas affirms.⁸⁶ Differentiation, in other words, is required for order: *telos* determines form.

The distinction and multitude of things come from the intention of the first agent, who is God. For he brought things into being in order that his goodness might be communicated to creatures, and be represented by them; and because his goodness could not be adequately represented by one creature alone, he produced many and diverse creatures, that what was wanting to one in the representation of the divine goodness might be supplied by another. For goodness, which in God is simple and uniform, in creatures is manifold and divided and hence the whole universe together participates the divine goodness more perfectly, and represents it better than any single creature whatever.⁸⁷

⁸⁵ See Aquinas, *ST* I, q. 76, a. 5; q. 78, a. 3; q. 84, aa. 6–7; q. 85, a. 1; q. 91, a. 3; *ScG*, Bk. II, c. 68.

⁸⁶ Aquinas, *ST* I, q. 89, a. 1; see in this regard especially *ST* I, q. 47, a. 2.

⁸⁷ Aquinas, *ST* I, q. 47, a. 1.

The purpose of creation is to manifest the goodness of God. For this reason, the good of the whole is greater than the good of any part—for the whole is more Godlike, because it more fully represents the infinite goodness of God.⁸⁸ (The principle has broad consequences not only for our theology of creation, but also for the political order, the order of social justice, and our understanding of the ecological order). But this variety among creatures, by which the universe is a more perfect reflection of God, requires that things differ not merely numerically but formally; and formal distinction implies inequality:

A twofold distinction is found in things; one is a formal distinction as regards things differing specifically; the other is a material distinction as regards things differing numerically only. And as the matter is on account of the form, material distinction exists for the sake of the formal distinction. Hence we see that in incorruptible things there is only one individual of each species, forasmuch as the species is sufficiently preserved in the one; whereas in things generated and corruptible there are many individuals of one species for the preservation of the species. Whence it appears that formal distinction is of greater consequence than material. Now, formal distinction always requires inequality, because . . . the forms of things are like numbers in which species vary by addition or subtraction of unity. Hence in natural things species seem to be arranged in degrees; as the mixed things are more perfect than the elements, and plants than minerals, and animals than plants, and men than other animals; and in each of these one species is more perfect than others. Therefore, as the divine wisdom is the cause of the distinction of things for the sake of the perfection of the universe, so it is the cause of inequality. For the universe would not be perfect if only one grade of goodness were found in things.⁸⁹

For a gradation of perfection in the world, formal diversity is necessary. Material diversity in number as such contributes nothing directly to the degrees of goodness that make the universe a more perfect reflection of God. Material distinction is necessary, however, for the preservation of a species, since the existence of a diversity of natural kinds in the visible world is ensured thereby. But it is formal distinction—which is ultimately responsible for the different chemical, thermal, and physical properties of things on the basis of which ecosystemic and cosmic order come about—that really counts. Thus, as intended by the wisdom of God, and for the sake of its perfection, the universe exhibits a hierarchical arrangement of beings according to degrees of natural excellence. Without *hierarchy* and

⁸⁸ See especially Aquinas, *ScG*, Bk. II, c. 42; Bk. III, c. 17.

⁸⁹ Aquinas, *ST* I, q. 47, a. 2; cf. *De ente et essentia*, c. 4 (ed. Leonine).

inequality, no order, universal or ecosystemic, is possible.⁹⁰ It is perhaps worth noting here that the distinction, as well as the relationship, between numerical individuation and specific differentiation (the fact that material distinction exists for the sake of formal distinction) has the implication that, with regard to irrational creatures, our treatment of an entire species is of far greater significance than our treatment of the individuals of a species.⁹¹ While (under the acceptable conditions) individuals of a species may be (and often are) expendable by way of deliberate human intervention, this is no indication that the species as such is expendable through a like intervention on the same basis. Only the demands of the universal order desired by God, the inner finality of the universe as a whole (much of which escapes our understanding), can legitimately impose cases of specific extinction—occurrences to which natural history (which is ultimately the instrument of providence) amply witnesses. Here, of course, natural reason and Revelation both illuminate something of the proper ordering among the diverse grades of being essential to the inner finality of the universe as a whole. On such a basis, *de iure* at least, we sometimes can and must make judgments about the protection or

⁹⁰ On the hierarchical arrangement of the world, see especially: Aquinas, *ST* I, q. 65, a. 2; q. 96, a. 3, ad 3; II–II, q. 64, a. 1; *ScG*, Bk. III, c. 81; c. 112; *Comp. theol.*, Bk. I, c. 148. Note that inequality and hierarchy are the *proximate* reason for multiplicity and diversity, the remote (and ultimate) reason for which is the fuller imitation on the part of the universe of the singular and indivisible divine perfection.

⁹¹ Even with respect to man, we should note, the species remains, in a certain respect, more important than the individual, inasmuch as the purpose of created *ens* is the glorification of God through the manifestation of his perfections. Ontologically (not morally) speaking, it is primarily the human kind as such, not the distinctiveness of the individual, that reflects the perfection of the Creator. Nevertheless, the individual man is of infinite intrinsic value. The spiritual basis of this infinite worth (which is a function of *specific* perfection) makes it possible for the individual man to participate, primarily at the *moral* level, in a personal, *individual* way in the universal glorification of God on the part of creation. At the level of operation, in his self-realization in second act, an infinite horizon for the glorification of God is open to man. Within this horizon, assuming we include the reality of grace, the value of the individual indeed surpasses that of the species as such. Even with respect to first act, however, it should be noted that creatures also glorify God in their individuality as such, not merely because singularity is rooted in some positive ontological principle, but because, precisely in their distinction, they are reflections of the divine transcendental multitude. From the point of view of the chief purpose of nature, Thomas explains, *incorruptibility* is the goal to be obtained (without which perpetuity nothing would have lasting meaning). But because individual men are incorruptible (on account of the soul), individuals are equally included in the ultimate purpose of nature (see *ST* I, q. 98, a. 1; q. 113, a. 2; cf. q. 62, a. 6, ad 3).

non-protection of a species, precisely with reference to its contribution or threat to the universal order intended by God. Thus, when an essential good of man is at stake, the survival of an inferior species must cede to that higher end.

