

Is Personal Dignity Possible Only If We Live in a Cosmos?ⁱ

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Abstract: The Catholic Church has increasingly invoked the principle of human dignity as a way to spread the message of the Gospel in the modern world. Catholic philosophers must therefore defend this principle in service to Catholic theology. One aspect of this defense is how the human person relates to the universe. Is human dignity of a piece with the material universe in which we find ourselves? Or is our dignity alien in kind to such a whole? Or does the truth lie somewhere in between? The metaphysics of creation properly locates the human being in the universe as a part, ordered to the universe's common good of order and ultimately to God. Human dignity is possible only in a cosmos; that this is concordant with modern scientific cosmology is briefly defended in conclusion.

I. Introduction

The principle of human dignity assumed an increasingly central role in the Catholic Church's magisterial teachings in the 19th- and 20th-centuries.ⁱⁱ This principle claims that human dignity places various moral obligations upon other agents in relation to human individuals precisely insofar as those individuals are persons. While the idea itself is appealing to all peoples, and at least in name it is both widely accepted and applied, no common consensus exists regarding its true nature.ⁱⁱⁱ The reason for this lack of consensus is that, despite the common agreement

as to the fact of its truth, its underlying philosophical assumptions are many and varied. What does the Church claim to be the cause or origin of this truth? *Gaudium et Spes* teaches succinctly: “The root reason for human dignity lies in man’s call to communion with God.”^{iv} Yet the Church employs the principle of human dignity not only in its eschatological teachings but also in its moral ones, on issues ranging from the sanctity of life to the dignity of human work.^v It is necessary, therefore, that the Church have at her disposal sound philosophical resources when teaching all nations the true meaning of human dignity.

For such a task, clearly the resources required are vast. This essay must restrict itself to a narrower focus.^{vi} The mid-twentieth-century debate about the person and the common good (involving, among others, Charles De Koninck, I. T. Eschmann, and Jacques Maritain) can provide a useful starting point for investigation and allow us to achieve that focus.^{vii} One controverted point between De Koninck and Eschmann was the question about the interposition of the universe between man and God.^{viii} This will be our focus. Must the defense of human dignity make reference to the universe, most particularly by determining whether and how the universe is a whole of which man is a part? In order to provide an answer, let us first assess other positions regarding the relationship between the human being and the universe when it comes to explaining human dignity. These positions will provide a set of conflicting viewpoints. We then find a resolution by giving an account of how the human person is part of the universe, before concluding with a reflection on how such an account comports with modern scientific cosmology.

II. What Is Dignity? What Is Its Origin?

Given the fact that “dignity” is used in equivocal ways by opposing viewpoints, even if a single coherent account is discovered it seems inevitable that “dignity” will be a term with analogous meanings. Is there some notion of what “dignity” means, at least as a central case?^{ix} First, let us grant that “dignity” is used to signify a good. Also, since it produces moral obligations or demands respect of someone, dignity is a good that belongs to its subject in some way. Furthermore, the word “dignity” is not synonymous with the names “good” or “noble.” Rather, as evidenced by its Latin etymology, “dignity” signifies that a subject is *worthy of something else*; namely, the subject is worthy of some further good. Thus, “dignity” implies three notions in its account: a subject, what inheres in that subject, and some further good. Some subject *has* dignity, and this dignity denotes a good of that subject, which good grounds a relation of being worthy of some further good. Finally, the worthiness of the subject could entail either a strict claim to that further good or merely that it is fitting for that further good to be possessed. Thus, dignity is *a good inhering in a subject due to which some further good is due that subject, either befittingly or justly*.^x This central meaning of dignity would enter into uses of the term that signify, for instance, innate dignity, the dignity of flourishing, and even extrinsically attributed dignities.^{xi}

Let us now manifest the need to discuss the role of the human form as part of a whole by considering four other accounts of human dignity. These four are meant to demarcate idealized positions, which have paradigmatic examples, and to which other accounts tend. First, *extreme individualism* maintains that dignity is not derived extrinsically from the whole, but intrinsically from the part, namely, the individual.^{xii} This view answers the question “Does dignity arise due to the part itself—the individual—or due to his membership in a larger whole?” by siding with

the individual. If this whole is a civic whole, then the view entails various ethical and political theses akin to modern liberal individualism.^{xiii} The individual does not share in a greater good of a civil or political whole but treats the good of such a whole as a useful good.

Second, *extreme totalitarianism* maintains that dignity is derived extrinsically from the whole, not intrinsically from the part.^{xiv} This view answers the question about part and whole by siding with the whole, the totality. The civil multitude is elevated to the status of an integral whole of which citizens are subordinate parts. Thus, the individual finds his dignity in such membership, even as this good is not his own personal good but is an alien good, the personal good of the hypostatized State.^{xv} If this whole is the universe as such, then a cosmic ethic results, where we are “citizens of the universe.”^{xvi}

Third, *humiliating materialism* claims that the dignity belonging to men is not different in kind from that of other beings in the universe. There is only a difference of degree and, insofar as it is evaluative, this degree is subjective.^{xvii} This is a proposal that can be found in evolutionary naturalism; it flourishes in utilitarian ethics.

Opposed to the third is the fourth position: *alienating dualism*. This view claims that the dignity belonging to man is wholly alien in kind compared with the kinds to be found in the universe; human dignity somehow arises “from without.” The kingdom of nature—the material order of mere phenomena—is not the cause of human dignity but rather some other principle, such as pure reason or unadulterated freedom or a nihilistic will.^{xviii} This view, just as humiliating materialism, is a theoretical proposal about human nature and its relationship to the larger cosmic whole.

These four positions can be related to the proposed definition of dignity: *a good inhering*

in a subject due to which some further good is due that subject, whether befittingly or justly. By their opposition of whole and part, the first pair of positions offers opposing explanations of the good inhering in a subject. Extreme totalitarianism maintains that the good inheres in an individual only insofar as he is a member of the political body; extreme individualism maintains that this good inheres in an individual precisely as such and without reference to some larger whole. The second pair leads to extreme accounts of the further good due the subject by reason of the good that inheres. Humiliating materialism denies the existence of some higher-order good that man is owed by his dignity, i.e., a good different in kind, not mere degree, elevating man above other biological organisms. Alienating dualism affirms that dignity is beyond all price or utilitarian exchange in the kingdom of mere nature and is thus owed the good characteristic of a kingdom necessarily disjoint from the physical universe.^{xix}

Now, if we are unsatisfied with these four extremes, some middle way between each pair must be found. We need a principle that, on the one hand, relates the individual non-reductively as part to a larger whole and, on the other hand, unites him to the material order of things while simultaneously demarcating his essential difference from that order taken as merely material in such a way as to manifest the order of the human being to the good of which he is worthy. The principle that we are looking for is form.

