abstract

Christians hold to a distinctive view of the natural and of naturalism. In the Doctrine of Creation, Christian theologians set out the natural realm as a cosmos, a world, which has its origin and unity in God, and in this way is radically dependent. Such a world prompts Christian theologians to ask about the scope and aim of the Divine act of creation: What is it that the Lord God creates when ‘in the beginning, He creates the heavens and the earth’? Whole objects, or ‘substances’, have been taken as the traditional answer to that question, and some pre-modern views are set out as examples. But modernism has raised fresh objections to the traditional account. Perhaps God intended an underlying substance or noumena that cannot be known by human creatures? Perhaps, more radically, God intended only particles or force fields or energy? Contemporary views of the natural and of naturalism exert pressure on Christian teaching about the created realm, and I note some examples. Finally, I sketch a positive Doctrine of Creation in light of these modern developments, affirming traditional elements, amidst some changes, and the irreducible status of ‘moderate-sized dry goods’ in the world Almighty God has made.

keywords

Doctrine of Creation, Modernism, Naturalism, Anti-reductionism
In a poem of rare mystery and power, the English poet William Blake muses about a creature enigmatically titled, the Tyger. Brawny and terrible, the Tyger’s ‘fearful symmetry’ is forged in some terrible, unearthly furnace, sinews and eyes and heart hammered out in the fire of some ‘distant deep’. Looking back on his delicate Songs of Innocence, Blake asks the haunting question about this fearsome Tyger, ‘Did he who made the lamb make thee?’. Is this Maker, who, Prometheus-like, ‘seized the fire’ to bring to life this terrible thing, the very Creator of Heaven and Earth? Was his fiery act of manufacture a creation? And like the Lord God of Genesis, did this Maker ‘smile his work to see’? Blake does not answer his own questions; perhaps he considered the Songs of Experience, from which Tyger is drawn, to raise questions unanswerable within the life of sorrow and fear and sin we know all too well. Blake could not answer these questions, it seems, but perhaps he could lend us his framework to explore the doctrine he adumbrates so finely: the Doctrine of Creation in the modern age. A child and architect of the modern, Blake sensed in his poetic imagination the elements of the modern Doctrine of Creation in the west. The Tyger sets out a vision, dark and brooding, of a world that is at once natural and distorted, familiar and alien, and a Maker at once Lord of Grace and a Stranger, a Creator and a Terrible Power. Here we see the themes that will carry us from the brink of the modern – the late Enlightenment and burgeoning Romanticism – to the suffering heart of the ‘terrible century’, the 20th, and the dawn of our day, the 21st. We can summarize these elements this way: the theme of the natural and naturalism; the theme of the artifact; and the theme of genesis, the absolute beginning of all things.

The doctrine of creation most broadly and traditionally treats the absolute origin of all things from God, and the prominence of our third theme, ‘genesis’, marks out the modern era as fully traditional in the midst of its many innovations. To be sure, ‘genesis’ in the 19th and 20th centuries could hardly speak with the confident tones of earlier eras. From the rise of modern astronomy and particle physics, to the carbon-dating of our earth, and the development of present-day animal species, the genesis of all things from God has found itself in the midst of pitched battles over the place and cogency of Christian doctrine in an intellectual climate dominated by the exact sciences, and the fear of them. It will take all our concentration to set out this element in the modern doctrine of creation without falling prey to
the old, and discredited, story of ‘religion against science’, on one hand, and
the newer, but hardly more persuasive story, of science as the confident and
supreme champion of the entire field. In sum, we will see the theologians of
our modern and post-modern age strive to confess the doctrine of creation
in a world that remembers Blake’s natural Lamb of Innocence but cannot
forget the Tyger that roams freely in our day, the natural Lamb and the
artificial Tyger, each in its own way mysterious and demanding, each in its
own way dependent upon the genesis of the Almighty Maker of heaven and
earth.