But hierarchy is more than a means to a quantitatively greater glorification of God on the part of creation; it ultimately serves a purpose far beyond multiplying the sheer number of species in the world. Indeed it can be said, inversely, that the very purpose of multiplicity and diversity is inequality and hierarchy. For the very hierarchical relationships among the diverse species—relationships of causal influence that are responsible for their *dynamic* cohesiveness—bring about, at once: (1) a virtual infinity of ways in which God is imitated in the world, according to their inexhaustibly numerous relationships and the relationships of these real relations to one another;⁹² and (2) a *qualitatively* unique glorification of God, according as that relational dynamism constitutes an *operatively* unified and ever-evolving whole, and insofar as the very relationship of hierarchical dependence among secondary causes represents a greater good for the members of the universe and a more perfect reflection of God.

According to Thomas, such a hierarchical arrangement is necessary for the functioning of secondary causes in the execution of God's providence:

We may consider a twofold order between creatures and God: the first is by reason of creatures being caused by God and depending on him as on the principle of their being. . . . But the second order is by reason of things being directed to God as to their end; and it is here that there is a medium between the creature and God, since lower creatures are directed to God by higher.⁹³

God governs the lower beings through the higher beings, and this form of governance is more perfect, for it involves God communicating the dignity of causality to others.⁹⁴ For a beautiful illustration of the principle, see Aquinas, *ST* suppl., q. 76, a. 3, ad 2, where the consummation of material

⁹² From the metaphysical perspective, this network of relationships entails a vastly complex and potentially infinitely populated universe, inasmuch as relation constitutes a real category of being. The network also implies, from a theological perspective, a qualitative leap in the capacity of nature to manifest the perfection of God, the mystery of whose tri-personality is grounded in relation. Note that Thomas and Scotus alike argue in favor of the reality of relations (and against the theory that they are mind-dependent) as a necessary condition for the unity of the universe: see Aquinas, *De pot.*, q. 7, a. 9; Scotus, *Ord.* II, d. 1, q. 5, n. 224.

⁹³ Aquinas, *ST* III, q. 6, a. 1, ad 1.

⁹⁴ See Aquinas, *ST* I, q. 103, a. 6; cf. *ScG*, Bk. III, c. 22; *ST* I, q. 47; *De ver.*, q. 11, a. 2: "God wills not only that man should be, but that he should be a cause."

creation in the transformative event of the final resurrection —nature's quintessential (supernatural and redemptive) "evolutionary" step⁹⁵—is executed primarily through the mediatory agency of one angel, either in whom or by means of whom (respectively) the whole angelic hierarchy, including those of every superior order and those of every inferior order, is operative. It is of the very nature of hierarchy to universally engage secondary causation in such a way that all members of a differentiated whole receive their proper functional dignity, becoming jointly responsible for the emergence of effects that exceed the operational capacities of any one member taken alone and which work to the benefit of all. In fact, hierarchy consists first and foremost in this relationship of essentially subordinated causality, the fact that some things are the causes of the causal activity of others. Through this causal dignity, secondary causes act upon one another in the construction of an ordered, governed world. They become sources of goodness for others.⁹⁶ Such is the real point of hierarchy: to allow creatures to participate in God's providential governance of the world, and to allow creatures to communicate goodness to others, to lead others toward their proper (relational, mereologically defined) end:

⁹⁵ The fact that this step is supernatural means that it is not taken or performed by nature as the active principle of motion; rather, such a stride is *undergone* by nature, on the basis of its obediential potency. Thus the notion of evolution is used analogously here, since the transformation in question does not flow from the intrinsic vital operative powers of the creature. Nevertheless, the term "evolution" is not used in a purely equivocal sense, for: (1) the obediential potency of bodies remains a real principle of this transformation; and (2) the Christological unity and finality of all creation situates the latter within a "whole" that only makes sense with reference to redemptive grace and the world's supernatural elevation as the terminus toward which it was initially, and remains intrinsically, ordained.

⁹⁶ One can clearly see in Thomas's view of hierarchy the influence of Pseudo-Dionysius, both as to the purpose of hierarchy and as to the manner in which that purpose is fulfilled, namely by way of natural (communicative and receptive) operations. The providential relationship between hierarchically distinguished secondary causes—their mutually beneficial differentiation—manifests itself primarily in activity. This activity (positively considered, i.e. in abstraction from destructive or diabolical forces as such) always consists either in giving or in receiving, in actualizing another or in being actualized by another. Accordingly, it is described in terms of a twofold kind of motion, christened "linear" and "circular" by Pseudo-Dionysius, complemented by a third, "spiral," which is a combination of the two. In distinct ways, corresponding to each of these sorts of movement, natural agents are able to give glory to the Creator by imitating him and sharing in the completion/perfection of the world. Thomas's treatment of these three kinds of motion (with particular attention to "circular motion") will be examined in the follow-up to this article.

It is a greater perfection for a thing to be good in itself and also the cause of goodness in others, than only to be good in itself. Therefore God so governs things that he makes some of them to be causes of others in government; as a master, who not only imparts knowledge to his pupils, but gives also the faculty of teaching others.⁹⁷

It is, perhaps, especially here that man discovers the meaning of the “stewardship” intended for him by God, inasmuch as man’s own role vis-à-vis the created order is to communicate, in imitation of God himself, goodness to the world around him. How can man do that? In two fundamental ways, according to Thomas. He does so, first of all, each and every time he utilizes the goods of creation to achieve a properly human end; for in so doing, man renders the natural world an *instrument* (with all the causal dignity that this implies for Thomas)⁹⁸ of effects which transcend the material order as such (and, when the actions are ordered by charity, the natural order altogether).⁹⁹ In another and more astounding way, man is a source of goodness for creation through his power to interact with beings *superior* to himself. One of the most striking features of Thomas’s treatment of divine providence and the role he accords to mankind in its historical execution is the special place he reserves for prayer.¹⁰⁰ By his union with God through Jesus Christ (who is the principle and end of the whole creation), the efficacy of man’s prayer knows no limits. There are no boundaries, neither intensively nor extensively, restricting the field of man’s spiritual mediation on behalf of nature. He who prays for the earth (by way of oration, sacrifice, and love) in union with Christ becomes an instrument of God’s fatherly and properly divine care for creation. Man’s special dignity in relation to the rest of the universe is not

⁹⁷ Aquinas, *ST* I, q. 103, a. 6; see also *ScG*, Bk. III, cc. 19–20 & 22.