III. Human Dignity in the Universe

The two pairs of extremes just discussed have provided us with two clues. We must first see that form—in particular, substantial form—is the intrinsic principle that relates the human

person as part to the universe as whole, and then see how form is the intrinsic principle that provides the ontological ground for the good of which man is worthy. The assumed background here is that formal causality is that principle of actuality by which a single being is intrinsically constituted in its becoming, being, and intelligibility.

To begin our answer, consider that substantial form causes something to exist as a substance, determines that substance as to its kind, and orders it to other things.^{xx} That is, a form both determines the individual and orders it to “something else,” namely, to both its own accidents and its external environment. These insights about substantial form are made possible by the analysis of the characteristic motions and changes of natural things, which analysis resolves these changes to their natures as principles. A complementary analysis of the manifold relationship of form to its surroundings is present in the threefold notion of perfection.^{xxi} That is, a thing can be perfect in its mere substantial being, in its accidents that allow it to flourish according to its kind, or by obtaining its end or teleological perfection. Note that the first perfection corresponds to a form determining an individual as to its kind. The second two kinds of perfection—that of flourishing in one’s abilities and resting in one’s final end—correlate to that order which a form gives to a substance to things other than its very substance, viz., its properties and natural environment. However, while this is a necessary place to start when accounting for the human form, it is not a sufficiently expansive account. A thing’s form orders it to other things, and ultimately to its “natural place” or its “natural end,” but how far does this order extend? Does it imply that forms must exist in a universe?

To answer this, let us provide a “quasi-deduction” of the order of the universe.^{xxii} Here, we follow St. Thomas in *Summa contra Gentiles* III.97, where he argues that the universe pos-

sess a reason for its order.^{xxiii} In making this deduction, we will argue *by way of composition*, that is, from principles prior in being, even though it will be clear that the conclusions arrived at following this order are concordant with what we know through experience along the order of discovery and *by way of resolution*.^{xxiv} We begin: God necessarily loves His own goodness and freely loves the created universe as an end that manifests His own goodness to creatures. Supposing God's free decision to create, it follows that the created universe must represent its author insofar as this is possible. Within God's ordered power, the universe must be a perfect representation of the divine goodness.^{xxv} From this hypothesis, it follows that a diversity of kinds of being is required, since a single kind of being will not suffice to adequately represent God's goodness; a universe with a single kind of being would be an imperfect creation, but the universe must be perfect. That is, this account of God's creative act requires that God create a universe defined by a hierarchical diversity of its forms. That is, a universe requires some minimal diversity of kinds. An absolutely maximal diversity is impossible even for God, since God's infinite perfection always permits a greater diversity of imitations.^{xxvi} This is why Aquinas maintains that "the form of the universe consists in the distinction and order of its parts."^{xxvii}

The succeeding steps of Aquinas' deduction follow by material necessity upon the foregoing supposition of the diversity of form. First, the diversity of form requires that beings exist in a hierarchy, since diverse kinds are only diverse insofar as they are participations in God's goodness to a greater or lesser degree. Second, this diversity of form requires that there be a diversity of operations and ends among creatures, since one's manner of activity follows upon one's manner of actuality, and all distinct activities require distinct ends. Third, this diversity of form requires that there be some forms so perfect that they exist in themselves (without requiring

an interior “substructure”^{xxviii} of matter) while other forms require a material foundation. These types of form are defined in opposition to each other: the subsisting, angelic essence contains no material principle, while the hylomorphic essence does. Thus, a descent through the angelic hierarchy prefigures the lowest rung of the universe, the material cosmos of hylomorphic composites, without ever reaching it—the lowest of the higher approaches the highest of the lower.^{xxix}

Within the cosmic order of hylomorphic substances, the relativity of matter to each distinct form is required. That is, in order to preserve the unity of the hylomorphic compound, the material principle must be proportioned to its formal principle.^{xxx} This material diversity grounds the possibility of a range of material beings, from the simplest to the most complex in terms of the constitution of their integral parts (whether actual or virtual). This same principle is also at work when Aquinas considers the fittingness of the human body for the human soul.^{xxxi} The diversity of material aptitudes attendant upon formal diversity gives rise, in turn, to a diversity of agents (for everything acts insofar as it is actual) as well as a diversity of patients (for a diversity of matter makes possible a range of types of suffering or being acted upon). Finally, a diversity of material and formal principles demands various substantial kinds with a diversity of species-specific properties, and the range of agents and patients implies a range of interaction through which arise a diversity of accidents and classes of behavioral environments.

Clearly, this deduction assumes that much is already known about the observed universe by way of discovery. Yet by assuming the ontologically prior standpoint of God’s creative act, Aquinas provides insight into the reason why any given form exists as such a kind, namely, so that it fits as a part into a universal order. The diversified, hierarchical imitation of God is the deepest reason why form is the intrinsic principle that relates the human person as part to the

universe as whole. This is why “the human soul . . . exists on the border of corporeal and incorporeal substances—on the horizon, as it were, of eternity and time.”^{xxxii} This is consonant with our earlier observation that distinct forms are discovered through their various effects within the whole. These principles of formal, material, and behavioral diversity can provide metaphysical points of reference to which discoveries in the sciences which study the cosmos by way of effects ought to be sapientially ordered.

What about the other clue provided by our two pairs of extreme positions? How is form the intrinsic principle, the inhering good, that points towards the further good of which man is worthy? It does so because by its form the human person is ordered to its greatest proper good, which implies a relation as part to the whole universe as a common good and to God as a common good. Yet the human form is not a ground for man’s order to God except through its place as part within the universe as a whole.

