

Information and Reality: Contributions from the Science and Religion Forum

with Finley I. Lawson, “The Science and Religion Forum Discuss Information and Reality: Questions for Religions and Science”; Niels Henrik Gregersen, “The God with Clay: The Idea of Deep Incarnation and the Informational Universe,” Michael Burdett and King-Ho Leung, “The Machine in the Ghost: Transhumanism and the Ontology of Information”; Marius Dorobantu and Fraser Watts, “Spiritual Intelligence: Processing Different Information or Processing Information Differently?”; Matthew Kuan Johnson and Rachel Siow Robertson, “A Co-Liberatory Framework for Big Data”; Peter M. Phillips, “Digital Theology and a Potential Theological Approach to a Metaphysics of Information”; and Andrew Jackson, “Peacocke Prize Essay—Towards an Eastern Orthodox Contemplation of Evolution: Maximus the Confessor’s Vision of the Phylogenetic Logoi.”

PEACOCKE PRIZE ESSAY—TOWARDS AN EASTERN ORTHODOX CONTEMPLATION OF EVOLUTION: MAXIMUS THE CONFESSOR’S VISION OF THE PHYLOGENETIC LOGOI

by Andrew Jackson

Abstract. In recent years, several scholars have hinted at a resemblance between Maximus the Confessor’s *logoi* cosmology and evolutionary biology. In this article, I develop these suggestions further and claim that the *logoi* (divine ideas or wills) do indeed behave in an evolutionary fashion, diverging hierarchically and interactively from the *Logos*. However, there the similarity ends, for the *logoi* are also purposeful, inviolable, and good, unlike evolution which is said to be random, ever-changing, and cruel. But rather than abandon the *logoi*–evolution congruity, I argue that, by harnessing theological resources from across the Eastern tradition, one can integrate Maximus’ *logoi* vision more fully, resulting in an “incarnationally panentheistic” model of God’s action and presence in evolution. More speculatively, within canonical Darwinism, the underlying (good) evolutionary motion of the *logoi* might be discernible in variation and adaptation, with the “evil” of competition and natural selection being “garments of skin” conceded by God as part of a simultaneous creation and cosmic fall.

Keywords: creation; Eastern Orthodoxy; evolutionary biology; garments of skin; logoi; Maximus the Confessor; natural evil; panentheism

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The last few decades have seen a renaissance of interest in the works of Maximus the Confessor, the sixth- to seventh-century Byzantine theologian and monk, across both Eastern and Western Christian traditions (Haynes 2019, ix). But despite his current popularity, there have been relatively few sustained attempts at bringing to bear his theological and metaphysical thought with modern-day science, let alone evolutionary biology.¹ This is a pity because Maximus, and indeed the Eastern Orthodox tradition more broadly, offers a rich resource from which to draw fresh perspectives on evolution; perspectives that are not always acknowledged in standard theological interpretations of evolution.² My aim in this article is to raise awareness of the potential for the Eastern tradition to shed new light on evolution in the hope that others will be inspired to contribute to a long-overdue research program on what might be called an “Eastern theology of evolution.”

PREVIOUS ALLUSIONS TO THE *LOGOI* AND EVOLUTION

In recent years, there have been several references made to an apparent similarity between Maximus the Confessor’s concept of the *logoi* and the modern-day theory of Darwinian evolution. Examples include: the *logoi* being “ontological codes” (Blowers 2016, 178) or “spiritual DNA” (Theokritoff 2017, 227); “the *logoi* provide a promising way of thinking about an evolving universe” (Theokritoff 2008, 68–69); organisms and species being ‘...points on evolutionary fitness landscapes...imagined in the mind of God...possessing...“*logoi*”...’ (Southgate 2008, 61); and “...evolution...[moving] forward through various *logoi*” (Chenoweth 2020, 180). In each of these cases, the authors suggest that the *logoi* are somehow involved in both the ontological definition of creatures and their evolutionary development, though they give no detailed explanation of how the *logoi* relate to our modern-day understanding of creaturely form and evolutionary change. Whatever the reasons for such apparent reticence, much more, I believe, remains to be said.

WHAT OR WHO ARE THE *LOGOI*?