Both the higher unity, but the deep divisions, too, in the understanding of
God’s genesis of creaturely nature point to an original and rather unexpected
question that will begin our entire investigation: when God created all that is,
just what is it he made? Aspects of this question are not new, of course. As we
will see, traditional elements will emerge throughout the discussion of this
topic. But in the main, this is a modern question, raised by modern science
and the philosophy that accompanies it. Although this topic will return in
different guise when we discuss the modern conception of nature and the
natural, it belongs here as the precondition for any discussion of creation
itself. The identity of that reality God created – its fundamental character –
sets the terms of the debate over creation, and no exchange among modern
theologians of creation can be intelligible apart from this conceptual
underpinning. Just as Descartes’ analysis of the nature and relation of body
and mind set the terms of all modern debate about the mind and its relation
to the brain, whether Cartesian or no, so the fundamental analysis of the
creaturely sets the terms of debate about the natural, whether Christian or
no. It is the lens through which all modern, western theologians, and their
opponents, see the world.

So, just what is it that God creates in the beginning of all things? Now, the
instinctive response of most Christians through the centuries has been
rather straightforward and filled with sturdy common sense: God makes
all the things we see on our earth, and all that belongs to the starry heavens
that stretch out beyond our earthly sight. It is just this insight that is quietly
affirmed in a straightforward or ‘plain’ reading of Genesis. Greater and lesser
lights; waters beyond the heavens and on the earth; swarming creatures
of all sorts and winged birds; fruit-bearing trees; men and women, and all
animals; and light itself: all these are made by the Lord God, and fashioned
into a Garden fit for the human creatures to tend and to flourish within. As
we will see, this stout affirmation of God’s will to create things, animate and
inanimate, will lead to complex and painful encounters with the science
of the present age. Yet it is the plainest, and to many, the most compelling answer to the question before us: Just what did God make when he created the world? And it is not without defenders of a very sophisticated sort in this age and in the past. To express this common-sense insight in more scholastic and philosophical language we would say: God created, without any prior material or aid – *ex nihilo* – complete or ‘whole substances’, the inert and living matter, the animals and organisms, the planets and stars in their courses, the measureless galaxies that make our world a cosmos. It is this language of ‘whole substance’ which will find its way into the documents of Vatican I (1869), and its controversial definitions of nature and grace. In the first decree of Vatican Council I – the Canons of the Dogmatic Constitution of the Catholic Faith – we read the following firm affirmation of a traditional Latin Doctrine of Creation: “If anyone does not confess that the world and all things which are contained in it, both spiritual and material, were produced, according to their whole substance, out of nothing by God, let him be anathema”. But the roots of this Council reach much further back, back to the greatest scholastic theologian in the west, Thomas Aquinas. Thomas gives voice to the common-sense tradition in his Doctrine of Creation, relying on Aristotle’s notion of substance – itself a complex concept with its own history – when he asserts that God created the world in one, simple, motionless act, bringing out of nothing whole substances, both matter and form (*Summa Theologiae*, I, q. 45, a. 2, ad 2). Now, Thomas knew perfectly well that the cosmos was filled with more than objects, living or inert; he knew that the world of things was qualified by innumerable properties or characteristics, and he recognized that certain immaterial realities – ideas, values, numbers, and time itself – governed much of what we call our world. These were also created by God, Thomas firmly concludes, but they receive a special delimitation: they are ‘con-created’ by God, as these properties or *qualia* accompany all that is.

To advert to more modern terminology, and putting J.L. Austin’s phrase to rather other purposes, we could say, in this common-sense reading, that God creates “moderate-sized dry goods” (Austin 1962, p. 8) when he turns outward to make finite reality. Now, notice how such a conception affects the doctrine of creation in all its parts. When we encounter debates over Darwin’s theory of evolution, say, or Heisenberg’s theory of thermodynamics, or in another dimension, astrophysical accounts of the Big Bang, we see modern theologians of the “moderate-sized dry goods” school attempting to square their doctrines with these scientific accounts as they

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1 The Decrees of the First Vatican Council, Dogmatic Constitution of the Catholic Faith, Canon 1, found at http://www.papalencyclicals.net/Councils/ecum20.htm, the Vatican official web site.
relate to visible, tangible objects. In their Doctrines of Creation they are ‘anti-reductionists’. The scopus or goal of God’s creative will, that is, is directed toward objects; the debate, for these theologians, assumes this goal and from this presumption, turns to the questions that remain on the composition of objects and their creaturely origin and destiny. For this reason, the evolution of the species posed the greatest threat to these theologians’ doctrine: Natural selection concerns and pre-supposes medium sized objects in all its varying interpretations.