To manifest this, we can use Aristotle’s image of the twofold order belonging to an army in order to elucidate the twofold order belonging to the universe.^{xxxiii} Both orders imply a common good. First, because of the order that obtains within the whole army, the individual soldiers and units share in a good that is not private to each but common precisely insofar as that order perfects them as parts. Thus, the order of the whole is a common good, and since it characterizes the whole itself it is called an intrinsic common good. Furthermore, the army finds its extrinsic common good in the good of its general (i.e., his will for victory). Indeed, the army exists for his sake and the reasons that can be given for the order amongst its parts—who commands which battalion, why the army is arrayed for battle *thus and so*—find their ultimate account in the good of his will (victory). Since the general’s good is the reason for the being of the entire order of the

army, its activities, and its end, the general's good is therefore the common good of the army. The intrinsic common good of the army is thus rooted in an account of its extrinsic common good. Aquinas comments:

Since the formal notion [*ratio*] of those things which exist for the sake of the end are taken from the end, it is thus necessary that not only the order of the army be for the sake of the general but also that the order of the army come from the general, since it exists for the general's sake.^{xxxiv}

That this analogy applies to the case of the universe can be seen by comparing it to the deduction of the universe. The formal character of the parts of the universe exist for the sake of the end of the order of the whole, which exists due to the purpose that a created universe be a manifestation of God's goodness. The array of formal parts of the universe, their activities, and their ends possess a reason insofar as this order is resolved to its extrinsic common good, which, under the aspect of agent cause, must pre-contain this universal order in His mind and will.

Thus also the separate good, which is the first mover, is a better good than the good of order which exists in the universe. For the whole order of the universe is for the sake of the first mover, namely, that there might unfold in the ordered universe that which exists in the intellect and will of the first mover.^{xxxv}

In virtue of the resolution of the intrinsic to the extrinsic common good in the line of final causal-

ity, the universe's intrinsic good of order among substances as parts differing in kind is transformed to the order of a *social* whole, as long as those parts are also *persons*. That is, the transcendental relation of the intrinsic to the extrinsic good constitutes the cosmos as a universal community for those parts which are also persons.^{xxxvi} This new mode of part-whole relationship arises insofar as created persons are related to the extrinsic good of the universe through natural acts of knowledge and love carried out within the universe.

Whether as an integral formal part in the universe (and consequently, any individual, material parts), or as a person and thus a “cosmic citizen,” it follows from the deduction above that the existence of any part possesses this order to the extrinsic good only insofar as it is first related to the good of order of the universe. For this is the very notion of what it means to be a part of a whole. No part can obtain its good apart from the whole, yet this good of the whole need not be alien to the part, because the common good is the highest proper good of persons.^{xxxvii} St.

Thomas teaches:

In the parts of the universe, each creature exists for the sake of its own proper act and perfection. Second, however, less noble creatures are for the sake of the nobler ones (as creatures inferior to man exist for his sake). Furthermore, each creature is for the sake of the perfection of the whole universe, and yet further the whole universe, with each of its individual parts, is ordered to God as an end insofar as in them, through a certain imitation, the divine goodness might be represented for the glory of God.^{xxxviii}

This is the order of man as part to the universe as whole and thereby to God as man's ultimate

end, and hence to the goods which would cause his dignity. Yet his form is that by which man obtains membership in this order. Thus, the human form as part of a larger whole is the ground of man's highest dignity.^{xxxix}

This thesis can also be established by a negative argument, again relying upon Aquinas' deduction of the universe. For let us suppose that human persons could be directly related to God without mediation of the common good of the universe. What aspect of their being could ground this direct relation to God as end? First, humans have certain properties and accidents. Yet their physical accidents order them immediately towards their environments, not God. Likewise, their spiritual operations are first trained upon created effects and attain to God through a natural knowledge of created things. Second, human persons possess fit and disposed matter, an organic body proportioned to the human soul. However, such matter is immediately ordered to form as its good, not God. Third, human nature requires the human form, the intellectual soul. The very being of this form as intellectual is related by comparison to lower and higher forms within the diversified hierarchy of forms and is thus ordered to the good of the universe as representing God's goodness, and only thereby to God. Finally, naturally speaking, human nature exists only in created persons. However, *person* names an individual substance of a rational nature, and thus all of its principles—individuality, substantiality, rationality—were included in the foregoing arguments. It seems that there is nothing left to bear the relation we seek. Even the transcendental relation of the created person to its Creator in God's act of creation and conservation is, first, not that of a term or end-goal relating creature to God but one of agent causality, and, second, even that relation is a part in a whole, for what God principally intends in creation is the good of order of the universe as a whole.^{xl} His single, simple act of creation and conservation is diversified

only in our apprehension of His manifold effects.^{xli}

Therefore, the order of the universe—its common good and participation in it—mediates every natural relation of the human being to God.^{xlii} Since this order to God through the universe includes the twofold notion of the common good (intrinsic and extrinsic), only through an account of the order of the created universe as a whole can one explain the origin of the dignity of its parts, including human persons. Not even the angels are exempt from this “subordination” of part to whole.^{xliii} Now, recall the threefold modes of perfection discussed at the beginning of this section, namely, the perfection of something in its being, operation, or achievement of its final end. The universe, the entire created order, manifests this same threefold perfection.^{xliv} The universe is not merely perfect in its being (e.g., its constitution out of different types of substances and their consequent properties), but also in the operation of its parts (e.g., the agency of one part upon another), and the achievement of the end of the created order, whether we consider this end as its intrinsic or the extrinsic common good. Indeed, the extrinsic common good of the universe provides the final cause and thus the very account of these three perfections insofar as the parts of the universe both represent God and insofar as any part whatsoever “tends towards Him, that it might participate in and be likened to Him, insofar as possible.”^{xlv} This “insofar as possible” is important; how a part can participate in God will depend upon the particular capacities of that part.