To begin with, it is helpful to understand what Maximus meant by the *logoi*. By the time of Maximus, the Greek word *Logos* (plural: *logoi*), despite being quite polysemous in everyday language (Mitralexis 2015, 4), had some strong philosophical connotations in relation to theological and philosophical cosmology. For example, following Plato, the Stoics and Philo believed in a universe upheld by seminal reason-principles (*logoi spermatikoi*) (Dillon 1996, 158–61; Wood 2019), St. John the Evangelist used the word *Logos* to describe the second person of the Trinity,³ and St. Augustine equated the *logoi* with God’s ideas (Augustine 1982, 46.2). Against this background, Maximus was to develop the notion of the

logoi even further (Bradshaw 2013b; Stead 1998; Tollefsen 2008), seeing them, on the one hand, as divine ideas or predeterminations (Maximus 2014, *Amb* 7.16, 7.19, 42.5), and on the other hand, as divine wills or utterances (Maximus 2014, *Amb* 7.24; 2018, *Ad Thal* 13.2), the former stressing the divine exemplarity upon which creation is modeled, and the latter emphasizing the divine freedom and resulting contingency of all created being. With both these meanings in mind, the *logoi* account for the amazing diversity and plurality of creation, from the most generic entities right down to the most particular (Maximus 2014, *Amb* 41.11), all of which are simultaneously good (since their *form* is derived from God) and contingent (since their *finite existence* is derived from nothing except God's free will and power to create).

By breaking the *Logos* down into multiple *logoi*, and by assigning *logoi* to particulars as well as universals, Maximus is highlighting that everything in creation is, as it were, premeditatively “coded” and “mapped.” Philosophically, we could understand this in terms of Aristotelian formal causes that specify the intelligible content of creatures: the *Logos*, as exemplar or archetype, being the extrinsic formal cause, with the *logoi* being the intrinsic formal causes that “shape” and define creatures.⁴ Scientifically, we could perhaps think of the *logoi* as the “information content” of creatures that makes them intelligible beings⁵—whether that be their genome sequences or any number of ways of quantifying their phenotypes. But the resemblance between the *logoi* and biological organisms goes much further than just rational definition or specification.

LOGOI—EVOLUTION CONSONANCE

First, in *Ambiguum* 10 Maximus contemplates⁶ an expansion and contraction of all things from the most particular individuals to the most generic genera (Maximus 2014, *Amb* 10.89), very much reminiscent of biological taxonomies that cluster organisms into nested hierarchies. Like all taxonomic schemes, this could be merely an abstract imposition of humanly imagined distinctions, such as classifying organisms according to their color or size. But for Maximus “[genera]...are united with each other according to substance [*kata tēn ousian*]” (Maximus 2014, *Amb* 41.10) suggesting that his hierarchical classification is meant to reflect immanent ontological similarities and differences rather than externally-imposed and arbitrarily-assigned superficial resemblances. Of course, what Maximus could not have predicted was that a hierarchical classification “according to substance”—“cutting nature at her joints”—could arise from an historical descent with modification. The generic *logoi* that Maximus understood to be really present in the individuals that host them, *we now know*, correspond to those homologous genetic and phenotypic features of organisms that are derived from shared ancestry.

Second, in *Ambiguum 7* Maximus states that "...all created things are positively defined by their own *logoi*, and by the *logoi* that exist around them and which constitute their defining limits" (Maximus 2014, *Amb 7.19*). The *logoi* are not radiating out from the *Logos* in an independent fashion but are interacting along the way, producing new *logoi* en route. From a synchronic perspective Maximus may have been aware of this from the complex ecological relations that exist between creatures in the natural world, but it also makes sense from our diachronic evolutionary perspective, whereby organisms co-evolve rather than evolve in isolation from one another.

Third, and also from *Ambiguum 7*, Maximus makes the important point that "...things...were not called into existence simultaneously with their *logoi*...Instead, in the wisdom of the Creator, individual things were created at the appropriate moment in time, in a manner consistent with their *logoi*, and thus they received themselves actual existence as beings" (Maximus 2014, *Amb 7.19*). So, although the *logoi* are eternally fixed in God as his intentions, they become manifest in a chronological and historical order, reinforcing the point that Maximus' vision is not some abstract concept divorced from reality, but corresponds to how things have actually come about, and gives us warrant to relate his vision to evolutionary history (Tollefsen 2015, 113).