Of lesser danger to this school are the theories of modern quantum mechanics or astrophysical origin and collapse, for these theories are seen only to touch on the parts or elements of physical reality which compose objects, and not the objects themselves. A kind of ‘instrumental cause’ is assigned to these theories of subatomic or cosmic physics: God may make use of these particles and their behavior to achieve his goal, the creation of medium-sized objects in a harmonious universe. Just as a carpenter may make use of a hammer or level to set out the framing for a house, so God may make use of these physical elements and laws to create all animate and inanimate things, and in both cases, the instruments drop out of sight when the finished house, or cosmos, is complete. (Martin Heidegger made a similar point about the metaphysical status of instruments, die Wären, in Being and Time; and in a different key, Ludwig Wittgenstein made an analogous point about objects embedded in practices or ‘language games’).

In all cases, the telos or goal of God’s creative will is the finite object, and the Creator’s sustaining and judging and governing of the cosmos will be measured by the Divine decree concerning the things, not the elements, of this world.

Not so do others argue. For these other theologians, the scopus of God’s creative will is the fundamental particle or law that will then result in visible and finite objects. God’s intention or aim, we might say, is toward the infinitesimal and the medium-sized objects which emerge from these particulars and their relations are the out-working or, more daring still, the epiphenomena of these deep realities. As with the ‘medium-sized dry goods’ school, so with this school – we might call it, ‘reductionist’ – there are both ancient and modern philosophical and scientific correlates. To find our ancient corollaries we must reach back to the very roots of the western philosophical tradition, to the ‘pre-Socratic’ philosophers of Attic Greece. Ancient indeed is the human impulse to discover the deepest reality or fundament of the world. Many of the earliest philosophers – as do their modern counterparts – held that the foundation of things could be uncovered by going deeper, moving down through the layers of the known
and visible world to a hidden and truer element that is the basis of all things. For such thinkers, all things are in reality, one thing or one kind of thing; though the cosmos appears diverse it can properly be reduced to one element, one particle or kind. Heraclitus taught that the world, in its deepest and truest sense, was fire. As there is no flame without motion, so the cosmos as a whole at its deepest reality is change – ceaseless motion and alteration. To be sure, many things in this cosmos appear static, permanent, unshakeable; but it is just this appearance to eye and common-sense experience or measurement that must be set aside and seen through to its deeper identity. (A parallel but inverted schema can be seen in Parmenides, for whom Being is eternal and all change an illusion). Common to reductive accounts of creation, ancient and modern, is this appeal to the conceptual reality of all things, at once deeper and higher than anything our senses and instruments can record. Democritus began a long line of analysis in western thought when he sought the fundament of reality in ‘atoms’, those parts of whole objects that could be divided no longer. These were ‘simples’, the deepest and truest building blocks of reality.

A second form of simplicity proved far more troublesome for the doctrine of the world’s creation in time, however. In its wake this form of simplicity provided a ground for holding that the world is eternal. We might think of this as a second root of the reductionist impulse in the medieval concept of nature itself. Much to the dismay of modern interpreters such as Colin Gunton (1998, esp. Ch. 2, pp. 14-40), the notion of the simple carried over into Christian doctrines of created or ‘material’ objects, in Thomas and other Augustinian theologians. All created things, these medievals said, were composed of an utterly simple, yet utterly inferior kind of stuff titled ‘prime matter’: without form or definition, it was “close to nothing” (Conf. XII, 6, 6), in Augustine’s fateful phrase, and just so could enter into the composition of every created thing. We should be quick to note, however, that such reductionism remains an impulse only, as created objects, for these thinkers, are far more than their matter – indeed their reality lies not in matter at all but in their definition or ‘form’.

