HOMO FABER AND/OR
HOMO ADORANS: ON THE
PLACE OF HUMAN MAKING
IN A SACRAMENTAL COSMOS

• Michael Hanby •

“As the very name suggests, techn-ology, as a certain kind of fusion of knowing and making, is not just a way of manipulating the world to our benefit. It is a way of understanding the world.”

Then God said, “Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth.” So God created humankind in his image, in the image of God he created them; male and female he created them. God blessed them, and God said to them, “Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.”

In the day that the Lord God made the earth and the heavens, when no plant of the field was yet in the earth and no herb of the field had yet sprung up—for the Lord God had not caused it to rain upon the earth, and there was no one to till the ground; but a stream would rise from the earth, and water the whole face of the ground—then the Lord God formed man
from the dust of the ground, and breathed into his nostrils the breath of life; and the man became a living being.

The Lord God took man and put him in the garden of Eden to till and keep it.

Work, as the opening chapters of Genesis show and as the Church has continually affirmed, “is a fundamental dimension of man’s existence on earth.” It is not merely recompense for the Fall, but part of man’s original condition and an integral dimension of the *imago Dei.* Indeed it is this intrinsic relation between human being and doing and making, the fact that making is an integral dimension of human nature, that makes human labor susceptible to such profound distortion by sin and such a potent vehicle for oppression. It is also why “human work is a key, probably the essential key, to the whole social question.” But what does this really mean?

In our age, human work, and certainly human making, is overwhelmingly determined by technology, whose novelty with respect to premodern *téchnē* is no matter of mere degree. This novelty is signaled rather by its very name, which fuses *téchnē* and *logos,* making and knowing, in an unprecedented synthesis.

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1 *Laborem exercens*, 4.

2 “Man is the image of God partly through the mandate received from his creator to subdue, to dominate, the earth. In carrying out this mandate, man, every human being, reflects the very action of the creator of the universe” (*Laborem exercens*, 4). John Paul II defines work as “any activity by man, whether manual or intellectual, whatever its nature or circumstances; it means any human activity that can and must be recognized as work, in the midst of all the many activities of which man is capable and to which he is predisposed by his very nature, by virtue of humanity itself.” Though I will suggest later in the essay that there is an element of “creative making” in all such activity, this definition of work is broader than the classical understanding of *téchnē* and includes activities that would not, on that understanding, be considered making. Though I acknowledge and would want to retain a distinction between making proper and other kinds of work that are not productive in the traditional sense, I use “making” and “work” more or less interchangeably.

3 Ibid., 3.

4 Machiavelli, Bacon, Hobbes, Vico, and Kant all contributed philosophically to the building up of this synthesis. For an overview see Robert Miner, *Truth in the Making: Creative Knowledge in Theology and Philosophy* (London: Routledge, 2004). For Machiavelli’s understanding of the successful prince as one who imposes form
Considered as instruments in the service of human freedom and flourishing, this synthesis and its products have brought such astonishing advances in transportation and medical science, improvements in production efficiency, and ease of worldwide communication, that it is virtually impossible to un-think them, let alone to oppose them. The Church, for her part, has praised and marveled at such advances, seeing them as the outworking of God’s command to till and keep the land and to fill the earth and subdue it. Pope Benedict therefore puts us on guard against any reactionary opposition to technology, proffered in the name of a falsely edenic adoration of nature, that would eliminate the human along with his art. But of course technology is not merely an instrument. It is not merely something we use to shape the world; rather it profoundly shapes us. One need only consider how transportation technology and the mind-boggling revolution in communications technology that has occurred within our own lifetime have dramatically reshaped culture, work, friendships, even written discourse and speech. Nor are these merely transformations in so-called “material culture.” As the very name suggests, techn-ology, as a certain kind of fusion of knowing and making, is not just a way of manipulating the world to our benefit. It is a way of understanding the world, of reflecting it back upon ourselves through our industry, and therefore of being in it. Technology, as Heidegger, Jonas, and George Grant all variously claimed, is the ontology of modernity.

It is an ontology applied ever more exclusively to our own self-understanding. In a stunning prescription for confusing education with ignorance, the eminent zoologist G. G. Simpson, waxing effusive about the revolution occasioned by the publication of The Origin of Species, declares that all attempts to answer the profound

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5 Caritas in veritate, 69; Laborem exercens, 4–10.

6 Caritas in veritate, 14.

questions of human existence “before 1859 are worthless and . . . we will be better off if we ignore them completely.” Or consider the remarks of Gregory Stock, a biophysicist and biotech entrepreneur who formerly directed the program on Medicine, Technology, and Society at the School of Medicine at UCLA. These are from his 2002 post-humanist manifesto, *Redesigning Humans*.