LOGOI–EVOLUTION DISSONANCE

These are intriguing correlations, but to do justice to Maximus we must attend to other aspects of his *logoi* vision that might, at first glance, seem less compatible with our modern understanding of evolution. For example: the *logoi* specify not only creaturely form but also their final ends, unlike blind algorithmic evolution (Maximus 2014, *Amb 7.7*); the *logoi* are unchanging and inviolable, unlike ever-mutable species (Maximus 2014, *Amb 10.37, 17.8, 42.26*); and above all, the *logoi* are themselves the Good (the very *Logos* of God), unlike "nature red in tooth and claw" (Maximus 2014, *Amb 17.20*). Furthermore, this evolutionary interpretation of the *logoi* raises some acute theological concerns. If the *logoi* that immanently constitute creatures are themselves the *Logos*, and if, as Maximus says, there are *logoi* for the most general to the most particular things, then it would seem that creation is both divinely infused and fully determined by God, the effects of which might be to erode the creator-creature distinction, to compromise divine simplicity, and to exacerbate the theological problems arising from the randomness and cruelty of evolution.

Each of these apparent disanalogies between the *logoi* and evolution, and each of the ensuing theological concerns, is worthy of a much lengthier treatment than I have space to give here. In what follows, I offer outline responses regarding the issues of mutability, lack of purpose, pantheism,

and a more detailed response regarding the big problem of evolutionary natural evil. My overall aim is to showcase some of the neglected perspectives and resources that can be found in the Eastern theological tradition, and to pinpoint the need for further contributions from this tradition to the questions raised by biological evolution.

Logoi–Evolution Dissonance: (1) Immutability of *Logoi* versus Mutability of Evolution

Maximus is quite clear that the *logoi* are immutable and inviolable and so it is tempting to think he understood them to be Platonic forms or universals existing as timeless and unchangeable “Types” in the intelligible divine realm in which the sensible, created realm can then participate, albeit weakly and imperfectly. It is the kind of “typological thinking” that was to be seriously challenged by the “population thinking” of Darwinism with its blurring of ontological boundaries through time and in space (Mayr 2004, 134–37). But Maximus’ Platonism was less constrained by typology. For him, all creaturely details (not just generic types) are predefined in the *Logos* and are executed without error or diminution (Louth 2004, 188; Maximus 2014, *Amb* 42.23). The *logoi* appear at their proper time in the finite realm, all the while existing eternally and unchangeably in the *Logos* (Maximus 2014, *Amb* 7.16, 7.19, 42.13). Therefore, the inviolability of the *logoi* needs to be understood not in terms of the fixity of species but in terms of the invincibility of divine intention and purpose with respect to all levels of the created order, from highest genera right down to particular individuals—thus apparently ruling out those varieties of process and kenotic theology that see evolution as a dynamic interplay between God’s ultimate purposes and creation’s autonomous freedom (Sollereeder 2019, 63–81). For Maximus, creaturely ontology follows God’s will ineluctably every step of the way. Only in the case of human beings is there to be found a freedom that allows their so-called *tropos*—a malleable mode of human expression—to either follow or depart from their ontological *logos* of being (*logos tēs ousias*) (Skliris 2018, Chapter 2).

Logoi–Evolution Dissonance: (2) Teleology of *Logoi* versus Dysteleology of Evolution