⁹⁸ See Aquinas, *ST* I, q. 45, a. 5; III, q. 13, aa. 2–3; q. 48, a. 6; q. 56, a. 1, ad 2; q. 62, a. 1 & ad 2; a. 4; q. 79, a. 2, ad 3. The notion of “instrumentalizing” creation is distasteful to, or met with fear by, many environmentally minded thinkers seeking to defend the dignity of creation. This is ironic in light of the real significance of instrumental causality, in which a natural agent is elevated to the production of effects transcending its natural capacities through the very exercise of its proper operation as moved by another. To put it simply, to view and treat non-rational beings as instruments of human ends assigns a greater dignity to them than can be recognized on the basis of their intrinsic value or goodness.

⁹⁹ In keeping with the principles of all causality, according to which every cause as cause communicates something of *itself* to its effects, man communicates goodness to the created order by infusing it with a *human* element, “humanizing” it, through ordering it according to reason and according to man’s intelligible end (see *infra*, “*The End (Order) of the Universe in Terms of Truth*”).

¹⁰⁰ See Aquinas, *ST* I, q. 23, a. 8; II–II, q. 83, a. 2 & ad 2; suppl., q. 72, a. 2 & ad 2.

merely to stand at its summit, as its “head” and end, but to stretch across and within it, as its “heart” and impelling force.¹⁰¹

One will note that this understanding of the functioning of hierarchy places an emphasis on the *qualitative* perfection of the universe. Were the hierarchical perfection of creation to be viewed exclusively in quantitative terms—such as tends to be favored by conceptualizing the multiplicity of natural species after the manner of distinct numbers—we would be hard-pressed to explain the possibility (and even harder-pressed to justify the deliberate provocation) of the extinction of certain species. While the discreteness of numerical symbolism helps us to understand the real gradation/inequality of beings (which are related to one another according to ascending degrees of perfection understood as determinate participations of God),¹⁰² the causal dynamism of interspecific relations with its corresponding operatively achieved unity should help to temper inordinate fears of losing a species the “numeric value” of which may never grace the world again. Although the loss of any specific kind represents a subtraction from the full complement belonging to the whole, outside of the influence of sin, its substitution by another kind, or its inducing of new ecological relationships, eventually returns something new and (at least potentially) beneficial to the whole which is always *progressing* toward its divinely established state of rest.¹⁰³

Order among the Parts of the Universe Depends upon Their Prior Order to God

The relationship of creatures to one another (and to the whole that they constitute together) is dependent upon and derived from their relationship to God:

Things that are ordered to something must be really related to it, and this relation must be some real thing in them. Now all creatures are ordered to God both as to their beginning and as to their end: since the

¹⁰¹ More will be said about this “priestly” quality of Christian stewardship in the follow-up to this article.

¹⁰² See Aquinas, *In De anima*, Bk. I, lect. 4 (sect. 49–50); *In Meta.*, Bk. I, lect. 16.

¹⁰³ “All is seared with trade; bleared, smeared with toil; and wears man’s smudge and shares man’s smell. . . . And for all this, nature is never spent; there lives the dearest freshness deep down things.” Lines 6–10 of Gerard Manley Hopkins, “God’s Grandeur,” in *Gerard Manley Hopkins: The Major Works* (New York: Oxford University Press, 2002), 128. Sin, of course, is a destructive force, and there is reason to lament the ongoing loss of species provoked by human irresponsibility and selfishness. The point here is not to deny the value of quantities of different species (that was already defended above); rather, we are here invited to *prioritize* our concerns according to the predominantly qualitative nature of the world’s perfection.

order of the parts of the universe to one another results from the order of the whole universe to God: even as the mutual order of the parts of an army is on account of the order of the whole army to its commander (*Meta.* xii). Therefore creatures are really related to God, and this relation is something real in the creature.¹⁰⁴

The real relationships between creatures are themselves functions of the relationship of the whole world to God. Relation to God, in other words, determines the kinds of relationships by which creatures constitute an ordered whole, and this relation to God—as principle and ultimate end—is something really in the creature, and responsible for the part the creature plays in contributing to the perfection of the universe (to its dynamic and hierarchical order). This dependency of inter-creaturely relationships upon the relationship of creatures toward the Creator is clarified by Thomas when demonstrating the unitary government of the universe:

The mutual order of all diverse things that are directed to each other is on account of their order towards some one thing: even as the mutual order of the parts of an army is on account of the order of the whole army to the commander-in-chief. For that certain diverse things be united together in some relationship, cannot result from their own natures as distinct from one another, because from this there would rather result distinction among them. Nor can it result from different causes of order: because these could not possibly of themselves as differing from one another have one order in view. Accordingly either the mutual order of many is accidental, or it must be reduced to one first cause of that order, who sets all in order towards the end which he intends.¹⁰⁵

The reality of finalized (as opposed to random)¹⁰⁶ order implies a unifying principle, a principle that must be other than the distinctiveness

¹⁰⁴ Aquinas, *De pot.*, Bk. III, q. 7, a. 9. See *ScG*, Bk. III, c. 17: “Just as the supreme agent moves all second agents, so must all the ends of second agents be directed to the end of the supreme agent: since whatever the supreme agent does, it does for its own end. Now the supreme agent is the active principle of the actions of all inferior agents, by moving all to their actions, and consequently to their ends. Hence it follows that all the ends of second agents are directed by the first agent to its proper end”; *ScG*, Bk. II, c. 42: “If, therefore, in the production of things there are any secondary causes [as in the causation of order in the universe], it follows that their ends and actions are directed to the end of the first cause, and this is the last end in things caused.”

¹⁰⁵ Aquinas, *ScG*, Bk. I, c. 42; see Bk. II, c. 24; Bk. III, c. 17.