This leads to a natural question (whose complete answer is far beyond the scope of this essay). What about the order of grace, and the capacities of parts of the universe that exist due to grace? To make some reply, note that our discussion above has proceeded according to the natural order. In the continuation of a passage cited above, St. Thomas makes this precision: “The

whole man is for the sake of some extrinsic end, namely, the fruition of God Rational creatures in a special way beyond [the order of the universe] have God as end, which they are able to attain by their own operations, knowing and loving Him.”^{xlvi} Note that, first, our philosophical conclusion is obedientially potent to what the doctrines of grace require. It is man’s very constitution as a certain type of part (an intellectual substance) that permits elevation by grace. In this sense, operations that exceed the natural order of the universe are of a different genus and cannot be measured by natural concepts. Yet, second, we also note that even in this superior order, all graces are granted through the power of Christ’s redemptive act insofar as He is the principal member of a universal community, the Church.^{xlvii} There is also a universe of grace.^{xlviii} To return to the third type of perfection, that of the rest of a thing in its end, we can note, following St. Augustine in Book 19 of *The City of God*, that the end of the entire universe or City of God is peace. Happily, this accords well with the Aristotelian image of the universe as an army and its general, for the fruition of victory should be peace.^{xlix} Thus, the members of the army, or the parts of the universe, that is, the saints and angels are justified and glorified only as members of a supernatural cosmos.¹

IV. Conclusion

Utilizing such an idea of the human form as a part of the universe, we can, on the one hand, avoid the extremes of pure individualism and totalitarianism since the human form as a part implicates the universe as its whole and thus as its good. The human form requires a place within the order of the whole universe so as to be definable as a form, and the coming-to-be of

the human form requires other material causes in the physical cosmos (the dispositive “substructures” of matter). On the other hand, we can avoid humiliating materialism, which homogenizes our being with that of the material universe, as well as alienating dualism, which cannot make sense of our place within the kingdom of material nature. This proper place within the order of the whole is, furthermore, the ground for the good of the human person, which is, ultimately and intrinsically (or immanently), the common good of the universe through which we are ordered to God as our ultimate and extrinsic (or transcendent) common end. As opposed to the four anti-cosmologies, Aquinas proposes a cosmology, as outlined, in two ways. Implicitly, Aquinas’s deduction assumes what is knowable about the cosmos experientially through effects, that is, our analytic natural knowledge, by which we resolve to a first cause of all being. However, explicitly, the deduction argues by way of composition, or by way of synthesis, showing the deeper reason for why the universe must unfold as an ordered whole, a cosmos, within God’s creative act.

Certainly—one might say—it makes for a quaint picture. Is it a true picture? In closing, we note a few aspects of the philosophical project to contemplatively articulate an account of this metaphysical cosmos amenable to the natural sciences. Aspects of this project include defenses of real essentialism and powers, the possibility of metaphysics, and the nature God’s creative action. Another aspect of the project operates sapientially through the philosophy of cosmology. Recall that the “deduction” of the universe required that matter be relative to form, for the diversity of form requires a diversity on the part of matter. This diversity of material substructures in cosmic essences would be consonant with the discovery that those diverse material constituents require a definite temporal order in which they come to be. The transcendental relativity of matter to form permits the possibility that the cosmos must possess a historical order between its

kinds or essences. If this is the case, then there should be evidence of this natural history from observable effects. We should find the temporal order in the universe “written inside” the material substructure of various essences. Yet it seems that we have found such evidence. We could consider how the fundamental forces are balanced so as to permit the formation of the light elements during the Big Bang, and subsequently these elements are such that stellar nucleosynthesis is possible (the formation of heavier elements such as carbon in the cores of stars). Thus, insofar as it requires carbon, nitrogen, oxygen, and phosphorous as a basis for its organic substructure, we can find a cosmic history written inside the essence of the human form.^{li}

Yet arguments aligning cosmic constants and processes with the human form are incomplete. The human essence shows up in such reasonings only negatively, as a coincidence, at least in the eyes of the physical cosmologist. This is because physical cosmology cannot show that this global (cosmic scale) behavior of matter contributes to the existence of the human form as a goal (as opposed to a coincidence), since the human form is just one such species among many. The human form is not included in the formal object of physical cosmology. In order to dispel the notion of coincidence, one would have to argue that the forms of things are prior to and explicative of physical laws. The master argument for such a view begins with a Euthyphro question. Are global behaviors (patterns of action, reaction, and mutation of individuals and their patterns, obtaining at cosmological scales and codified by scientific laws) prior in being to the natures of individuals, or are the natures of individuals prior in being to such global behaviors? The broadly Aristotelian account sides with the latter; the neo-Humean position would side with the former.^{lii} Thus, while certain natures and global behaviors are prior in time to other natures, all told, it is natures that are fundamental and not derivative; global behaviors are, all told, de-

rivative. Note that this does not require that the human form is the inevitable *raison d'être* of the cosmos (although this may be true). Yet the position permits that the unfolding of contingent processes result in conditions for a human form that belongs to the material cosmos even while it is prior to that cosmos according to other orders, particularly those of final causality and nobility.^{liii} If one looks upon results from physical cosmology with a sapiential eye, one can read the human form in its measurements of the universe.

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ⁱⁱ This paralleled and even anticipated secular defenses of that principle; see UN General Assembly, *Universal Declaration of Human Rights*, 10 December 1948, 217 A (III) <<http://www.un.org/en/universal-declaration-human-rights/>> (accessed 23 Feb 2018): “Whereas recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world” Indeed, this fact has been lost in the fray of secular interest in the concept. In his review of a recent book on the subject of human dignity, Y. Michael Barilan notes that its treatment of Pope Leo XIII’s encyclical *Rerum Novarum* misses the important point that “For the first time ever, in some places in the encyclical, a Pope refers to the ‘dignity of human beings’ without an immediate reference to Christianity. This was a breakthrough, heralding the modern period of ‘human dignity’ as a fundamental value, regardless of any creed or sacrament.” See Y. Michael Barilan, review of “Remy Debes (ed.), *Dignity: A History*, Oxford University Press, 2017, 408pp., \$35.00 (pbk), ISBN 9780199286000.” *Notre Dame Philosophical Reviews*, <<http://ndpr.nd.edu/news/dignity-a-history/>> (accessed 27 Feb 2019).

iii See Jacques Maritain, "Introduction," in *Human Rights, Comments and Interpretations: A Symposium Edited By UNESCO with an Introduction by Jacques Maritain* (New York: Columbia University, 1948), who recounts the comments of those in the committee involved in the drafting of the UN Declaration that, 9: "We agree about the rights but on the condition that no one asks us why." See also Edmund D. Pellegrino, ed. *Human Dignity and Bioethics: Essays Commissioned by the President's Council on Bioethics*. Washington, DC: US Independent Agencies and Commissions, 2008), from Pellegrino's "Letter of Transmittal to The President of The United States," xi: "These essays make it clear that there is no universal agreement on the meaning of the term, human dignity." See also Daniel P. Sulmasy, "Dignity and Bioethics: History, Theory, and Selected Applications," in Pellegrino, *Human Dignity and Bioethics*, 469: "The word "dignity" has become something of a slogan in bioethics, often invoked by both sides of debates about a variety of scientific and clinical issues, supporting contradictory conclusions. For instance, in arguments about assisted suicide, those who favor the legalization of the practice base their conclusion on a moral imperative to provide 'death with dignity,' while those who oppose legalization do so because they see intentionally rendering a human being dead, even out of mercy, as a direct assault on human dignity. Certainly this suggests that dignity is a concept in need of clarification."