When we turn to our era, however, we see the strong resurgence of full-throated reductionism in philosophical and scientific circles, and its downward pressure on the Doctrine of Creation. Consider that architect of English Enlightenment, John Locke. In his Reasonableness of Christianity, Locke affirms – though in passing – the Doctrine of Creation and God as Almighty Creator to be the bedrock of rational religion. Locke’s Christianity is hardly traditional or dogmatic, however, despite this conventional nod toward the Doctrine of Creation. Famous to the Reasonableness, after all, is

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Locke’s confident assertion that nothing more is required of the Christian than to assent to the teaching that ‘Jesus is the Messiah’, an assertion considered ‘reductionistic’ already in Locke’s own day. ‘Rational religion’ was certainly reductionist in just this sense – the fewer dogmas the better. Yet the reductionist commitment of modern philosophy does not properly pertain to elements of Christian creedal belief. Properly, reductionism in its full power pertains to worldly ontology, to the theory which enumerates the kinds and qualities of finite, created things. For John Locke, a certain form of reductionism in creaturely substance makes our knowledge of creation, and the aims of the Creator, deeply mysterious. Locke-interpretation is notoriously vexed, so we must treat carefully here. But his positions – however interpreted – are so vital to modern conceptions of epistemology, metaphysics and religion that we must hazard a reading all the same.

In his Essay in Human Understanding, Locke draws a famous distinction between the substance or, literally, the underlying reality of a thing – “it is that which I know not what”, on one hand – and its appearances to our eyes and thought, on the other, its host of primary and secondary qualities. Objects are congeries of qualities as they strike our senses and awaken our intellect. Two sorts can be intellectually discerned: primary qualities, which inhere in their substance apart from our sensing them; and secondary qualities, which depend upon our encountering the object, and judging it. Locke seemed to think that extension – Descartes’ great property of matter – belonged to primary qualia, but added solidity and impulse as ‘objective’ properties of things. Secondary qualia consist in the properties we most common-sensibly associate with things: color and taste and texture, even utility. Already, the notion of ‘primary quality’ reduces objects to elements – ‘atoms’ or perhaps, ‘corpuscles’ – that fall outside human sight and touch. But the deepest reality of an object lies far deeper, in the unifying concept of ‘substance’, a reality so metaphysically hidden that we can know just nothing about it. A great gulf is here fixed between our experience of the world and its deepest reality, a gulf that will in time be known as philosophical ‘Idealism’, though its earliest advocates, Locke and George Berkeley were considered to be classical empiricists. The stern transcendence and hiddenness of substance in Locke’s reflections lead him to teach that God’s providence fits us out to see the world after a human and creaturely fashion, and graciously shields us from sensing the world as would a powerful telescope or perfect microscope – a monstrous and debilitating power for a finite, human creature. Yet the goal of God’s creative will is the substance, with its primary properties – the deep and true unity of all things – and it is just this we can conceive through reflection but never
Such ideas live on in the ‘philosopher of Lutheranism’, Immanuel Kant. For Kant, the world of medium-sized objects could be understood and known only by retaining clearly in the mind a distinction or schema that separates the truest reality of a thing from its appearance to the senses. That distinction is Kant’s celebrated contrast of the *Noumena* from the *Phenomena* in every act of knowing. Kant does not deny that we have certain and trustworthy knowledge of the world; indeed his Critical Philosophy presses every lever to achieve such certainty under the conditions of modern scientific thought. Yet, like Locke, Kant’s distinction between ‘things in themselves’ – of which we can know strictly nothing – and ‘things for us’ forces Kant to radical positions that threaten the foundations of his very campaign. So radical is Kant’s denial of the experience of, and so, the knowledge of the deep underlying substratum of objects that it is not clear whether in the *Critique of Pure Reason* Kant affirms a particular substance underlying each object, or whether in the end, he must affirm that there can be only one *Noumenon*, an utterly uniform Simple or Prime Matter that supports each object and its qualities (Kant 1929, First Division, Ch. II, *The Deduction of the Pure Concepts of Understanding*).

Puzzles of this kind led Kant to express reservations about most traditional metaphysical and theological categories, from the doctrine of the soul to the doctrine of *Creatio ex nihilo*. Dogmatic doctrines of this sort must be relegated to a realm of moral and intellectual usefulness: these Ideas regulate and limit our thought, so that, in Kant’s celebrated trio, we can recognize ‘what we can know; what we can hope; and what we can do’. Kantianism, then, is reductive in a critical sense: the truest reality of the world lies underneath what we encounter and know; we cannot know it but can only infer and point to it; it may be in reality but one substance; and we cannot properly know but rather believe and postulate that God, as Creator, willed and sustains it in being.