Imagine that a future father gives his baby daughter chromosome 47, version 2.0, a top of the line model with a dozen therapeutic gene modules. By the time she grows up and has a child of her own, she finds 2.0 downright primitive. Her three-gene anticancer module pales beside the eight-gene cluster of the new version 5.9, which better regulates gene expression, targets additional cancers, and has fewer side effects. The anti-obesity module is pretty much the same in both versions, but 5.9 features a whopping nineteen antivirus modules instead of the four she has and an anti-aging module that can maintain juvenile hormone levels for an extra decade and retain immune function longer too. The daughter may be too sensible to opt for some of the more experimental modules for her son, but she cannot imagine giving him her antique chromosome and forcing him to take the drugs she uses to compensate for its shortcomings. As far as reverting to the pre-therapy, natural state of 23 chromosome pairs, well, only Luddites would do that to their kids.

Now I do not doubt for a minute that Stock’s eugenical enthusiasm is extreme, even for a biophysicist. But the personal convictions and subjective motivations of scientists are really beside the point, Stock tells us. In fact, one reason why our post-human future is so difficult to oppose is the fact that it is the product of a well-intentioned attempt to answer a perceived human need.

The coming possibilities will be the inadvertent spinoff of mainstream research that virtually everyone supports . . . . Researchers and clinicians working on in vitro fertilization (IVF) don’t think much about future human evolution, but nonetheless are building a foundation of expertise in conceiving, handling, testing, and implanting human embryos, and this will

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one day be the basis for the manipulation of the human species . . . . And once a relatively inexpensive technology becomes feasible in thousands of laboratories around the world and a sizable fraction of the population sees it as beneficial, it will be used . . . . We have spent billions to unravel our biology, not out of idle curiosity, but in the hope of bettering our lives. We are not about to turn away from this.10

Stock’s analogy suggests that there is a perennial truth to Aristotle’s saying, which became axiomatic for the Middle Ages, that art imitates nature.11 There are a couple of crucial differences, however, besides the complexity of the artifacts in whose image we now understand ourselves. The first is that artifice is no longer merely an analogy for nature; rather we understand nature by means of art, that is to say, through the act of making and unmaking it. The second, and Stock’s analogy illustrates this, is that the analogy is now reversed. Both of these factors, I suggest, lie at the root of that ambivalence which Benedict has ascribed to technology in Caritas in veritate and elsewhere.12 On the one hand, as the exteriorization of logos, as the imposition of form on matter, human work and human artifice give expression to what is most profoundly human in us. Art belongs to the imago Dei in its original constitution and stands to nature in a position roughly analogous to grace: actualizing for nature potentialities which it could not realize for itself. On the other hand, the reign of technology persistently threatens to reduce us to an image or an instrument of our artifacts. The resulting inhumanism is visible across virtually every front of contemporary culture, whether it be the soullessness of modern cities and suburbs, the banal transgressiveness of the so-called “fine arts,” the stupefying effects of internet use, the dearth of quality work, or the neo-eugenic fantasies of genetic reductionists and biotech entrepreneurs.

How are we to think about the ambivalence of technology? Though there are obviously deep moral problems at work here, I suggest that we fail to grasp them adequately if we conceive of the problem in terms of the moral use of technology, as if technology

10 Ibid., 5, 13.

11 Aristotle, Physics II.2, 194a23.

12 Caritas in veritate, 14.
were merely an instrument after all and we somehow stood “outside” it. That is simply not the case. And it is not enough to ask how to apply technology to life in morally responsible ways when you have a difficult time distinguishing between an organism and a software package. Nor can the question of work, and by implication the social question, be resolved simply by protecting the rights of workers, important though this is. Neither of these is sufficient to secure the “primacy of man over things,” when our way of producing, understanding, and living with things threatens to make man himself unintelligible.\footnote{Laborem exercens, 12.}

The deep interpenetration between human nature and human art suggests their deep mutual dependence, and it suggests further that there is little hope of a genuinely human (and humane) making without an adequate concept of the \textit{humanum} and of nature as such. But it suggests that the converse is also true, that we cannot attain to an adequate conception of the \textit{humanum} without a genuinely human art.\footnote{At this point in the essay, I do not by “art” mean what we typically refer to as “the fine arts” but making or fabrication as such. We will have occasion to visit the distinction between the fine arts and the mechanical arts later on.} Clearly, experimental science has a vital role to play here, but I do not mean by this simply that we need good or better science. The humanity of science and technology, as knowledge and as practice, depends upon their capacity for integration into a more comprehensive order of human knowing and making, apart from which they remain endemically reductionistic and dehumanizing.\footnote{I would argue that this integration is precluded in principle by the ontological commitments at the foundation of modern scientific practice, commitments which remain operative throughout. We will attend to these below.} To say therefore that an adequate self-understanding depends upon a properly human art is to say that we cannot attain an adequate understanding of ourselves without adequately understanding the act of human making, without being able to make in a properly human way, and without artifacts that express and reflect the mystery of our being as creatures in the \textit{imago Dei}. Science and technology can only be humanized if and when they are integrated within \textit{that} order.