^{iv} Paul VI, *Gaudium et Spes*, n. 19; 7 December 1965. Papal Archive. The Holy See. <http://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_cons_19651207_gaudium-et-spes_en.html> (accessed 23 Feb 2018). See also St. Thomas, *Summa contra Gentiles* (hereafter, *ScG*), IV.54: “Hanc igitur hominis dignitatem, quod scilicet immediata Dei visione beatificandus sit.” (Leon.15.174:1–3) For the works of St. Thomas, all English translations are my own unless indicated. I have utilized the standard Leonine editions when available; the Leonine is cited in the following format: (*Leon.volume.page–page:line–line*), as applicable. I have normalized Latin spellings using *Corpus Thomisticum*, ed. E. Alarcón (Pompaelone ad Universitatis Studiorum Navarrensis aedes ab A.D. MM) <<http://www.corpusthomicum.org>> and this is cited as (Alarcón).

^v See Congregation for the Doctrine of the Faith, “Instruction Dignitas Personae: On Certain Bioethical Questions,” 8 September 2008. Papal Archive. The Holy See. <http://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_20081208_dignitas-personae_en.html>; Pope Leo XIII, *Rerum Novarum*, 15 May 1891. Papal Archive. The Holy See. <http://w2.vatican.va/content/leo-xiii/en/encyclicals/documents/hf_l-xiii_enc_15051891_rerum-novarum.html> (both accessed 23 Feb 2018).

^{vi} For instance, I will not be able to address arguments grounding human dignity in the *imago Dei* as in a proximate cause. On this, see the recent article Paul A. by Macdonald, Jr., “Grounding Human Dignity and Rights: A Thomistic Response to Wolterstorff,” *The Thomist: A Speculative Quarterly Review* 82, no. 1 (October 2, 2018): 1–35. This route of grounding human dignity on the *imago Dei* is, however, compatible with the argument that I present below (the “quasi-deduction” in Section III), since *why* we are made in the image of God is ultimately because of our “location,” as it were, in the arrangement of created order by which the universe is constituted as to its form.

vii See Charles De Koninck, *The Primacy of the Common Good against the Personalists and the Principle of the New Order*, in *The Writings of Charles De Koninck: Volume Two*, ed. and trans. Ralph McInerny (Notre Dame, IN: University of Notre Dame Press, 2009), hereafter *PCG*; I. Th. Eschmann, "In Defense of Jacques Maritain," published in De Koninck's *Writings*, vol. 2, which is the version I will cite; Jacques Maritain, *The Person And The Common Good*, trans. by J. J. Fitzgerald (South Bend, IN: University of Notre Dame Press, 1973). This essay will not rehearse the debate itself. There are several excellent sources dealing with this controversy: see Michael A. Smith, *Human Dignity and the Common Good in the Aristotelian-Thomistic Tradition* (Lewis-ton, N.Y: Mellen University Press, 1995); Sebastian Walshe, O.Praem. "The Primacy of the Common Good as the Root of Personal Dignity in the Doctrine of St Thomas Aquinas" Ph.D. Diss., (Pontificia Studiorum Universitas a S. Thoma Aq. in Urbe, 2006); Irene Alexander, "Human Dignity and the Primacy of the Common Good According to the Wisdom of St. Thomas Aquinas," Ph.D. Diss. (Ave Maria University, 2013); Aquinas Guilbeau, O.P., "Charles De Koninck's Defense of the Primacy of the Common Good," Ph.D. Diss. (University of Fribourg, Switzerland, 2016).

viii Eschmann, “In Defense of Jacques Maritain,” 184: “It is characteristically Greek and pagan to interpose the universe between God and intellectual creatures. Is it necessary to remind Thomists that they should not, in any way whatever, revive the old pagan blasphemy of a divine cosmos?” See also *ibid.*, 179–80. For Charles De Koninck’s reply, see “In Defense of St. Thomas,” in *Writings*, vol. 2, 215–16, as well as 222–39. De Koninck’s reply to Eschmann on this point regarding the “pagan blasphemy” and the “revolting statement” (179, 220) that persons are somehow “parts” of the universe is to emphasize the common good of order in the entire universe (which includes all created persons, and thus angels also) and not merely the physical cosmos.

The cosmological context of the debate about the person and the common good was not lost on one of De Koninck’s doctoral students, the future cardinal of Québec, Louis-Albert Vachon, who wrote these lines shortly after De Koninck’s 1945 “In Defense of St. Thomas” in his “Les preuves naturelles de l’existence des substances separees” Ph.D. Diss., (Québec: Université Laval, 1947) 98: “The excellence of the greatest of natural created goods should be exalted once again: the order of the universe. In our day, do we not dare to deny the subordination of the person to the common good of the universal order under the specious pretext of better safeguarding the dignity of the person? The intellectual creature is the most perfect creature, and insofar as it is part of the universe, it is the creature that most participates in the perfection of the universal order. By refusing to recognize its essential subordination to the order of the universe, one can hardly deny in a more radical way the perfection of this order.” (Translation my own.)

^{ix} See Walshe, “The Primacy of the Common Good,” 288–89, whose exposition I follow here.

Walshe’s basis is Thomistic, and he cites St. Thomas, *Super I ad Corinthios*, cap. 3, lect. 1; *Summa Theologiae* (hereafter *ST*), Ia, q. 42, a. 4, ad 2; *In I Sent.*, d. 7, q. 2, a. 2a, ad 4; and *ibid.*, d. 9, q. 2, a. 1, ad 4.

^x See Walshe, “The Primacy of the Common Good,” 290. I paraphrase his definition.

^{xi} See Daniel P. Sulmasy, “The Varieties of Human Dignity: A Logical and Conceptual Analysis,” *Medicine, Health Care, and Philosophy* 16, no. 4 (2013): 937–44.

^{xii} With this extreme as a limit case, one can connect tendencies in Locke, Kant, or modern liberal political philosophy.

^{xiii} See De Koninck, *PCG*, 105–106.