¹⁰⁶ It is certain that the order of the universe is more than a result of chance, for the universe is the product of finalized/intentional agency: “the origin of beings from the first being is by an action directed to an end, since it is according to intellect” (Aquinas, *ScG*, Bk. II, c. 42); see especially *ScG*, Bk. II, c. 24; cf. *ST I*,

of the natures so united, and that cannot consist in a multiplicity of directive agents (since these would themselves need to be unified by an ulterior common principle). Thus, Thomas concludes, the mutual order of the parts of the universe is caused by the first cause of the whole—who is also the first cause of each of the parts, but who is the cause of each of the parts only insofar as he causes the whole, which is logically prior to the parts and first in intention (the end in view when creating the parts), the parts being created precisely as members of a whole and for the sake of that whole. This first cause “sets all in order towards the end which he intends.” A twofold causality is expressed here. First, the setting of the multitude of beings in order requires an efficient act on the part of God, both as the origin of beings (Creator) and as the first mover (primary agent of secondary causal activity)—which he accomplishes by making their respective natures with their determinate operational habits,¹⁰⁷ and by causing their activity according to their natures. Second (and this is Thomas’s principal point here), the many beings are set in such an order according to the intended effect of that order—the end, which determines, in the order of final causality, the mutual order among the parts.

If, therefore, in the production of things there are any secondary causes, it follows that their ends and actions are directed to the end of the first cause. . . . Therefore the distinction and order in things is not on account of the actions of secondary causes; but rather the actions of secondary causes are on account of the order and distinction to be established in things.¹⁰⁸

Here “interrelationality”—the mutual relations between creatures and their relative equality in this respect—is dependent upon the *naturally prior* relationship of creatures to God, as the common origin of all and the supreme end (sovereign good) toward which all are ordered. Transcendental relation to God is, therefore, the necessary condition for any kind of consonant, unified ordering of eco- and cosmic systems. In the light of the Christian doctrine of creation, “interrelationality” *presupposes* a transcendent ground and point of reference. It is the very creativity of

q. 2, a. 3. See below (within this section) for a brief description of the insufficiency of “chance” as such in accounting for the mutual order among the parts of the universe.

¹⁰⁷ This he accomplishes as an ultimate principle, though not necessarily directly, since he employs a variety of secondary causes as instruments through which the world and its inhabitants are brought forth. Human nature alone, because of its spiritual form, requires the direct intervention of God’s creative power.

¹⁰⁸ Aquinas, *ScG*, Bk. II, c. 42.

God that accounts for the most basic feature of ecological unity.¹⁰⁹ This creature–Creator relationship, a relationship of radical dependence and participatory actuality, is common to every finite being. All are “equals,” therefore, in this regard, and all are intrinsically ordered at the deepest level of their identity (as *res creata*) according to the singular finality of God’s creative act.¹¹⁰ The creature–Creator relationship, moreover, determines the specific perfection and ecological “place” of every being in its relationship to others, on the basis of which, by way of their respective natural operations, the universal finality of the world is brought to fruition through the realization of their many specific intrinsic ends.

As shall become clearer in what follows, the existential equality as well as the specific inequality of created *ens* are both rooted in the creative activity of God. They are a function of the *esse*–conferring love and specifying wisdom of God, whose very goodness and truth the world was intended to reflect and to seek.



At this point, however, a brief remark about a critical premise in the reasoning of Thomas seems due. In Book I, chapter 42 of the *Summa contra Gentiles*, Thomas argues from the mutual ordering of the parts of the universe to a unitary cause of order. But the argument rests upon the assumption that the order in question is not accidental, but finalized according to the intention of one first cause. In other words, his argument presupposes that the order in question is not a product of pure chance, of purely random events. To the contrary, it is the product of an *intentional* act, guided by a specific end, on the basis of which every intelligent agent acts.¹¹¹ To many in the contemporary scientific field, however, this claim

¹⁰⁹ Several theologians prominent in ecological discussions have developed this point: see S. Dunham, *The Trinity and Creation in Augustine* (Albany: State University of New York Press, 2008), 7–8; James Nash, *Loving Nature: Ecological Integrity and Christian Responsibility* (Nashville, TN: Abingdon Press, 1991), 95.

¹¹⁰ This is not to deny the ontological incommensurability between the material and immaterial orders according to Thomas. Although there exists no common natural genus for immaterial and material substances—wherefore their essences are radically disproportionate—there does exist a common logical genus, whence a certain proportionality obtains and something positive concerning spiritual substances can be known according to a common notion by way of analogy with material beings. That something positive, according to a common notion, has precisely to do with the distinction between essence and existence, and not with specific nature. See Aquinas, *ST I*, q. 88, a. 2, ad 1–4.

¹¹¹ Besides *ScG*, Bk. I, c. 42, see Aquinas, *ST I*, q. 15, a. 1; I–II, q. 1, a. 2.

is everything but self-evident, and the counter-claim is put forward, that everything in the universe is the consequence of unguided chance events.

Has Thomas made a gratuitous and fatal assumption? Could chance as such be responsible for the kind of order we have been discussing? The answer to the question requires not only a proper understanding of the nature of "order," but also of the nature of "chance." Thomas's understanding of "chance" follows that of Aristotle, for whom nature (that is, determinate operation, *per se* causality) is prior to chance (indeterminate accidental causality), not vice versa.¹¹² Appeal to chance to account for the unity, or even the various activities, of an ecological whole is insufficient by itself. Chance by itself simply cannot account for the complexity, natural diversity, or functionally oriented activity (as displayed, for example, in the cell, or in organ physiology) observed in nature. Here it is particularly important that "chance" be viewed in its inseparable relationship to (not just its distinction from) determinate causes and natural necessity. Chance itself is nothing other than the clash of causes striving to attain their appointed ends: it is intelligible only on the basis of determination.¹¹³ In this context of trying to explain the (as yet highly opaque) principles of the order observed in the world, it is furthermore important to distinguish our *limited* human understanding of nature from the comprehensive vision of God: the ultimate outcome of the world (and the overall means to its achievement) is not a matter of "chance" for God.¹¹⁴ Nevertheless, random or chance events can and do serve as significant (partial) explanatory factors (in the efficient causal order) when viewed as *instrumental* secondary agents of a superior agency: contingency, and randomness or chance, are not incompatible with the Catholic notion of Providence.¹¹⁵

But philosophical naturalism seeks other ways to remove God from our concept of the world. Often the ultimate rationale for the universe is sought within the invariable physical forces governing its behavior from within. However, appeal to inexorable physical "laws" will not put the question to

¹¹² See Aquinas, *ScG*, Bk. II, c. 39. For Thomas's understanding of "chance," see *In libros Physicorum*, Bk. II, lect. 5 & 9; *In Post. Analytica*, Bk. II, lect. 9; *In Meta.*, Bk. VI, lect. 3; Bk. VII, lect. 6; *ST I*, q. 22, a. 2, ad 1; q. 115, a. 6; q. 116, a. 1; *In Perihermeneias*, Bk. I, lect. 14.