The teleological nature of the *logoi* is a result of the fact that creation is in motion toward its final repose in God, the summing up of all things in the *Logos* (Mitralexis 2018). The fact that, as Maximus insists, the *Logos* is the *logoi*, and vice versa, means that this purpose is not externally imposed by God but internally enacted or “lived out” by God. The *Logos* does not threaten the causal closure of the cosmos assumed by metaphysical naturalism since he does not add anything new that was not already present, by himself, from the beginning. This has been known as “panentheistic

naturalism” (Ritchie 2019, Chapter 8) or “incarnational naturalism” (Knight 2007, 112) whereby God does not compete with his own creation but is immanently unfolding within it as his eternal “fixed instructions” (Knight 2007, Chapter 4). Such an “immanentist” view of God operating within evolution is not new, and was an early theological response to Darwinism, exposing as it did, the implicit deism lurking in those “externalist” notions of God as a divine watchmaker or demiurge (Moore 1891, 75–76). Moreover, it is increasingly recognized that evolution is much more “internally driven” than previously thought and that the external filtering of natural selection needs to be supplemented with internal mechanisms such as autopoiesis, developmental constraint, and convergence (Depew and Weber 1996; Stoeger 1998; Wagner 2016). Taken to its logical conclusion, the fact that God acts “in, with, and under” the processes of biological evolution (Peacocke 1998, 367) implies that: (a) nothing is left to chance in the creation of new ontology; and (b) that every creature is theophanic, revealing both God’s unfolding purposes, and God himself (Bradshaw 2000, 813). Therefore, contrary to those models of divine action in which God kenotically gives chance a “role to play” in the achievement of his ends (Bartholomew 1984, 21), and contrary to those that see only tragedy and failure in the countless deaths and extinctions of intermediate individuals and species (Schneider 2020, Chapter 1), Maximus’ vision of the *logoi* would tend to emphasize the purposefulness and goodness of *all* products of evolution. The *logoi* are not just “great attractors” or convergent optima on the adaptive landscape, *pace* Southgate (Southgate 2008, 61). No, every transitional form, no matter how ephemeral, has the dignity of being specified by the *logoi* and has the sacredness of actually being, somehow, the *Logos* incarnate.

Logoi–Evolution Dissonance: (3) Uncreated *Logoi* versus Created Cosmos

How then can the creator-creature distinction be safeguarded against a wholesale pantheism or divine idealism? The answer might be found in two distinctively Eastern resources: the concept of the divine energies (Lossky 1976, Chapter 4; Ware 2004; Bradshaw 2004, 2013a; Karayianis 2013), and the metaphysical distinction between *logos tēs ousias* (“logos of being”) and *tropos hyparxeōs* (“mode of existence”) or *hypostasis* (individual or particular instance of something) (Skloris 2012; Louth 2017; Skloris 2018). Maximus speaks of certain things existing eternally around God (*peri theou*) yet not being identical to God’s essence (Maximus 1985, *Cap Gnost* 1.48–50). These divine energies or activities are in some sense “in” God without affecting the fundamental simplicity of God and without adding extra divine persons to the Trinity. Maximus also speaks of everything having its own mode of existence (Maximus 2014, Amb 42.26). The

logoi are never present in creation “in the nude” but always accompanied by a particular *tropos* (Zizioulas 2010, 150). In the case of human beings with free will, a person’s *tropos* can be aligned or misaligned with their *logos*, but in the case of nonhumans their *tropos* is fixed, unless God should supernaturally intervene, as in the case of miraculous transformations of nature (Maximus 2014, *Amb* 42.26–28). On the one hand, therefore, God is present in creation as his energies, not his essence, thus avoiding pantheism. On the other hand, the *logoi*, as God’s ideas and wills, are given a mode of existence outside the mind of God, thus avoiding divine idealism. The *logoi* bridge God and creation in such a way that creation can be said to be both *ex Deo* (by virtue of divine exemplarity), and *ex nihilo* (by virtue of divine will and power to produce a finite mode of existence). Such a view is significantly different from those Western traditions that would prefer to speak in terms of finite creatures *participating* in God’s essence (Sherman 2008; Boersma 2011; Tollefsen 2012; Davison 2019). One might ask, what is actually meant by *tropos huoparxeōs* or “mode of existence” and can such a metaphysical term be interpreted scientifically? One possible answer is to consider the *tropos* as a platform or vehicle for hosting information, analogous to how different kinds of hardware (e.g., vinyl, CD, tape) store the same data (e.g., music or software programs). According to this model, the *logoi* are information that cannot exist without being hypostasized in a particular mode of existence, either “inside” God, as the person of the *Logos*, or “outside” God, as finite creatures. Of course, God is not a hardware platform, and we should be wary of reifying information such that it becomes a genus or universal standing over both God and creation. Yet, as Niels Gregersen has argued, there are grounds for considering the *Logos*, or Word, to be a “divine informational resource,” the “generative matrix” of all that is, and the source of all rationality and meaning (Gregersen 2010, 2013).