Modern scientific accounts of the physical laws of finite objects do not stray so far from Kantianism, though in a strong and reductive sense. Consider the modern thermodynamic concept of the cosmos. Here we find a reductionism so thorough-going that to apply it directly to the Doctrine of Creation would entail a symbolic or ‘mythic’ reading of Genesis altogether. That is because the objects named in the Creation narratives could scarcely constitute the goal of an omniscient Creator; rather the Author of the physical laws of the universe would aim instead at the deep and universal reality of the cosmos, *energy*. Matter, for these physicists, is a form of heat or energy; from the largest visible object to the tiniest sub-atomic particle,
energy constitutes the building block and deepest reality. Indeed, the very notion of an object or thing is revised in such quantum physics. All physical things are composed of atoms, these scientists tell us, and these atoms, far from representing Democritus’ simples, are themselves divisible into particles, each bundles of energy. Atoms, molecules, compounds organic and inorganic, elements, minerals, gases and liquids: all are forms of energy, joined together by chemical bonds that are themselves forces of energy. To break down and decay, to cook and slice and boil; to eat and digest; to separate in nuclear fission – in all, energy is released and in the latter, tremendous, annihilating energy, a power that has re-shaped modern politics and modern war.

Parallel to such descriptions of the object as energy is the modern notion of force-field, a notion associated with Michael Faraday and put to great dogmatic use by the modern Lutheran theologian, Wolfhardt Pannenberg. For Faraday, the force-field expressed the unique properties of magnetism, a power fascinating to the early scientific naturalists. Magnets attracted iron filings in patterns drawn around the magnets’ poles. These patterns marked the outer reaches of a field where magnetic force would register and attract. Later physicists generalized Faraday’s findings to the cosmos as a whole: the universe was an interlocking structure formed by the forces of energy in relation and repulsion to each other. The world of things is revolutionized. No longer free-standing or independent, no longer discrete substances, however counted and conceived, creaturely objects are now ‘nodes’ in a web of energy, places of density where energy has coalesced and become visible to the naked eye. This web of relation that gives rise to objects, scarcely conceivable to earlier generations, has now become the fundament of all finite reality, the energy that drives the universe in all its parts. Reductionism could hardly find a greater partisan than these theoretical physicists. The Heraclitan fire returns now under the idiom and concept of energy and its forces. One step remains.

In modern philosophy of science, or in metaphysics, reductionism is laid out as a complete theory of the cosmos and all things within it. For these philosophers, particularly in the Anglo-American analytic tradition, all objects, organic and inorganic, all artifacts and culture, every thought and hope and belief, all matter, living and inert must be in fact and reality a collection of sub-atomic particles. For metaphysicians such as W.V.O. Quine (1969) or philosophers of mind such as Jaegwon Kim (1998), every thing that is and every thought conceived and held must be traced back to these particles, either in element and molecule, or in brains and their chemical structure and state. The biochemical account of the physical
universe, sketched above, has become in these philosophers a metaphysical theory, a complete doctrine of everything. In the philosophy of mind, such philosophers are ‘physicalists’; in metaphysics, ‘reductive’ or ‘eliminative materialists’. It is important, and difficult, to see just how radical this position is.

If we were to count up all the things in this world, these philosophers say, we would count no trees, no rocks nor birds, no kitchen chairs nor dessert plates, no Sistine Chapel, no Michaelangelo. That is not because such things do not matter to these philosophers; far from it! Rather, these beings and objects belong to a human, cultural, and linguistic world that we might call ‘phenomenal’, following Kant, or ‘intentional’, following the physicalist Daniel Dennett (1996). But such artifacts and conventions and practices, if they are to belong to a true and scientific account of the world must be seen for what in truth they are: a collection of particles ‘arranged thing-wise’. Should any such philosopher be a Christian, he or she would affirm that the Creator God – wholly omniscient, wholly immaterial and transcendent – would create this realm of quarks and positrons and electrons, and would decree the physical laws that would govern their ordering and organizing as the medium-sized objects human beings see and prize, love and fear. The cosmos such a God would create would be exhausted in the infinitesimal particles of energy that compose and structure and cause the universe and all its parts.