¹¹³ Such is it defined both by Aristotle and Boethius: see Aristotle, *Physica*, Bk. II, c. 8 (196b20–24 & 197a32–35); Boethius, *Consolation of Philosophy*, Book V, Prose 1, lines 53–58 (ed. Stewart-Rand). See Aquinas, *In libros Physicorum*, Bk. II, lect. 10; *ScG*, Bk. I, c. 44; Bk. II, c. 39; Bk. III, c. 3; c. 74; *ST I*, q. 116, a. 1; II–II, q. 64, a. 8; *In I Sent.*, d. 13, q. 2, a. 1; *In De caelo*, Bk. II, lect. 7 & 11.

¹¹⁴ See Aquinas, *In Meta.*, Bk. VI, lect. 3, no. 26 (ed. Leonine).

¹¹⁵ See especially Aquinas, *ScG*, Bk. III, c. 94; *ST I*, q. 116, a. 1 and ad 2.

rest. How do you explain nature's inexorable inclination to determined kinds of action (on the basis of which the laws themselves are derived)? Some have claimed that the universe simply is *not* so beautifully designed. But Thomas is not talking merely about a "pretty pattern" (which might be disputed on subjective grounds); he is talking about determinate operations and essentially subordinated causality. The coordination and consistency of these behaviors results in the kind of order we are concerned with (that of an "ordered whole"). Such an ordered and intelligible structure is the *presupposition* to all natural science. Appeals to evolution (as an attempt to oppose the doctrine of creation) only prove the point.

There has been an explosion in the direction of teleological order recently in connection with astrophysics and microbiology.¹¹⁶ Given the breathtaking complexity of even a single cell, the tumult in which the origin of life studies currently finds itself, and the "fine-tuning" (defiance of probability) exhibited by the values of the fundamental physical constants (including those of electromagnetic interaction, gravitation, the proton to electron mass ratio, and other forces), science itself tends more to confirm than to challenge the physical, metaphysical, and theological principles enunciated in Aquinas.

The End (Order) of the Universe in Terms of Truth

At every level of finality—intrinsic, proximate extrinsic, and ultimate extrinsic—the end of the universe ought to be conceived, according to Thomas, in terms of truth, the good or perfection of being that is relative to an intellect.

The last end of each thing is that which is intended by the first author or mover of that thing: and the first author and mover of the universe is an intellect. . . . Consequently the last end of the universe must be the good of the intellect: and this is truth.¹¹⁷

For Thomas, the perfection of the universe in truth means much more than cognition of truth, even ultimate Truth, on the part of the rational creature. Truth constitutes the end of creation in a fourfold sense: (1) as something to be acquired subjectively by creatures endowed with knowl-

¹¹⁶ See W. L. Craig, *Reasonable Faith: Christian Truth and Apologetics*, 3rd ed. (Wheaton, IL: Crossway Books, 2008), 157–65.

¹¹⁷ Aquinas, *ScG*, Bk. I, c. 1. The fact that there is any finality at all in things implies ordination by, and to, an intellect. Even the tendencies of those things that act by nature alone and not by intelligence resolve to an intellect, the intellect which is the first cause of such determinate operations (see Aquinas, *ST I*, q. 2, a. 3).

edge; that is, knowledge of ultimate reality and specifically of God in his mystery on the part of men and angels; (2) as the achievement of the natural perfection of all creatures in conformity with the essential structure of each thing as conceived in the mind of God; that is, conformity with the objective criteria by which the essential perfection of a thing is measured, and this is "objective truth"; (3) as the realization of the order of the universe as a whole as intended by its author and first mover, which too is "objective truth" (and is inseparable from the preceding point of which it is an extension, as the collective and communal dimension of creaturely perfection); and (4) inasmuch as the *manifestation* of truth is the end of all creation, all things being created in order to manifest not only the objective truth which corresponds to their essence or nature, but also the efficient, exemplary, and final cause of this objective truth which is the tri-personal God. In man, progression in (1) is necessary for (2) and (3), for (2) and (3) consist essentially in (1). For all creatures, the realization of (2) is as necessary for the realization of (3) as the realization of (3) is for the realization of (2); accomplishing (4) is essential to (2) and (3); and fulfillment of (2) and (3) intensifies the accomplishment of (4). For all creatures inferior to man, the fulfillment of (2) and (3) is ordered to and realized in the fulfillment of (1) in man, for human cognition is the very *raison d'être* of the visible creation inferior to man.

The true, according to Thomas, is nothing other than being considered as that toward which an intellect inclines.¹¹⁸ But things can bear a relationship to an intellect in more than one way: either accidentally or essentially. The relationship is accidental when a thing's essence does not depend upon the intellect by which it is known; but it is essential when its essence is dependent upon the knowing intellect, on the basis of which alone its nature (and, therefore, any other knowledge of that nature) can be judged.¹¹⁹ The divine intellect is the cause of natural forms. All natures as such are dependent upon the mind of God, in which they are "conceived"; and every being is "true," therefore, inasmuch as it is a realization of the idea of it in the mind of God (the ideal according to which it was produced). This truth is a property in things, and, to the extent that they express the ideal form of their natures in the mind of the Creator, things are said to be true "absolutely" or "objectively." Thus God himself, his wisdom and Word, is the measure of these realities. Human

¹¹⁸ See Aquinas, *ST I*, q. 16, a. 1 (cf. a. 3). Truth always expresses a relation to an intellect; it is, furthermore, predicated primarily of the intellect and secondarily of things, for nothing is called "true" except insofar as it conforms to an intellect.

See Aquinas, *De ver.*, q. 1, a. 2.