Logoi–Evolution Dissonance: (4) Good *Logoi* versus Evil Evolution

Perhaps the most difficult challenge to an evolutionary interpretation of the *logoi* is the “debris” left behind in the wake of evolutionary change: the competition, violence, suffering, and destruction that is part of the differential survival and reproduction upon which the process of natural selection depends. The suffering of nonhuman creatures is a particularly troublesome aspect since its occurrence for millions of years before the arrival of *Homo sapiens* makes it less easily attributable to a cosmic fall resulting from Adam and Eve’s first sin. Many theodicies and defenses have been advanced to account for why God used an evolutionary process involving so much suffering and extinction (Southgate 2008; Murray 2008; Creegan 2013; Sollereider 2019; Schneider 2020), though few, if any of these, have made any reference to the *logoi*, which is perhaps not surprising given the

apparent incompatibility of the immanent and good *logoi* with the natural evil incurred in biological evolution. Notwithstanding this apparent dissonant feature of the *logoi*, I will now draw upon two other resources from Maximus and the Eastern tradition to help restore some harmony: the intrinsic evolutionary character of the *logoi*; and the occlusion of the *logoi* with so-called “garments of skin” within the framework of a simultaneous creation and fall.

First, the *logoi* are intrinsically and primordially evolutionary. According to one of Maximus’s famous triads, the *logoi* are moving along a course (*dromos*) or trajectory involving a beginning, a middle and an end, corresponding to the *logoi* of being, well-being, and eternal well-being (Maximus 2014, *Amb* 7.22; 2018, *Ad Thal* 60.8). “Being” is equivalent to the original creation of things, “well-being” to their spatiotemporal flourishing, and “eternal well-being” to their final eschatology consummation outside space and time (Skiriris 2018). The journey involves advancement, maturation and completion. It is not the result of sin but a fundamental, “originally intended” process. An important consequence of all this is that from our current vantage point, we are able to perceive only the *logoi* of well-being of creatures and not their *logoi* of being or their *logoi* of eternal well-being, since such extremities lie outside space-time and beyond the purview of the natural sciences. Knowing that we have only a partial view of the *logoi* should therefore give us pause to consider whether some of what we might label as the “not-good” of evolution (or of creation more generally) arises not from degradation or corruption (e.g., caused by sin) but from immaturity and incompleteness. This is not to say that *all* the sinister aspects of evolutionary biology are to be understood in terms of immaturity, but simply to say that before trying to explain how additional elements might have intruded upon what is essentially a good process, we must first parse creation according to its spiritual *ontogeny* versus its spiritual *ontology*; we must distinguish that which is merely juvenile (but good) from that which is alien (and not good). Such is not an easy task for any theologian, but is particularly difficult within a Western Augustinian framework in which an historical fall from an initial paradisiacal state can be seen as the default cause of all that is overtly evil or even simply lacking in perfection. By contrast, the Eastern tradition’s notion of a “falling upward” from an initial immature state to an eschatological consummation or summing up in Christ offers an important caveat against any wholesale dismissal of evolution as necessarily an evil process. The *logoi* are fundamentally evolutionary and their evolution is both good and theophanic, though not fully good and not fully theophanic until discerned from their end, their *logoi* of eternal well-being. As Skiriris puts it, “...the Fall is a fall not from a perfect past where the perfection of man would have already been accomplished, but a Fall *from the future*...” (Skiriris 2018, 147).

Having completed this important ground-clearing exercise, the question of the origin and nature of *unequivocal* natural evil and its compatibility with the *logoi* still remains; for, even after allowing for the immaturity of creation and its lack of perfection on account of its finitude and movement toward its end, we are still left with an alien residue that cannot, it seems, be attributable to the *logoi*. Examples of what I am thinking of here include: (1) the egregious suffering of animals that exceeds what might be expected in a world where pain is simply a useful warning signal; (2) the premature death of organisms that have never had the chance to flourish and which add no material or moral value to any other organism's life; and (3) the violence inflicted by creature upon creature, whether the result of instinctive necessity (e.g., a predator hunting for food), or apparently needless cruelty (e.g., a predator toying with its prey). All of these examples pre-date the arrival of humankind and therefore cannot be the sequelae of human sin; at least not in a world where God's responses must follow the temporal causation of humankind's actions.