That such an integration seems all but impossible, and more so all the time, leads us to ask what it is about the technological
ontology of modernity, and its inversion of the traditional analogy between nature and art, that disposes it toward inhumanity. What becomes of human making, and man the “subject of work,” when art no longer imitates nature but nature imitates art, or rather, when the difference between them is collapsed altogether and nature becomes art, susceptible in principle to endless making and remaking? These questions, the questions of human work and human art, are not simply practical or moral questions. They are practical, moral, and ontological at once.

1. Téchnê and totalitarianism: the triumph of art over nature

In order to understand more fully modernity’s conflation of nature and artifice, let us first look a bit more closely at why Aristotle distinguishes nature from artifice. A natural thing, paradigmatically a living thing for Aristotle, is distinguished from an artifact by the fact that its form or nature is intrinsic to it and is both the source and end, “that for the sake of which” the thing grows, develops, moves, and generates another like itself.16 A living thing is, as Kant put it, both cause and effect of itself, its parts growing and developing not simply for the sake of each other but by means of each other.17 Its unity therefore differs quite markedly from that of an artifact, transcending and thus ontologically preceding its temporal development and making it just so far indivisible (despite the “infinite” divisibility of its parts); while an artifact, which has only an extrinsic and accidental relation to its own form, only comes about at the end of its piece-by-piece assembly. Its unity is the unity of an aggregate, albeit often a highly organized one. From the very first, then, a natural thing is a whole, the subject rather than the consequence of its own development, given to itself as its own

16 Aristotle, Physics II.1, 192b10 ff. It seems to me possible, on Aristotelian terms, to distinguish between things that are more and less natural on the basis of the depth of their interiority, their capacity for self-movement, which corresponds to a height of self-transcendence, the capacity for having and relation to a world. Though Aristotle does not characterize nature in this way, so far as I know, I take it as the assumption that warrants his treating nature primarily in terms of living things.

17 Kant, Critique of Judgment (Indianapolis: Hackett, 1987), 249.
project (the literal meaning of *enérgeia*). Precisely for this reason, it is possessed of an interiority that is incommunicable. Man has a definition; Socrates does not. And yet precisely those acts which manifest the interiority of the man Socrates, acts such as seeing, sensing, touching, respirating, metabolizing—dare we say, the act of being—bind him in a “single actuality” with their objects, with the places conducive to his flourishing, and ultimately, with the cosmos.\(^{18}\) A living thing exists only by having always already taken the world into itself, and the more profound its capacity to receive the world, through respiration, metabolism, sensation, and thought, the more pronounced is its distinction from the world. To say then, that art imitates nature is to say that natural things are a proper unity, possess their own being, and are thus integrated both in themselves and with a world, in a way that artifacts are not. An artifact has its form impressed upon it from the outside, and its parts are only externally and accidentally related to this imposed form. Its being resides not principally in itself, but in the mind of the artisan. “*We in a sense are the end of artificial things,*” says Aquinas, commenting on Aristotle.\(^{19}\) And yet art can illuminate our understanding of nature in (at least) two ways: understanding the act of making itself helps us to understand act and causality as such, or to put it more strongly, we cannot understand causality without understanding this act,\(^{20}\) and an artifact can serve as an analogy for natural things because it is the recipient of an intelligible form and because its parts, though accidentally related, are integrated toward a common end. I would add a third point, though to my knowledge Aristotle does not, that artifacts, particularly those whose end is the beautiful, acquire “on loan” from their makers something analogous to the being-in-itselfness of *enérgeia*. The Parthenon or a beautiful sculpture has the “right” to exist.

The Christian discovery of *esse* and personal being deepened this interiority nearly to infinity, since the infinite God as the giver of *esse* was now more interior to the creature than it was to itself. And it resolved a certain Greek ambivalence over difference (expressed somewhat differently in the Platonic and Aristotelian

\(^{18}\)Aristotle, *De Anima* II.5, 417a20 ff; III.3, 425b28–426a25.

\(^{19}\)Aquinas, *In Metaph.*, lecture 4, 173, emphasis mine.

\(^{20}\)Hans Jonas makes a similar point in *The Phenomenon of Life*, 27–37.
traditions) that followed from regarding form as the highest principle of actuality, making it possible now to regard the particular as “more,” in a sense, than its universal.\(^{21}\) The transformal actuality of *esse, completum et simplex sed non subsistens*, to use the phrase of Aquinas,\(^ {22}\) also made it possible to resolve a problem that had bedeviled Plato and Aristotle alike: how to conceive of the cosmos as a real unity without depriving the substances comprising the cosmos of their own substantiality and reducing them to the status of parts.\(^ {23}\)

The architects of early modern science, in their insurrection against Aristotle, dispensed with all this. “There is nothing sound in the notions of logic and physics,” Bacon opined, “neither substance, nor quality, nor action and passion, nor being itself are good notions.”\(^ {24}\) Setting aside Aristotelian form and substance allowed seventeenth-century thinkers to premise their understanding of nature upon a new conception of matter that was fully actual apart from and outside of form, whose essential characteristic, despite its variations from thinker to thinker, was externality and thus measurability. This elimination of form and finality, which emptied the world of intrinsic meaning, effectively denied goodness any ontological toe-hold, refashioning the meaning of causality itself from a communication of form to a production of force or power, and radically transforming the meaning of dominion in both the natural and political spheres.\(^ {25}\)


\(^{22}\)Aquinas, *De Potentia*, I, 1, ad 1.