¹¹⁹ See Aquinas, *ST I*, q. 16, a. 1.

knowledge, on the other hand, does not make the natural forms it seeks to understand; rather, such objects of human knowledge are prior to our knowledge of them and are the measure of that knowledge.¹²⁰

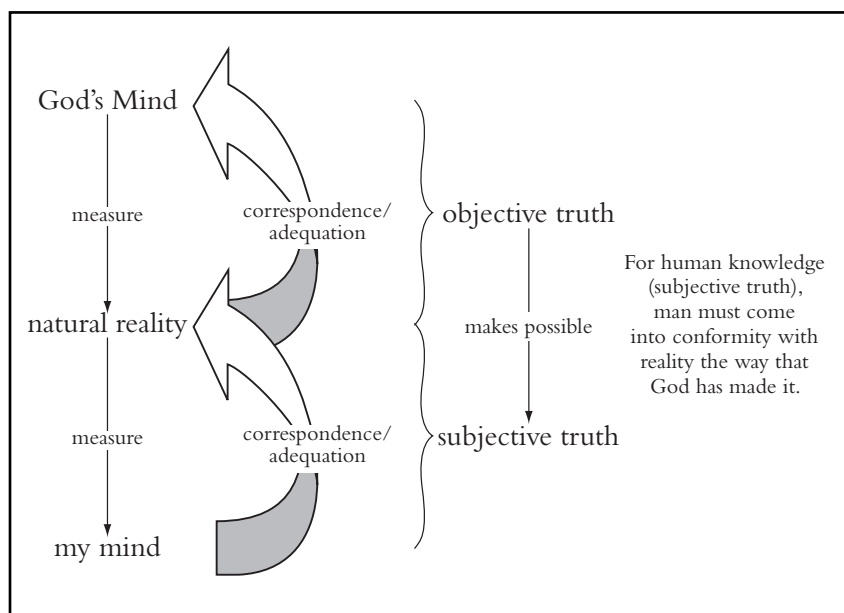


Figure 2

The purpose of creation is truth in both its subjective and objective senses. This is because the perfection of knowledge stands above the rest of the perfections in nature, because it implies a spiritual reception of forms, that is, a sort of “generation” in the spiritual order.¹²¹ Intellection, moreover, is a spiritual reality which, operatively speaking, is wholly separate from matter. Entirely spiritual, it is the basis on which man is the image of God, whose very essence is truth and knowledge.¹²² In God, objective truth and subjective truth are *idem in re*; God is not merely in conformity with an eternal type (the idea in God’s mind), but he *is* the eternal type (since, on the basis of simplicity, the divine ideas are nothing other than his essence).¹²³ He is thus the cause and measure of all other truth.

Now man’s highest faculty is that of reason. Accordingly, the perfection of man consists essentially in contemplation, perfected principally in

¹²⁰ See Aquinas, *ST I*, q. 14, a. 8, ad 3.

¹²¹ See Aquinas, *ST I*, q. 78, a. 3; q. 84, a. 1; *In De anima*, Bk. II, lect. 24; *De ver.*, q. 2, a. 5, ad 1–3.

¹²² See Aquinas, *ST I*, q. 75, aa. 2–3; q. 93, aa. 4–5; *In De anima*, Bk. III, lect. 7.

¹²³ See Aquinas, *ST I*, q. 16, a. 4; see also *ST I*, q. 16, a. 5; *ScG*, Bk. I, cc. 45–47.

the contemplation of God.¹²⁴ As the highest perfection in the visible world, everything else in nature must be ordered to this contemplation in some way. Indeed, the whole of the material order exists for the sake of man's knowledge. Creation is a bridge between two intellects. Constructed by the act of cognition, this bridge unites the mind of man with the mind of God.

A natural thing, therefore, being placed between two intellects is called true in so far as it conforms to either. It is said to be true with respect to its conformity with the divine intellect in so far as it fulfills the end to which it was ordained by the divine intellect.¹²⁵

The objective truth (and intrinsic perfection, therefore) of natural things lies in their realizing the various finalities for which God made them, the end toward which they were ordained by God. But that end, extrinsically considered, is to lead men to truth (and, by this, to glorify God). Therefore the realization of the objective truth of the material universe—which is nothing less than the realization of the intrinsic finality of the universe as a whole—consists in the very fulfillment of its proximate extrinsic end, its facilitation of human contemplation. Creation, in other words, becomes itself (fully actualizes its potencies) and is “true” precisely in propelling men, cognitively, toward God—in serving to perfect man and bringing about man's objective truth, which is realized in his acquisition of subjective truth concerning God.¹²⁶ “To this end the whole world was made,” observes Thomas.¹²⁷

The reason for this relationship between the visible creation and man's ascent to God is rooted in the nature of man. For “man stands at the border between two worlds.”¹²⁸ While he is highest among the visible creatures, he is lowest amongst intelligent beings. Because of the limitations of his intellectual power, man's proper (abstractive) mode of knowing is bound up with the material world. All human knowledge has its origin in sense experience, and all human knowledge concretely terminates, in a certain way, in sensible representation, inasmuch as the intellect depends upon and turns toward images in every act of knowing.¹²⁹ In a twofold way, then, at its beginning and at its end, the intellectual activity

¹²⁴ See Aquinas, *ST* II–II, q. 180, a. 4.

¹²⁵ Aquinas, *De ver.*, q. 1, a. 2.

¹²⁶ See Aquinas, *ST* II–II, q. 180, a. 4.

¹²⁷ *ST* I, q. 1, a. 1: “It would seem most fitting that by visible things the invisible things of God should be made known; for to this end was the whole world made.”

¹²⁸ Aquinas, *ScG*, Bk. IV, c. 55; cf. Bk. II, c. 68.

¹²⁹ See Aquinas, *ST* I, q. 84, aa. 6–7; q. 85, a. 1; q. 86, a. 1.

of man is entrenched in the visible dimension of creation.¹³⁰ As Thomas explains (with regard to the genesis of ideas), man abstracts an intelligible species from the material conditions of the phantasm, and then he knows concrete reality according to its universal intelligible content through a return to the phantasm. The sensible features of things thus constitute the environment for human thought. That is their reason for being:

As the senses are situated chiefly in the face, other animals have the face turned to the ground, as it were for the purpose of seeking food and procuring a livelihood; whereas man has his face erect, in order that by the senses . . . he may freely survey the sensible objects around him, both heavenly and earthly, so as to gather intelligible truth from all things.¹³¹

According to Thomas, the very body, by means of which man enters into cognitive contact with the sensible realm, exists for the soul and its spiritual operation.¹³² Sensible reality thus constitutes the *substratum* within which human knowledge takes form. The manifold complexity of material beings actuates the variety of sense powers of the human soul, in order that a transcendent activity called intellection might occur.