Western scholars operating either within a literal biblical narrative of a cosmic fall coinciding with the arrival of the first humans, or a purely moral fall lacking in any cosmic consequences, have been burdened with how to explain the prevalence of evolutionary (nonhuman) suffering millions of years before the appearance of humans. Aside from Young Earth Creationism and some minority views such as retro-active causation (Dembski 2009) or a primordial angelic fall (Lloyd 2018), most have opted to accept the reality of evolutionary suffering as part of God's "original" intended means of generating biological diversity and complexity. Without human sin to blame, reasons have therefore to be sought for why God chose to use evolution by natural selection rather than by some other means; those hypothetical "other means" usually amounting to some kind of instantaneous creation that bypasses suffering and death. Thus has arisen a plethora of evolutionary theodicies designed to show how evolution might have been the "only way," or the most fitting way, for God to have created life as we know it; and how evolutionary evil might be instrumental in securing some greater good for individual suffering creatures. In other words, the fact that animal suffering pre-dates sin inclines many Western theologians to assume that evolution by natural selection (or "natural elimination") must have always been God's original intention and it motivates them to look for ways of seeing the disvalues of evolution as being somehow good and natural—a move that has been described as a "failure of theological nerve" (Peters and Hewlett 2003, 158).

But this is where I come to the second part of my defense of the goodness of the *logoi* in the face of evolution, which requires the introduction of two neglected theological resources from the Eastern tradition: the notion of a simultaneous and co-extensive creation and fall, and the notion of the "garments of skin" that are the cosmic consequences of that fall.

Maximus asserts in several places that Adam fell as soon as he was created (Maximus 2018, *Ad Thal* 59.12, 61.2; 2014, *Amb* 42.7) and this has been interpreted to mean that God in some sense anticipated the rebellion in the ordering of his creation (Knight 2020, 188). Unlike the standard accounts of a cosmic fall where the effects of sin pre-date their cause, this a-temporal or meta-historical account creates no chronological disparity between cause and effect. As to the cosmic consequences that are with us from the beginning, these so-called “garments of skin” (from Genesis 3:21) have been interpreted to include the mortality given to man in advance of his creation and in anticipation of his sin (Nellas 1987, 46). Although not to be identified with the body per se, the garments consist of both the *psychological* accretions of sensual pleasure, anger, gluttony, insatiate greed, self-indulgence and profligacy, and the *somatic* accretions of sex, conception, birth, pollution, nipple, food, excretion, growth, adulthood, old age, sickness, and death (Nellas 1987, 48–49, quoting Gregory of Nyssa)—that is to say, more or less biological life as we know it. The combined psychosomatic unity of these garments overlaid on our natural, God-given *logoi* cause us to inhabit a world in constant flux, mutation and change in which “life has been transmuted into survival” (Nellas 1987, 47). The garments serve two functions: (1) a penalty and necessary means of survival in the postlapsarian state; for example, sexual reproduction allowing the human race to continue in a different way than originally planned; and (2) a remedy, by which humans can recognize the garments they are wearing and either choose to take some of them off (i.e., those which cause us to sin) or be thankful for those others over which we have no control and which allow us to continue living. If one were to classify this combined “garments-of-skin-plus-simultaneous-creation-and-fall” model, one might say it was a type of cosmic fall/soul-making theodicy but one in which sin and natural evil are linked not in a causal (temporal) way, but in a structural (timeless) way (Collin 2019).