\(^{23}\)The debate continues over whether there is such a thing as “cosmic teleology” in Aristotle. Those most contemporary scholars who reject cosmic teleology appear to do so out of a desire to avoid imputing any semblance of a “design argument” to Aristotle. This, it seems to me, misses what is really at stake in this question. I deal with this issue in chapters two and nine of my forthcoming book, *Creation: Theology, Cosmology, and Biology*.


The elimination of essence meant the elimination of being as act, which had heretofore bound the cosmos into a uni-verse, a single order of reality wherein things are mutually implicated in each other’s existence by virtue of their act of be-ing. Setting aside esse, or more precisely, reducing being from act to brute facticity, elevates the possible over the actual and analysis over synthesis and premised the actual world of beings-in-act upon a counterfactual world of singulars subsisting in inertial isolation until acted upon by some outside force, be it the hand of God or gravity.²⁶ It also effectively collapses, or attempts to collapse, the order of being into the order of history.²⁷ The quest for scientific explanation then becomes the task of discovering the laws or mechanisms responsible for bringing the actual world out of the counterfactual world, a discovery that can only be achieved through experimental analysis, and reconstructing a causal history as the outworking of these laws or mechanisms, though these two ambitions have sometimes proven to be at odds with one another.²⁸

This ontological transvaluation evacuated living things of the self-transcending unity and incommunicable interiority conferred on them by form and esse, granting parts ontological priority over the wholes whose parts they are. The living organism is thus no longer a proper per se unum, an indivisible subject of being, but rather a “cluster of contrivances,” as the Anglican William Paley put it, an accidental aggregation of parts that are the parts of no real whole—in short, an artifact.²⁹ As a consequence, each thing will hence

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²⁶In Newton, the difference between the two is not always clear.
²⁷The attempted collapse of being into history can only ever be an attempt, philosophically speaking, because some tacit invocation of a transcendent order of being is invoked in the indicative and is necessary for the intelligibility of history. See D. C. Schindler, “Historical Intelligibility: On Causality and Creation,” in Anthropos 10/xxvi/1 (2010): 25–44.
²⁸This is particularly true of Darwinian biology, which is characterized by a tension between a conception of biology as a species of natural history and biology as a nomothetic, or law-governed discipline analogous to physics.
²⁹William Paley, Natural Theology: or, Evidences of the Existence and Attributes of the Deity Collected from the Appearances of Nature (New York: Sheldon and Company,
forth stand in an extrinsic and accidental relation to its own form, a mere by-product of the organization of its matter with no ontological purchase of its own, an epiphenomenon that must be set aside in order to reach the real world of motion, or matter, or energy (or genes) lying behind it. This is why modern biology is inherently reductive, despite the protests of so-called emergent theorists, and why synthesis of the analytically separated parts can never add up to the whole that occasioned the original analysis.

To know the organism-cum-artifact, then—or any other thing—is to know the historical process by which it came to be and how it works, which in the absence of immediate access to that history and process, means exercising power over it by making and unmaking it. “For we have complete insight only into what we can ourselves make and accomplish according to concepts,” Kant says.30 Gregory Stock gushes that “in the first half of the twenty-first century, biological understanding will likely become less an end in itself than a means to manipulate biology. In one century, we have moved from observing to understanding to engineering.”31 Now I doubt Stock actually means to say that science is no longer interested in understanding organisms, but he is inadvertently correct, albeit for reasons he does not seem to grasp. The trajectory from understanding to engineering is not simply the result of the empirical and experimental successes of modern biology. It has been inscribed into our understanding of nature since the seventeenth century. As nature becomes artifice, manipulability becomes the very essence of both nature and the understanding of nature. Consequently, “modern knowledge of nature,” in Hans Jonas’ slogan, “is a ‘know-how’ and not a ‘know-what.’”32 Or rather, since the “what is” question can

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1854), 109.

30Kant, Critique of Judgment, 264.

31Stock, Redesigning Humans, 7.