Culmination of Truth and the Finality of Creation in Divine Wisdom

The hierarchical structure existing between man's knowledge of natural realities, the realities themselves, and God's creative knowledge of the same has far-reaching implications for our understanding of the role of God's knowledge and the personal expression of that knowledge in his consubstantial Word, not only in the ordering of the universe with respect to final causality, but also in the constitution of its intrinsic structures, and in the leading of creation toward its end through the intellectual agency of man—by which man, who is as dependent upon that Word as any other creature, and in all the same ways (efficient, exemplary, and final), participates in the shepherding role of the Word.

Truth must be the last end of the whole universe . . . and for this reason divine Wisdom, clothed in flesh, declares that He came into the world to

¹³⁰ Therefore, while a large portion of human cognitive activity may be "theory-laden observation," all of human knowledge is "observation-coated *theoria*."

¹³¹ Aquinas, *ST* I, q. 91, a. 3, ad 3.

¹³² "The proximate end of the human body is the rational soul and its operations; since matter is for the sake of the form, and instruments are for the action of the agent." Aquinas, *ST* I, q. 91, a. 3; cf. *ScG*, Bk. III, c. 128; *ST* I, q. 47, a. 2; q. 65, a. 2; q. 76, a. 5; q. 91, a. 3.

make known the truth, saying (Jo. xviii. 37): For this was I born, and for this cause came I into the world, that I should give testimony to the truth.¹³³

Given the place of creaturely objective truth in the perfection of the universe, its essential place in human cognition, and its intermediary position between human knowledge and God, the supreme perfection of God's work *ad extra* through the Incarnation of his Word, "first-born of all creation," invites us to see in Christ, *in his sacred humanity*—perfectly adequated (and indeed subsistentially identical) to the mind and wisdom (and will) of God, ultimate measure of human acts, and perfectly inclined toward the rest of nature—the supreme and concrete realization of every aspect of truth described above and the perfect coordination of the relationships among them. In the language of finality: perceiving truth as the end of the universe leads directly to recognizing Jesus Christ and the glory of Christ as the proper end of the world. For Christ is nothing less than that "divine Wisdom clothed in flesh,"¹³⁴ subsistent truth itself considered in its personally subsistent expression, that is, as the expressive term of the productive act of divine knowing, in whom the fullness of the content of divine knowledge resides, and in whom all things were conceived and brought forth.

In the *Summa contra Gentiles*, Thomas displays simultaneously, and in an architecturally poetic manner, not only the Trinitarian and processional law of creaturely existence (*a circulatio a Deo ad Deum*), but also the centrality—in the orders of efficiency, exemplarity, and finality—of Christ. The first book of this work, which considers "that which belongs to God in himself"¹³⁵ (examining God's existence and his attributes, with special attention to his intellectual perfection), is essentially a presentation of God as *subsistent Truth*. Book II "concerns the coming forth of creatures from God."¹³⁶ God's immanent operation (Bk. I) is the source of this operation (Bk. II) and precedes it as a cause precedes its effect. The whole universe is designed according to God's eternal Wisdom and Word (the inner product of the divine self-knowledge): personally and essentially subsistent Truth is the font of creation. Book III "concerns the ordering of creatures to God as to their end."¹³⁷ It studies the order of creation to this end, and the special ordering of man, who is

¹³³ Aquinas, *ScG*, Bk. I, c. 1.

¹³⁴ Aquinas, *ScG*, Bk. I, c. 1.

¹³⁵ See the *divisio textus* of Thomas: *ScG*, Bk. I, c. 9; cf. Bk. II, c. 1; Bk. III, c. 1; Bk. IV, c. 1.

¹³⁶ Aquinas, *ScG*, Bk. II, c. 1.

¹³⁷ Aquinas, *ScG*, Bk. III, c. 1.

endowed with intelligence, to the same end, which is Intelligibility itself. Truth is the aim and purpose of the universe. Finally, Book IV studies the Trinity, the Incarnation and the supernatural end of the universe. Truth and love subsist in *personal* form; and wisdom has assumed flesh and come into the world to make divine truth known to men, and to lead creation back to Truth.

It is significant that the opening chapter of the first book sits us within the sapiential literature; the whole of the *Summa contra Gentiles* is intended to reflect the vision proper to the wise man, who, enlightened by the Wisdom of God, considers the whole universe in its beginning and end, which is Truth. The very notion of “wisdom,” therefore, serves as a template for the entire work—expressing the truth as *ordered, harmonious, and flowing from a unifying principle*. The centrality of Christ, both doctrinally and structurally, moreover, wholly corresponds to the sublime role of God’s “Word,” which brings forth man in and for the truth and reintroduces mankind to truth in its objective and subjective senses, its theoretical and existential senses, and its created and uncreated senses.¹³⁸ The ordering of the universe—the laws of its motion and the action of one creature upon another—is discovered and made perfect only within (not merely with reference to) the mystery of Christ.

The Ordination of the Visible Creation to Truth Is Verified even in the Supernatural Realm

The natural world continues to perform its role as mediator of truth to man even as pertains to truths of the supernatural order, that is, to supernatural revelation in this life. For the divine truths that are the object of faith come to us under the garb of human language, in the form of historical deeds, persons, things, and events. All of our supernatural knowledge of God in this life is packaged in the form of concepts drawn from our experience of the material world around us. There is no emancipation from phantasms even when our concepts are purified, in the act of analogous predication, by way of “negation” and “eminence.”¹³⁹ Only in the next life, when, through the grace of glory, our natural mode of knowing will be succeeded by intuitive vision, will this (proximate) extrinsic finality of the natural world cease to exist. No longer will knowledge of God be mediated through material beings, but, conversely, all reality, the material creation included, will be known directly and fully

¹³⁸ Thus the very opening chapter of the *Summa contra Gentiles* already announces the pivotal significance of the revelation of all truth in him who is Truth itself. See ScG, Bk. I, c. 1.