But was Gregory of Nyssa going too far to include things like feeding and excreting in his list of the garments of skin? It is certainly difficult to imagine life as we know it without the input of energy and without the selective assimilation of materials and the elimination of waste products. Our whole ecosystem depends for its stability on the transfer of energy and materials between its various occupants, whether willingly given or not. In a world of limited resources, it seems inevitable that those organisms that compete better will survive for longer, either as tokens (original individuals) or as types (replicated progeny). Even if we take on board the undeniable importance of behavioral cooperation, symbiotic association, and spontaneous self-assembly—as the proponents of the Extended Evolutionary Synthesis insist we should—it is still likely to be the case that in a world of finite resources, those that cooperate, “symbiose,” or self-assemble *better than* others will prevail over less capable contenders. It

seems that in our material world, conflict and competition are inevitable and that there will always be “winners” and “losers,” which is why great efforts are made to find theodicies or defenses for why God has chosen to create using a process that involves pain, suffering and violence. To deny the legitimacy of such “disvalues” would seem to deny the possibility of any complex, flourishing life, given what we now know about our collective dependency on each other’s demise. Much life would not be possible if bacteria or cockroaches bred exponentially and unchecked. We rely on death to make room for life; not just life of the same species, but the life of altogether different species such as herbivores, predators, parasites, scavengers, and decomposers. When we appreciate how invested we are in each other’s existence it becomes difficult to dismiss those creatures whose purpose includes doing violence to other creatures, without whom we would be overrun with rampant monocultures. The same is true when we think from a diachronic rather than a synchronic perspective. According to the standard NeoDarwinian account, new life has emerged through a process of natural selection in which competition, differential survival, arms races, and exploitation are all seen as having played essential roles in the evolution of outstandingly diverse, complex, and beautiful new life forms. One might even say that such has been the success of natural selection that we *need* it to be blessed and we *need* its violence to be sanctified, for without it, we can think of no other way by which creatures can flourish and the diversity of creatures be generated and maintained. In the absence of sin to blame, God must have had a good reason to use violence, suffering and death in the process of executing his divine will to create. His hand must have been forced. Evolution by natural selection must have been the “only way.” Or so the thinking goes.

But does this way of thinking reflect a failure of our theological imagination? Is there another way to call out the evil of natural selection for what it is—evil—without making God directly complicit in it, and, of course, without force-fitting science to harmonize with a 4,000 year old earth and an original paradisiacal state? Are there really only two options on the table: creation by a nearly instantaneous (i.e., 6 day) fiat, or creation by “full-blooded” Darwinian evolution? I would like to suggest that the Maximian/Eastern protology outlined so far, provides a third option, and one not often encountered in standard treatments of evolutionary theodicy. This is the possibility that some aspects of the standard Darwinian process correspond to the intrinsically evolutionary *logoi* and other aspects correspond to the garments of skin.

It is often assumed that Darwinian evolution comes as a “package deal” comprising natural selection, competition, differential survival, and extinction. (Southgate 2014, 101). These components appear to be a necessary, if unfortunate, consequence of organisms inhabiting a world of finite resources. If, however, the finitude of the earth’s resources is itself

a “garment of skin” imposed by God as a concession, then perhaps in the absence of such a concession, organisms could have evolved without experiencing any competition due to resource conflicts. Darwinian evolution could have consisted solely of the “good aspects”—variation and adaptation—without the “bad” aspects—competition and natural selection. A world of infinite environmental niches could theoretically have accommodated all the variation produced by mutation and recombination. Evolution would have still taken place but in a much more extravagant fashion, with no culling of “weaker” lineages or domination of one lineage over another. It could even have proceeded in the same haphazard fashion it does in our current world but without dead-ends. Of course, one could say that it would also involve a hypothetical loss: the absence of the cougar or the deer whose hunting or escaping prowess would never have had the chance to flourish (Rolston III 2006, 134). However, if the ability to cause harm and suffering will one day be eliminated, there is no reason why the redeemed versions of the cougar and the deer could not have emerged via different phylogenetic routes in a world of infinite resources.