32Jonas, The Phenomenon of Life, 205. Not that I am willing to concede this point. Inasmuch as being is the object of the intellect, the “what is” question is not optional. In attempting to dispense with the question, one merely supplies a reductive answer to it. Nor am I willing to concede that analytic and mechanical explanations of living things, abstracted from the lives of the beings whose mechanisms they are, is a sufficient explanation of “how things work.” On this point see Leon Kass, “The Permanent Limitations of Biology,” in Life, Liberty and the Defense of Dignity (San Francisco: Encounter Books, 2002), 277–97.
never be fully dispensed with in practice, the ontological identity of each thing is equated with the coordinated interaction of its parts and the history of the causes that produced it, both of which can be approximated through experimental analysis. As nature becomes artifice, knowledge effectively becomes engineering.\

How does the ontological transvaluation implied in this new fusion of knowing and making alter the historical destiny of téchê? This is of course an enormously complicated question, and in attempting to sketch an answer at the level of the logos of technology—and this can be no more than a sketch—I do not mean to suggest that any specific historical consequences follow ineluctably from these new ontological assumptions. In reality, one cannot separate the triumph of technology as the ontology of modernity from the historical contingency that is the discovery and conquest of the North American continent and the eventual birth of the American state, which is exceptional both in the fact that it is self-consciously artificial, that is, it is the product of a conception of the state as a piece of contractarian artifice, and in the fact that it is “the only society which has no history (truly its own) from before the age of progress.” This makes America essentially liberal—and thus, I would argue, essentially technological—in a way that European liberal societies are not. As the essentially liberal and technological

33 Joseph Ratzinger and Hans Jonas both note that once truth has undergone the transvaluation from its equation with being (ens) to the made (factum), it is but a short step to the identification of truth with feasibility (faciendum). See Joseph Cardinal Ratzinger, Introduction to Christianity (San Francisco: Ignatius Press, 2004), 58–69; Jonas, The Phenomenon of Life, 188–210.

34 George Grant, “In Defence of North America,” in Technology and Empire: Perspectives on North America (Toronto: House of Anansi, 1969), 17. Reprinted in the current issue of Communio. Grant writes, “All of us who came [to North America] made some break in that coming. The break was not only the giving up of the old and the settled, but the entering into the majestic continent which could not be ours in the way that the old had been. It could not be ours in the old way because the making of it ours did not go back before the beginning of conscious memory. The roots of some communities in eastern North America go back far in continuous love for their place, but none of us can be called autochthonous, because in all there is some consciousness of making the land our own.”

35 Though Europe’s distinct identity as Europe is persistently threatened by forgetfulness of its pre-liberal past, I would nevertheless characterize European societies as contingently or accidentally liberal. Britain or France could cease to be liberal without ceasing to be England or France. I would submit the same is not
nation, America is indispensable to the historical triumph of art over nature on a global scale. Those eventualities that follow logically from this ontological transvaluation thus find acute historical expression in the American experiment and in the animating assumptions and structure of American society.

First, the conflation of nature and art brings about a similar collapse of the traditional distinction between contemplation and action. This was of course an explicit goal of the seventeenth century, and it finds its mature, and quintessentially American, philosophical expression in pragmatism, which is philosophically unique in celebrating the death of all truly philosophical questions.36 With beings evacuated of intrinsic intelligibility and truth reduced from being (ens) to the made (factum), contemplative reason, whose object is “what is,” has nothing left to contemplate. Instead knowledge which is of the made must itself be made, produced, by “generat[ing] and superinduc[ing] on a given body a new nature or natures.”37 This is the meaning of Bacon’s famous declaration that knowledge is power. It is not that scientists are subjectively motivated by the desire to make themselves, in Descartes’ phrase, “the lords and masters of nature,” though this is often true enough.38 Bacon, for his part, imagines the exercise of this power to be in the service of charity.39 Its purpose is to improve man’s estate and thus to remedy the effects of the Fall. It is rather that, having already executed an ontological reduction that empties nature of the

36Descartes is quite candid that he was hopeful of “gaining knowledge which would be very useful in life, and of discovering a practical philosophy which might replace the speculative philosophy taught in the schools. Through this philosophy we could know the power and action of fire, water, air, the stars, the heavens and all other bodies in our environment, as distinctly as we know the various crafts of our artisans” (“Discourse on the Method,” in The Philosophical Writings of Descartes, ed. Cottingham, Stoothoof, and Murdoch, vol. 1 [Cambridge: Cambridge University Press, 1985], 142). See also Bacon, The New Organon, I.109, 117, I.130, II.4. For a quintessential text celebrating the death of real philosophical questions, see John Dewey, “The Influence of Darwin on Philosophy,” in Darwin: A Norton Critical Edition, ed. Philip Appleman, 2nd ed. (New York: W.W. Norton, 1979), 305–14.

37Bacon, The New Organon, II.1.

38Descartes, “Discourse on the Method,” 142–43.

interiority of its own being, science knows nature by controlling it. “[N]ature reveals herself more through the harassment of art than in her own proper freedom.” That, in essence, is what experimental knowledge is, and it is precisely this control, the capacity to predict, replicate, and manipulate that is the index and measure of scientific truth. But such action is constrained, in principle, only by the limits of possibility. So with the fusion of nature and art, knowing and making, being becomes essentially instrumental. Again: “We in a sense are the end of artificial things.”