¹³⁹ See Aquinas, *ST* I, q. 84, a. 7.

in our knowledge of the essence of God. Yet, even though the world as we know it will pass away, matter and sensation will continue to play their essential role in the perfection of human nature; they will continue to serve man's fulfillment in contemplation. For the elect shall behold the majesty of the Godhead in the glorified humanity of Christ and in his saints, whose bodily natures have become transparent to the divinity. Here it is not so much that man's knowledge of God benefits from matter as an embodiment of divine fullness, but that matter itself profits from the knowledge of God which redounds to the transformation and delight of the body. It is in this "beatific" experience that the material creation reaches its ultimate fulfillment. We receive a glimpse and experience a true beginning of these relationships between matter, spirit, and glory, and their relationship to Christ and to the glorifying knowledge and love of the Triune God in the exercise of the Christian rites. Christian liturgy is simultaneously the preeminent manifestation and the catalyst of the ordering and advancement of the visible world toward its destiny, through man, in God.

A Lesson for Stewardship

If we are to respect nature and "steward" it toward its proper end, we must seek to interact with it in such a way that it continuously directs our minds to truth, and to ultimate truth, which is God:

God's effects show us the way to the contemplation of God himself. . . . Hence Augustine says (*De vera religione*, xxix) that "in the study of creatures we must not exercise an empty and futile curiosity, but should make them the stepping-stone to things unperishable and everlasting."¹⁴⁰

The finality of nature is incomprehensible outside of the finality of man; therefore, to treat nature wisely is to orient its use toward the acquisition of wisdom. To do this, man must see creation in its proper relationship to man and to God; he must recognize the intermediate position it holds in the intellectual ascendancy of man to God and in God's condescending love toward man. In concrete practice, this entails reintroducing God into the science classroom; it means looking for the vestiges of God in nature within the very exercise of scientific investigation; it implies the harmony of faith and reason and invites the theologian to dialogue with science about the goals of the latter; it means studying nature in order, first of all, to understand its layered complexus of finalities and the bearing that this has upon contemplation and worship.

¹⁴⁰ Aquinas, *ST* II-II, q. 180, a. 4.

Conclusion

Although, in Aquinas, we find no direct undertaking of the notion of “stewardship,” several fundamental concepts in his philosophy and theology of natural finality mark the parameters and indicate the central features of a responsible stewardship of creation. Among these concepts are, first of all, the relational perfection of the universe and its members, the goodness of which resides primarily in their order toward one another and especially toward God. Stewardship from this perspective entails, amongst other things, placing God at the center of our activity with nature, and the conscious recognition and implementation of the hierarchical relationship between nature and man—that is, the subordination of the former to the latter, as well as the dependency of the latter upon the former—intended by God. Second, the good of the whole must be understood to take precedence over and to be logically prior to the good of any part. Here stewardship implies a mature consideration of the purpose of the whole of creation in the light of divine revelation. The manifestation of God to man and the facilitation of man’s participation in the divine life constitute the ultimate value-conferring purpose of the world inferior to man. What we do with the latter must always, and predominantly, be evaluated from this perspective. Third, the dignity of creatures is to be sought in the degree to which they communicate goodness to others, in the causal interaction through which they bring about an ordered unity and serve the ends of others. Stewardship in this connection implies and *requires* treating some things as means to the goods of others. This does not signify reducing things to objects of subjective whim; it means ennobling them as instruments of superior effects, through which they share more intimately in the order of divine providence. Fourth, such a subordination of ends is governed by the formal ontological differences among things, lower beings existing for the sake of superior beings, and transitory beings existing for the sake of what is eternal. The intrinsic finality of the whole universe (its proper order) is fulfilled precisely in the subordination of the visible creation to man and of matter to spirit. On this account, authentic stewardship always seeks to actualize the properly human mode of existing, namely, knowledge of truth and ultimate truth. It is the *privilege* of nature to nurture human understanding, and especially a human understanding of first causes. No greater service can be rendered by man to nature than to make of it the medium of his cognitive ascent to God who is Truth itself. Finally, as truth itself is the end of the whole universe, the Word Incarnate is the singular finality of all creation. In him, the perfect ordering of all things

is simultaneously made known to man, visibly displayed, set into motion, and concretely achieved. Effective stewardship means relating to things in such a way as to discover within them the Christological mystery of their origin, constitution, and destiny; it means bringing them into contact with the mystery of Christ, for their sanctification and for their utilization in the communication of divine life; in a word, it means exercising the priestly quality of God's people so as to mediate (through Christ, with Christ, and in Christ) the *reditus* of the entire creation to the Father. Only the man of Christian faith can shepherd the world that surrounds him; and it is primarily through the celebration of the Christian rites that he can do so. Above all, in the Eucharistic sacrifice, the intrinsic and extrinsic finality of man, along with the proximate and ultimate extrinsic finality of the whole visible creation, as well as the intrinsic finality of the universe as a whole, are at once proclaimed and accomplished in an incomparable way, foreshadowing that glorified state of repose in which God will be all in all.

Surely, these are but very general conclusions regarding the actions of man with regard to his environment. But it becomes clear from these principles that, for Thomas, the created world that surrounds man is of inestimable importance to him and must be treated in accordance with the relationship God has established between man and the rest of creation on the basis of their essential constitutions. Man's natural and supernatural perfection are inextricably tied up with the natural world. It is precisely in virtue of its instrumental value to man that the visible world, moreover, is able to more fully reflect (and, therefore, glorify) God, which is the first reason for its being. Therefore, man is every bit as important and good for nature as nature is for him. Furthermore, the spiritual perfection of man toward which creation is ordered is itself intended ultimately for the glory of God. The anthropocentrism of Aquinas is thus, in reality, a form of theocentrism. The glory of God and its relationship to the dignity of man is the final arbiter in Thomas's understanding of the significance and possible uses of non-rational beings. The theocentricity of this anthropocentrism wholly guards against a despotic and selfish exploitation of nature. Indeed, the "form" of Thomistic stewardship, taken as a virtue, is nothing less than charity. Then, in loving obedience before God, and following the lead of Augustine, we may indeed, in the words of St. Thomas, do whatever we please with an irrational creature¹⁴¹: *dilige et quod vis fac*.¹⁴²

N V

¹⁴¹ ScG, Bk. III, c. 112.

¹⁴² Augustine, *In Epistolam Ioannis ad Parthos tractatus decem*, tract. VII, 8.