The distinction between the “good” evolution of the *logoi en route* to their final *telos* in Christ and the “bad” evolution introduced by the garments of skin raises the question as to the ontological status of these garments. Presumably they are not themselves defined by *logoi*, since the *logoi* are wholly good, being themselves the *Logos*. Could they instead be defined by the absence of *logoi* as states of privation, or by a special *tropos* or mode of existence? Further research is needed in this area, but a clue as to where the answer might be found lies in Maximus’ distinction between the different wills of God: his good will (*thelēma eudokia*); his dispensatory will (*thelēma oikonomia*); and his concessive will (*thelēma sugchōrēsis*) (Maximus 2010, *Q Dub Q.83*). These distinctions find their use in the context of salvation where, as Skliris explains, the crucifixion is the result of God’s concessive will rather than his good will and is therefore according to *tropos* rather than according to *logos* (Skliris 2017, 48). In the context of creation, they could be interpreted to mean: the good will to accomplish eventual deification of the cosmos (creation as it should be); the dispensatory will to employ an evolutionary process of maturation (the triadic *dromos* of the *logoi*); and the concessive will to allow “nongood” elements to intrude upon that process (the punitively remedial garments of skin).

CONCLUSION

In conclusion, I have outlined how the Eastern tradition can offer a radically fresh perspective on the theology of biological evolution. Buoyed by its emphasis on the constitutive immanence of the *Logos*, Eastern theology can afford to be less intimidated by the apparent aimlessness and cruelty of evolution. It can be confident in the intrinsic goodness of all that is,

knowing that creation, when correctly contemplated, is nothing less than a cosmic incarnation. Part of that correct contemplation is to discern the full scope of the *logoi* that define creatures: their teleological as well as their instructional aspect, by which we can see creation in its true light, from its end rather than its beginning. Another part is to be able to distinguish those elements of evolution that are consistent with God's good will and design from others that might be secondary concessions resulting from God's foreknowledge of humankind's sin.

Clearly the study raises many further questions. For example, a meta-historical cosmic fall may resolve the chronological disparity between human sin and animal suffering, but it does not address why animals should be affected by human sin in the first place. A distinctively Eastern approach to addressing this problem might be found in the notion of man as a microcosm, famously expounded by Maximus in *Ambiguuum* 41. Such is the ontological entanglement between humankind and the rest of creation that, like a vital organ within a body, once humankind "fails," the whole cosmos "fails"—or so it might be argued. Then there are questions with regard to the scientific tractability of the *logoi*; the extent to which the *logoi* can be considered to be analyzable "information content," or something deeper or more transcendent. If science is a Procrustean exercise, examining the *logoi* of well-being but chopping off the extremities of being and eternal well-being, how might a holistic, full-bodied view of the *Logos* be restored, at least for the scientist of faith? This amounts to asking what does contemplative *theoria* look like, in practice, for the working scientist? Finally, an aspect of creation of great importance to the Eastern tradition is its eucharistic and liturgical character (Loudovikos 2010; Cattoi 2015; Heide 2022), something I have not touched upon at all in this article. Is there any sense in which biological evolution, as a process, is eucharistic and liturgical, especially in the light of the *logoi* being themselves evolutionary, as I have argued? But, however one might respond to these and many more questions that could be asked, my hope is that scholars from the Eastern tradition will be encouraged to contribute more to the theology of evolution—a subject traditionally dominated by Western (Catholic and Protestant) thought.

NOTES

1. For an engagement with astrophysics, see Nesteruk (2004, 2015). For references to evolution, see Rossi (2015), Blowers (2016), Chenoweth (2020), and Costache (2003).

2. For example, Nicola Hoggard Creegan, Bethany Sollereeder, and John Schneider, in their recent books on animal suffering in evolution, make no reference to the Eastern notion of a simultaneous creation and fall, or to Maximus' *logoi* cosmology (Creegan 2013; Sollereeder 2019; Schneider 2020).

3. John 1 referring not just to the *Logos*' incarnation but also his pre-existence in the world (Need 2003).

4. For a helpful discussion of formal causation, though focused on scholastic usage, see Davison (2019, Chapter 4).

5. For examples of previous theological engagement with the concept of information, see Puddefoot (1996), Wright (2012), and Davies and Gregerson (2010).

6. For Maximus, the process of natural contemplation (*phusikē theōria*) is a dispassionate, meditative gazing upon the inner essence of creatures to reveal their symbolic meaning, including their beginning and end in the *Logos*. For more on *theōria*, see Lollar (2019), Nordlander (2021), and Jonah (2013).

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