Secondly, the demise of being as act inherent in the reduction of nature to art is tantamount to the demise of the actual world, that is, a uni-verse of things-in–act “mutually ordained to each other.” The dissolution of the “actual world” allows positivist science to abstract itself from its dependence upon forms of reason “higher” or more fundamental than itself, i.e., philosophy or metaphysics, which pragmatic philosophy has now declared meaningless. And it enables the scientist to indulge the illusion of having retreated to an Archimedian point outside of nature, as in Descartes’ famous dualism of res cogitans and res extensa, a position replicated by the juxtaposition of the free individual and political society in liberal political theory. (Such a position, which also

40Bacon, *The New Organon* (plan of the work), 21.

41For a discussion of the transformation of both the ideas and the ideals of science in the transition from the late Middle Ages to early modernity, see Amos Funkenstein, *Theology and the Scientific Imagination: From the Middle Ages to the Seventeenth Century* (Princeton: Princeton University Press, 1987), 18–22.

42John Milbank’s description of this is quite accurate. “Liberalism is peculiar and unlikely because it proceeds by inventing a wholly artificial human being who has never really existed, and then pretending that we are all instances of such a species. This is the pure individual, thought of in abstraction from his or her gender, birth, associations, beliefs, and also, crucially, in equal abstraction from the religious or philosophical beliefs of the observer of this individual as to whether he is a creature made by God, or only material, or naturally evolved and so forth. Such an individual is not only asocial, he is also apsychological; his soul is in every way unspecified. To this blank entity one attaches ‘rights,’ which may be rights to freedom from fear, or from material want. However, real historical individuals include heroes and ascetics, so even these attributions seem too substantive. The pure liberal individual, as Rousseau and Kant finally concluded, is rather the possessor of a free will. Not a will determined to a good or even open to choosing this or that, but a will to will. The pure ‘nature’ of this individual is his capacity to break with any given nature, even to will against himself. Liberalism then imagines
all social order to be either an artifice, the result of various contracts made between
such individuals considered in the abstract (Hobbes and Locke) or else the effect
of the way such individuals through their imaginations fantastically project
themselves into each other’s lives (roughly the view of the Scottish
Enlightenment).” See Milbank, “The Gift of Ruling: Secularization and Political


45The distinction between wonder and admiration is Balthasar’s, and it marks the
point at which positivist science, in taking being for granted, refuses either to
acknowledge its constitutive and inexorable relation to metaphysics and theology
or be integrated into an adequately metaphysical and theological order. “Without
doubt the phenomenal world contains on all sides an objective order which is not
imposed by man, and thus a beauty; the legitimacy of the premise is repeatedly
confirmed for him that there is within Nature a greater objective ordering of
things than he had previously recognized. Every theoretical science with a practical
application, such as medicine or physics, lives from this perennial assumption
which forever proves itself anew. So much is this so, that on this basis philosophy
dares to make an ultimate forward leap by projecting a totality of sense upon the
totality of the actuality of Being in such a way that now necessity is predicated of
the latter. Then Being becomes identical with the necessity to be, and when this

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denies nature any intrinsic meaning in the political realm, is one
reason why liberalism is essentially technological). This juxtaposition
is preserved even in dualism’s materialist antithesis and evident in the
way that reductionists always temporarily exempt themselves from
their own reductions.43 This makes for a marked contrast with *téchnê*
as classically conceived. Ancient *téchnê* presupposes and works within
an anterior order of nature that is given, hence the suggestion that
art bears a relation to nature analogous to grace, perfecting rather
than destroying nature. Receptivity to this order is what it means to
say that thought commences in wonder. Modern science, by
contrast, dispenses with wonder in this sense. When one looks at the
slow pace of discovery and invention from antiquity to the Renais-
sance, says Bacon, “he will easily free himself from all wonder, and
rather pity the human condition, that through so many centuries
there has been such a lack, a dearth of objects and discoveries.”44
Science, at best, commences in admiration, at worst, in what Galileo
approvingly called “the rape of the senses,” an act of cognitive self-
mutilation which rejects the world given in appearance, a meaning-
ful whole comprised of meaningful wholes, for the world of matter
and motion lying behind.45 The Cartesian *epoché*, of course, is the
identity has been taken up by reason, then there is no longer any space for wonder at the fact that there is something rather than nothing, but at most only admiration that everything appears so wonderfully and ‘beautifully’ ordered within the necessity of Being” (Hans Urs von Balthasar, *The Glory of the Lord*, vol. 5: *The Realm of Metaphysics in the Modern Age* [San Francisco: Ignatius Press, 1991], 613–14).

The phrase from Galileo appears in the following context. “I cannot find any bounds for my admiration how reason was able in Aristarchus and Copernicus to commit such a rape upon their senses as, in despite thereof, to make herself mistress to their belief.” See the venerable Salusbury translation of Galileo Galilei, *Dialogue on the Great World Systems*, ed. Giorgio de Santillana (Chicago: University of Chicago Press, 1953), 341. The Stillman Drake translation in the Modern Library Science series edited by Stephen Jay Gould (the Drake translation precedes its inclusion in Gould’s series by half a century) renders the offending phrase, “tanta violenza al senso” as making “reason so conquer sense that, in defiance of the latter, the former became mistress of their belief” (Drake, trans., *Dialogue Concerning the Two Chief World Systems* [New York: The Modern Library, 2001], 381). This is certainly legitimate and may be more technically correct, but the metaphor of sense as an “unwilling mistress” of reason in the sanitized translations loses some of its rhetorical force, and something of philosophical importance as well.