^{xiv} This philosophy can be found most clearly in Hobbes.

^{xv} De Koninck, *PCG*, 106.

^{xvi} In this connection one can use the Stoic philosophy as an example; their fatalism and materialism must be recalled during their discussions of man as a principal and rational part of the entire cosmic order, for the former two principles will liken all parts, even principle and rational parts, more to the character of integral parts (as organs) and not self-determining parts of a political whole. A political whole requires the real indeterminism that is the ground but not the essence of free choice. See Brad Inwood and Lloyd P. Gerson, eds., *Hellenistic Philosophy: Introductory Readings*, 2nd ed. (Indianapolis: Hackett Publishing Co., 1998), 254, 263, and 210.

^{xvii} Again, the clear case is Hobbes, but the materialist tendencies of such an ethical stance can be found in implications of biological naturalism.

^{xviii} The clear example here—at least for the kingdom of nature and the kingdom of ends—is Kant’s philosophy. Although the antecedents to Kant’s dualism have a complex history, a predecessor distinction seems to be present in Samuel Pufendorf (between moral and physical being), as well as in Christian Wolff. This alienating dualism would make sense of parallel divisions in our knowledge, for instance, in “Wilhelm Dilthey’s separation of the *Naturwissenschaften* (natural sciences) from the *Geisteswissenschaften* (the sciences of the human mind or spirit, the sciences of culture, or the humanities).” See Larry Arnhart, “Strauss, Darwin, and the Pursuit of a Comprehensive Natural Science,” *Darwinian Conservatism*, url: <<https://darwinianconservatism.blogspot.com/2018/11/strauss-darwin-and-pursuit-of.html>> (accessed 27 February 2019).

^{xix} In nihilism or existentialism, the good owed to human nature, alien in kind to the cosmos, assumes the content and structure imposed by the pure will. That is, the existence of this good in ontological priority to the person is denied.

^{xx} St. Thomas, *ST*, Ia, q. 45, a. 7, c: “Any creature whatsoever subsists in its own being and has a form through which it is determined as to its species and has an order to something else.” (Leon. 4.476) See also Oliva Blanchette, *The Perfection of the Universe According to Aquinas: A Teleological Cosmology* (University Park, PA: Pennsylvania State University, 1992) 29.

^{xxi} St. Thomas, *ST*, Ia, q. 6, a. 3, c. Compare Aristotle, *Metaphysics*, V.16, 1021b12–1022a3 and St. Thomas, *Sententia libri Ethicorum* (hereafter, *Sent. Meta.*), lib. V, lect. 18. See also Blanchette, *The Perfection of the Universe*, 70.

^{xxii} See L. B. Geiger, O.P., *La participation dans la philosophie de S. Thomas d'Aquin*, 2ème éd., Bibliothéque Thomiste 23 (Paris: Librairie Philosophique J. Vrin, 1953) 397 and n., who notes that *Summa contra Gentiles* III.97 (hereafter *ScG*) provides “a synthetic exposition of a quasi-deduction of the universe.”

^{xxiii} Sylvester of Ferrara summarizes this deduction as follows (Leon.14.301): “Ex fine sumitur ratio diversitatis formarum; ex diversitate formarum sumitur ratio ordinis rerum, id est diversitas graduum in naturis rerum; ex diversitate formarum sequitur operationum differentia ac finium, et diversa habitudo materiae ad res; ex hac diversa materiae habitudine sequitur diversitas agentium et patientium ; ex diversitate formarum et materialium et agentium sequitur diversitas proprietatum et accidentium.”

^{xxiv} The distinction between composition and resolution is detailed by St. Thomas in *Super Boetium de Trinitate*, q. 6, a. 1.

^{xxv} Here, “must” has the force of hypothetical necessity, namely, in view of the end of creating the universe at all, which God has contingently willed. See Sylvester’s comments on *ScG* III.97 (Leon.14.302).

^{xxvi} St. Thomas consistently maintains that the perfection of the universe consists first in species, not mere individuals: *In II Sent.*, d. 3, q. 1, a. 4, ad 3; d. 17, q. 2, a. 2, ad 6; d. 12, q. 1, a. 1 ad 2; *ScG* II.45; II.93; *ST*, Ia, q. 118, a. 3, ad 2.

^{xxvii} See St. Thomas, *ScG*, II.39: “Forma autem universi consistit in distinctione et ordine partium eius.” (Leon.13.358:13–15)

^{xxviii} St. Thomas's Latin reads "*fulcimento*," which Vernon J. Bourke (*On the Truth of the Catholic Faith*, New York: Hanover House, 1955-57) translates as "substructure." I use his term since it captures both the hierarchy involved and the character of matter as a principle relative to form.

^{xxix} Charles De Koninck contemplates various "deductions" of the material universe along this metaphysical order; see De Koninck's "Thomism and Scientific Indeterminism," *Proceedings of the American Catholic Philosophical Association* 12 (1936): 59-64; "The Problem of Indeterminism," (1935) in *The Writings of Charles De Koninck: Volume One*, ed. and trans. Ralph McInerney (Notre Dame, IN: University of Notre Dame Press, 2008) 377, pp. 380-82, 390-96; and "Reflections on the Problem of Indeterminism" (1937) *ibid.*, 404-411; and *Ego Sapientia*, in *Writings*, vol. 2, 23-26. In "The Problem of Indeterminism," vol. 1, 390, he call this "a view of the whole that will permit us to situate this contingency proper to nature in the universal hierarchy."

^{xxx} Aristotle, *Physics, or Natural Hearing*, trans. Glen Coughlin (South Bend, IN: St. Augustine's Press, 2004) II.2, 194b8-9: "Moreover, material is among things relative, for there is a different material for a different species."

^{xxxi} See St. Thomas, *Q. D. de Anima*, a. 8.

^{xxxiii} St. Thomas, *ScG*, II.80. (Leon.13.506:13–16) See also *Quaestiones disputatae de potentia Dei* (hereafter *De Pot.*), q. 5, a. 10, c. Note that this provides St. Thomas with resources to answer the both “alienating dualism” and “humiliating materialism” in a direct way; see *ST*, Ia, q. 91, a. 1, ad 1: “Virtus Dei creantis manifestata est in corpore hominis, dum eius materia est per creationem producta. Oportuit autem ut ex materia quatuor elementorum fieret corpus humanum, *ut homo haberet convenientiam cum inferioribus corporibus*, quasi medium quoddam existens inter spirituales et corporales substantias” (my emphasis). Man is neither alien to the material order (since he is composed of the “inferior bodies”), nor is he merely part of that material order.