With the help of these philosophers we have reached the antipodes of our common-sense readers of Genesis and their anti-reductive kin. This array, from the theologians and philosophers of ordinary objects, to the scientists of modern quantum mechanics, to the philosophers that translate their findings into metaphysics, all contribute an answer to the background question: When God created the world, just what did he create? From medium-sized objects, to prime matter, to quarks and positrons, the notions of the natural and naturalism have guided the modern doctrine of creation, for good and for ill.

2. A Theological Proposal

So, I want to leave as much scope as I can for Christian theologians when they face the demands of naturalism. Yet I would not do justice to my own field, systematic theology, if I did not offer my own accounting of the relation of Creation to the natural and naturalistic. There is every reason, I believe, for Christian theologians to defend and take seriously the world of objects, of moderate-sized dry goods. With every scientific theory in place, from cosmology to particle physics to evolution, Christians may still with confidence hold that the Bible speaks without hesitation of the creation of
things, not particles or force-fields or natural laws, if such there be; but of individuals and of kinds. Christians need not undertake the sorry endeavor of a harmonization of the Book of Genesis with modern day astrophysics; we can quietly, or gladly, place that effort on the shelf marked, ‘false starts in dogmatic theology’. For religion and science do not enter the world of the real through the same gateway, nor do they work on the same floor – though they serve the same Master and aim at the same universe of the real. Rather, Christians should rightly expect that the Bible will give them an impulse, a guiding hand, a telos by which modern doctrine should be forged. The Book of Genesis, in just this way, points theologians to the proper scopus and goal of their concern: the environment and thought-world of whole, complex and real living beings. We need not rank such creatures, though to be sure, the door remains open to a hierarchy of forms of life. For my own part I will confess that I believe human beings to stand apart and distinct from other animals and plants; but I will confess too that I believe Almighty God is far greater pleased with other living creatures than with us and our kind, the great predators and destroyers on God’s fair earth.

Far more significant, however, than the matter of ranking comes the place of diversity in Christian Doctrines of Creation. Once again, I believe that theologians have every reason to hear in Holy Scripture an underlying and persistent percussion of the diverse and multiple and richly complex. Christian theologians, that is, have good reason to resist the ancient pull of reductionism, of simplicity, and of uniformity. The integrity of the world – that we live in a cosmos not a disordered array – rests not on the conviction that at base everything is one and of one kind. Rather, the remarkable and irresistible conviction that we live in an integrated whole, a working universe and a home, rests not on its substance but rather on its relation to Another: unity is an external and relational property, an essential one. The entire world comes from God, the Creator, and in virtue of His work and gift, it is a whole. The rich diversity of this planet, and perhaps other planets and star systems as well, is an exceedingly good gift that need not be thought away in a mis-guided search for simplicity and coherence. The metaphysical wholeness and interconnection of this earth rests on its origin and destiny – in scholastic idiom, its exit and return to God. The world is natural, that is, but not alone. Or to speak once again in poetic diction, this time in the stately words of Gerard Manley Hopkins:

And for all this, nature is never spent; / There lives the dearest freshness deep down things; / and though the last lights off the black West went / Oh, morning, at the brown brink eastward, springs — / because the Holy
Ghost over the bent / world broods with warm breast and with ah! bright wings (God’s *Grandeur*).

3. **Conclusion**

William Blake introduced our themes for a modern Doctrine of Creation: of the Tyger, burning bright, sinewy and terrible, an Artifact forged in an industrial age; and of the Lamb, innocent and mild, born in some distant garden when Nature was young. The modern Doctrine of Creation has encountered both animals in its complex journey through the thought-forms, philosophy, and science of our world. Christians have struggled to understand the very foundation of the world – its composition and character – and have sought, at times at great cost, to find God presence, design, and will in the ordering of Nature’s laws, growth and creatures. They have witnessed over two long and often brutal centuries the godforsakeness of a world seemingly left to its own cruel self-destruction in war and famine and despoliation. Yet Christians have remained faithful to the Doctrine of Creation’s central tenet: that God is the Absolute Origin of all that is; that what God has fashioned is wonderfully made, and rich in Divine benevolence; and that human life, however ordered and however wayward, receives from this natural world a grace and gift fresh each morning.
REFERENCES