46 It is interesting that Descartes’ depiction of this is one, if not of self-mutilation, then of obstinate refusal to assent to the world as it manifests itself to him at the beginning of his second *Meditation*. “I will now shut up my eyes, stop my ears, and will withdraw all my senses, I will eliminate from my thoughts all images and bodily things, or rather, since this is hardly possible, I will regard all such images as vacuous, false, and worthless” (“Meditations on First Philosophy,” in *The Philosophical Writings of Descartes*, vol. 2, trans. Cottingham, Stoothoff, and Murdoch [Cambridge: Cambridge University Press, 1985], 24).

47 What is true of the order of being is analogously true for the order of knowledge, as positivist science acknowledges no debt to any forms of reason, philosophy, or metaphysics “higher” or more fundamental than itself.

48 Grant, “In Defence of North America,” 17. “That conquering relation to place has left its mark within us. When we go into the Rockies we may have the sense that gods are there. But if so, they cannot manifest themselves to us as ours. They are the gods of another race, and we cannot know them because of what we are, and what we did. There can be nothing immemorial for us except the environment as object. Even our cities have been encampments on the road to economic mastery.”
Third, *esse commune*, while at once common to all and incommunicably proper to each, manifests itself visibly in the beauty of intelligible form. The evacuation of the interiority of form and *esse* is therefore tantamount to the rejection of beauty as a transcendental attribute of being. This too is reflected in the order of human making. Within the traditional distinction between contemplation and practice, the latter was further subdivided into action and production, morality and art or craft. Art was divided yet again between that which aimed at beauty and that which aimed at utility, with the former the “higher” of the two terms. I am not aware of any extended reflection from the Middle Ages on the relation between beauty and utility, but it is clear from looking at medieval and Renaissance art and architecture, different though they are, that they were not extrinsically and indifferently related. The profound influence of monasticism was no doubt vital in holding contemplation and action, beauty and utility, *ora et labora*, in a unity. John Milbank reminds us “that monasteries were also farms, that the Church saw to the upkeep of bridges that were at once crossing places and shrines to the virgin and that the laity often exercised economic, charitable, and festive functions in confraternities that were themselves units of the Church as much as parishes, and therefore occupied no unambiguously ‘secular’ space.”

We can also see this unity, as well as distinction, in the *Didascalicon* by Hugh of Saint Victor, which provided the schema for education on the eve of the birth of scholasticism. Even the mechanical arts were integrated into the

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49 Of course I am trading here on Balthasar’s understanding of beauty as the expression or radiance of form. “The beautiful is above all a form, and the light does not fall on this form from above and from outside, rather it breaks forth from the form’s interior. *Species* and *lumen* in beauty are one. . . . Visible form not only ‘points’ to an invisible unfathomable mystery; form is the apparition of this mystery, and reveals it while, naturally, at the same time protecting and veiling it. Both natural and artistic form has an exterior which appears and an interior depth, both of which, however, are not separable from the form itself. The content (*Gehalt*) does not lie behind the form (*Gestalt*) but within it. Whoever is not capable of seeing and ‘reading’ the form will, by the same token, fail to perceive the content” (Hans Urs von Balthasar, *The Glory of the Lord: A Theological Aesthetics*, vol. 1: *Seeing the Form* [San Francisco: Ignatius Press, 1982], 151).

pursuit of wisdom and the restoration of that wholeness of vision lost in the Fall.\textsuperscript{51}

In other words, the ontological priority of beauty informed the meaning of utility and the mode and manner of production in the arts concerned with usefulness, so that contemplation was inherent, in principle, within production, forming a unity within their distinction. Now I do not wish to paint too simplistic a picture of the causes tending toward the loss of this unity or to issue a blanket pronouncement of “unbeautiful” on the last five hundred years of human artifice. Inasmuch as beauty is a transcendental attribute of being, no art can fail to partake of beauty in some way. Inasmuch as beauty is convertible with goodness and truth, and inasmuch as art remains a human work giving expression to human subjectivity, all art, even that which aims simply to manifest beauty, is didactic in some way. And inasmuch as art does imitate nature by receiving from the artist a kind of being of its own, no artist can ever fully control, or even fully comprehend, the meaning of what he has made.