^{xxxiii} St. Thomas, *Sententia libri Ethicorum*, lib. 1, lect. 1; *Sent. Meta.*, lib. 12, lect. 12, nn. 3–5 (Alarcón).

^{xxxiv} *Ibid.*, n. 5.

^{xxxv} *Ibid.*

^{xxxvi} This distinction is noted by Walshe, “The Primacy of the Common Good,” 205, and he refers us to St. Thomas, *ST*, Ia-IIae, q. 21, a. 4, c. See also *ST*, Ia-IIae, q. 19, a. 10. What must be stressed is that this social whole is the universe of created persons; the whole is not God himself. To make such an error would be a Stoic mistake. See Inwood and Gerson, *Hellenistic Philosophy*, quoting Diogenes Laertius, 7.137–38, 155.

^{xxxvii} Here, for completeness, arguments belonging to the debate about the nature and primacy of the common good would be needed. See the references provided in the introduction.

^{xxxviii} St. Thomas, *ST*, Ia, q. 65, a. 2, c. (Leon.5.150) This proximate ordination to the whole order of creation as one’s good is required so that man might have any further, more ultimate end. See *ST* Ia-IIae, q. 2, a. 8, ad 2 and ad 3.

^{xxxix} I note in passing that this analysis, from the “cosmological” perspective, is not incompatible with the type of Thomistic “personalism” outlined by Karol Wojtyla in “Thomistic Personalism” or “Subjectivity and the Irreducible in the Human Being,” both in *Person and Community: Selected Essays*, trans. by T. H. Sandok, OFM (Catholic Thought from Lublin 4. New York: P. Lang, 2008), 165–75, and 209–217. Wojtyla contends, 213, that “the personalistic type of understanding the human being is not the antinomy of the cosmological type but its complement. As I mentioned earlier, the definition of the person formulated by Boethius only marks out the ‘metaphysical terrain’ for interpreting the personal subjectivity of the human being.” However, it is not clear how to harmoniously unite the two methods (see *ibid.*, 216), even as the two approaches do *not* require that the individual person’s good is superior to that of the common good (*ibid.*, 174).

^{xl} See St. Thomas, *ST*, Ia, q. 49, a. 2, c.: “Manifestum est autem quod forma quam principaliter Deus intendit in rebus creatis, est bonum ordinis universi.” (Leon.4.501) Also, *ibid.*, q. 50, a. 3, c.: “Perfectio universi sit illud quod praecipue Deus intendit in creatione rerum.” (Leon.5.8)

^{xli} See St. Thomas, *De Pot.*, q. 1, a. 1, ad 10.

^{xlii} See Cajetan, *In ST*, Ia, q. 65, a. 2: “Divina bonitas est finis omnium corporalium. Et probatur sic. Totum universum, cum singulis suis partibus, ordinatur in Deum sicut in finem: ergo divina bonitas est finis omnium corporalium. Antecedens declaratur, ostendendo et graduando fines alicuius totius et partium eius, iuxta quadruplicem habitudinem et gradum: primo, partium ad sua opera; secundo, partium inter se; tertio, partium ad totum; et quarto, totius ad finem extrinsecum. Et probatur: quia universum est ad imitandum et repraesentandum divinam bonitatem; quod est ad eius gloriam ordinari.” (Leon.5.150) It is Cajetan’s qualification, following St. Thomas, that we consider next; *ibid.*: “Nihil enim prohibet quasdam partes peculiarius, secundum proprias rationes, ordinari in divinam bonitatem per proprias operationes, iuxta primum gradum; ut de creaturis rationalibus patet.” Our point is that this ordination is never without reference to and incorporation into the common good of the universe. If the lieutenant general can converse directly with the army’s general, he nonetheless does so as a part of the army as an ordered whole.

^{xliii} Indeed, St. Thomas uses the unity of order of the universe as the argument that the angels were created together with the rest of creation: see *ST*, Ia, q. 61, a. 3, c., and in particular: “Angeli enim sunt quaedam pars universi: non enim constituunt per se unum universum, sed tam ipsi quam creatura corporea in constitutionem unius universi conveniunt. Quod apparet ex ordine unius creaturae ad aliam, *ordo enim rerum ad invicem est bonum universi*. Nulla autem pars perfecta est a suo toto separata” (Leon.5.108; my emphasis).

^{xliv} For an excellent discussion, see Blanchette, *The Perfection of the Universe*, especially 29–30, 65–66, 149–51, 185–87, 191. The latter two sorts of perfection also figure into the order of the very parts of the universe, as is emphasized in an alternative text of the *Summa* quoted by Blanchette, 187, fn. 27. The Codex Canisiensis gives the following text for *ST* Ia, q. 47, a. 3, ad 3: “Et sic patet quod ordo universi attenditur secundum quod una creatura agit in aliam, et secundum quod una fit ad similitudinem alterius, et secundum quod una est finis alterius.”

^{xlv} St. Thomas, *ST*, Ia, q. 103, a. 2, ad 2, which states in full: “Ad secundum dicendum quod Philosophus loquitur de finibus artium, quarum quaedam habent pro finibus operationes ipsas, sicut citharistae finis est citharizare; quaedam vero habent pro fine quoddam operatum, sicut aedificatoris finis non est aedificare, sed domus. Contingit autem aliquid extrinsecum esse finem non solum sicut operatum, sed etiam sicut possessum seu habitum, vel etiam sicut repraesentatum, sicut si dicamus quod Hercules est finis imaginis, quae fit ad eum repraesentandum. Sic igitur potest dici quod bonum extrinsecum a toto universo est finis gubernationis rerum sicut habitum et repraesentatum, quia ad hoc unaquaeque res tendit, ut participet ipsum, et assimiletur ei, quantum potest.” (Leon.5.455)

^{xlvi} St. Thomas, *ST*, Ia, q. 65, a. 2, c. (Leon.5.150) and Cajetan’s commentary (cited in the previous footnote). This operation of attaining to God *directly* as term, as an end-goal of our powers of intellect and will, is possible only through grace. For we cannot love God except through charity; see *ST*, Ia-IIae, q. 65, a. 5, c.; IIa-IIae, q. 23, a. 1, c. See also *Quaestio Disputata de Virtutibus*, q. 2, a. 2, obj. 15 and ad 15. Further, we cannot know God except through analogical concepts drawn from created beings, and thus by medium of created concepts; see *ST*, Ia, q. 12, a. 4, c.; also, see *ST*, Ia, q. 2, a. 2, ad 2 and ad 3.

^{xlvii} See De Koninck, “In Defense of St. Thomas,” 219–20. See also St. Thomas, see *Super I ad Cor.*, c.12, lect.3; *ST*, IIIa, q. 8; and Emile Mersch, *The Whole Christ: The Historical Development of the Doctrine of the Mystical Body in Scripture and Tradition*, trans. John R. Kelly, S.J. (Eugene, OR: Wipf and Stock Publishers, 2011).

^{xlviii} Indeed, the good of grace in one man is greater than the good of the entire natural universe, because they are of wholly distinct orders. See St. Thomas, *ST*, Ia-IIae, q. 113, a. 9 ad 2: “Bonum universi est maius quam bonum particulare unius, si accipiatur utrumque in eodem genere. Sed bonum gratiae unius maius est quam bonum naturae totius universi.” (Leon.7.341)

^{xlix} See St. Augustine, *The City of God and On Christian Doctrine*, ed. by A. Roberts, P. Schaff, and J. Donaldson, trans. by M. Dods, 2nd ed., vol. 2. Nicene and Post-Nicene Fathers: First Series (Peabody, MA: Hendrickson Publishers, 1994), Book 19, ch. 10, 406: “There we shall enjoy the gifts of nature, that is to say, all that God the Creator of all natures has bestowed upon ours—gifts not only good, but eternal—not only of the spirit, healed now by wisdom, but also of the body renewed by the resurrection. There the virtues shall no longer be struggling against any vice or evil, but shall enjoy the reward of victory, the eternal peace which no adversary shall disturb. This is the final blessedness, this the ultimate consummation, the unending end.” See also Edmund Waldstein, O.Cist., “*Qui Posuit Fines Tuos Pacem: On Peace as the Final Cause of the Universe*,” Novizatsarbeit, Cistercienserabtei Stift Heiligenkreuz, 2007; url: <<https://sancrucensis.wordpress.com/papers/>> (accessed 27 February 2019), 16: “St. Augustine teaches that war is always for the sake of peace; those who break the peace for war do it for the sake of a better peace. [*De Civitate Dei*, XIX, 12.] The better peace that we fight for has already been won, by He who sits at the right hand of the Majesty in Heaven till all His enemies are put under His feet. He will come in glory and hand over to the Father, ‘a kingdom eternal and universal, a kingdom of truth and life, of holiness and grace, of justice love and peace.’ [*Gaudium et Spes*, n. 39]”

¹ This is the ultimate objectively attributed dignity of which created persons are capable: see St. Thomas, *Summa contra Gentiles*, IV.54: “Hanc igitur hominis dignitatem, quod scilicet immediata Dei visione beatificandus sit.” (Leon.15.174:1–3). The consonance of this conclusion with the Dogma of the Immaculate Conception (i.e., Mary’s need for salvation) as well as with the doctrine *extra Ecclesiam nulla salus* seems to argue in its favor. It seems best to hold, since God is the highest common good and also the highest intelligible good, that the community of the saints will be constituted in its being by this very vision such that it will be “the new heavens and the new earth,” that is, a new universe, and thus we will, as in this universe that is a vale of tears, only be ordered to God in virtue of our participation as members of the whole which He ordains. That is, possessing the beatific vision cannot but constitute one as a citizen of the heavenly kingdom primarily in the order of being (since the vision is the Divine Essence itself), and thus the creaturely light of glory—a private good—must come ontologically second. Finally, *in our own order* of beatified subjectivity, the vision of God will be prior *to even we ourselves*—for God cannot but be first in the very constitution of the order of beatitude, and in that vision “I shall know even as I am known” (I Cor 13:12)—such that we first partake of Him and thus see our own selves and exist, as it were, only second: “That God may be all in all.” (I Cor 15:28) See also De Koninck’s discussion of beatitude and St. Thomas’s commentary on John 14:2 (“In my Father's house there are many mansions.”), “In Defense of St. Thomas,” 312–15.

^{li} As Carl Becker quipped, “What is a man, that the electron is mindful of him?” See John D. Barrow and Frank J. Tipler, *The Anthropic Cosmological Principle* (New York: Oxford University Press, 1988) 295ff; 253, 510–570. They provide this helpful summary, 3: “We have learned that the complex phenomenon we call ‘life’ is built upon chemical elements more complex than hydrogen and helium gases. Most biochemists believe that carbon, on which our own organic chemistry is founded, is the only possible basis for the *spontaneous* generation of life. In order to create the building blocks of life—carbon, nitrogen, oxygen, and phosphorous—the simple elements of hydrogen and helium which were synthesized in the primordial inferno of the Big Band must be cooked at a more moderate temperature and for a much longer time than is available in the early universe. The furnaces that are available are the interiors of stars. There, hydrogen and helium are burnt into the heavier life-supporting elements by exothermic nuclear reactions. When stars die, the resulting explosions which we see as supernovae, can disperse these elements through space and they become incorporated into planets and, ultimately, into ourselves. This stellar alchemy takes over ten billion years to complete. Hence, for there to be enough time to construct the constituents of living beings, the Universe must be at least ten billion years old and therefore, as a consequences of its expansion, at least ten billion light years in extent. We should not be suprised to observe that the Universe is so large. No astronomer could exist in one that was significantly smaller. The Universe needs to be as big as it is in order to evolve just a single carbon-based life form.” The intervening 30 years have not undermined Barrow and Tipler’s analysis; see also Edward van den Heuvel, *The Amazing Unity of the Universe And Its Origin in*

^{lii} In terms of contemporary debates, therefore, the Thomist would tend to side with the dispositional realist.

^{liii} It is one thing to say that the bottom-up behavior only appears to result in the coincidence of the human form (which in turn is not an entity in its own right), another thing to say that the human form is a real entity (a higher level of organization that permits the lower levels), and nonetheless this human form *requires* chance in the universe at the lower levels in order to exist and come-to-be. One notable attempt to mediate between these two views is George F. R. Ellis, *How Can Physics Underlie the Mind? Top-Down Causation in the Human Context* (Berlin/Heidelberg: Springer, 2016).