I would suggest nevertheless that the evacuation of being and of beauty’s objectivity brings about a divorce of beauty and utility to the detriment of both. The irony of the modernists’ battle cry, “art for art’s sake,” is that when beauty is eclipsed as the proper end of the so-called fine arts, art ultimately becomes a matter of didactic utility in the celebration of sublimity, or subjective genius, or political protest, or ontological meaninglessness, all dominant themes of modern art, architecture, and literature. The relationship between the crisis in the fine arts and in human artifice more generally deserves further consideration, of course, but I would suggest that this crisis has a corresponding effect on utility. With beauty subjectivized and privatized, utility itself is shorn of any (intentionally) symbolic function, though utilitarian artifacts inadvertently speak to the pervasive meaninglessness endemic to our materialism. The obsolete shopping malls rotting in decaying suburbs less than a century old and the shiny new box stores stamped on the landscape of newer colonies are both testament to that. When the objectivity

of beauty is denied, utility serves no function but to “extend the power and empire of the human race over the universe of things.”

Fourth, the reduction of nature to artifice and of contemplation to action gives rise, on the one hand, to a relentless dynamism of interminable activity. There are several reasons for this. This conception of nature as artifice and of knowledge as engineering, having evacuated things of their incommunicable interiority, acknowledges no inner integrity that might in principle limit our capacity to manipulate nature to our own ends. “All dignity belongs to man,” Jonas writes—though the advent of biochemistry and biotechnology puts this too into question—“what commands no reverence can be commanded, and all things are for use.” It seems the best we can offer are moral objections, which, in this ontological context, can only appear as moralistic objections, and these, we have seen, are too little and too late to forestall this dynamism. Nevertheless, things do receive their own incommunicable being as a gift from God, and this makes them intensively infinite, which is the very ground of this relentless activity. No matter how thoroughly a thing is assaulted by analysis, it never yields its being up to complete transparency. There is always something left over, something more for analysis to do.

And yet as John Milbank observes, on the other hand, “in the United States nothing really happens; its apparent dynamism conceals an extraordinary stasis.” This is partly due to a fifth factor.

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54 Hans Urs von Balthasar, *Theo-Logic: Theological Logical Theory*, vol. 1: *Truth of the World* (San Francisco: Ignatius Press, 2000), 103: “The mysteriousness of all being is a corollary of the interiority that we have just described. Because of this interiority, there are no naked facts. Naked facts would be exhaustively defined by their facticity; they would give no hint of any relation to a deeper meaning underlying them; they would have no ‘significance’ but their superficial meaning; because of their pure, flat factuality, they would be comprehensible in a single glance as independent, detachable, units. In reality, every being, every event, has significance, is laden with meaning, and is an expression and a sign pointing to something else.” Therefore, he continues a few pages later, “You are never finished with any being, be it the tiniest gnat or the most inconspicuous stone. It has a secret [geheime] opening, through which the never-failing replenishments of sense and significance ceaselessly flow to it from eternity.”
The control, the quest for dominion untethered from any inherent good or meaning that is the form and end of this dynamism, is precisely the thing that empties the world of its own being and dissolves the transcendence of being into the flow of history. Thus viewed as a project for the making of history, this relentless dynamism is a program for taming fortuna by manufacturing destiny, often enough, ironically, by erecting artificial automata that seek to project human power beyond the scope of human caprice, and thus beyond human control.\textsuperscript{56} The liberal state itself and the autonomous market, Newtonian devices both, are the first and foremost of such artifacts.\textsuperscript{57} And yet this is a principal reason why we experience technological civilization not as destiny that we can command, but as fate that we are all but powerless to withstand. Nothing transcends this dynamism. There is no outside it. This, I think, helps to account for the world-weariness whose signs are all around us. One cannot help but think of Augustine’s lament over the earthly city and its libido dominandi: it is a city “which aims at dominion, which holds nations in enslavement, but is itself dominated by that very lust for domination.”\textsuperscript{58}

This tendency to experience our technological destiny as fate is compounded by other, related factors. First, inasmuch as the universe is a cosmos and thus a genuine whole, the abstraction of any part in indifference to the whole for the purposes of technological intervention will necessarily have unanticipated consequences upon the whole that can never be fully anticipated as a matter of principle. Who could have ever imagined, for instance, that oral contraception might ultimately contribute to increased levels of

\textsuperscript{56}This is most obviously the case with Hobbes. The question of the extent to which it applies to the American state depends in part on whether the Lockean philosophy which inspired it deconstructs into a variation on Hobbes. I believe it does, but that is an argument for another essay.

\textsuperscript{57}The American state, with its system of checks and balances, Adam Smith’s free market, and Darwin’s “struggle for existence” have analogies with Newtonian systems in that each of them relies on an extrinsic force to bring about a kind of systemic equilibrium by diverting abstractly isolated entities from their inertial tendencies (to travel in a straight line, to seek to maximize advantage, to produce offspring, etc.).

\textsuperscript{58}Augustine, De Civ., I, praef.
I am not alleging that oral contraception bears the chief responsibility for the high rates of estrogenicity in the water supply as I am not competent to make that judgment on this disputed question. I merely cite it as an example of the sort of unintended consequence that can and typically does arise from large-scale technological intervention on one facet of reality in abstraction from the whole. For a study disputing the claim that oral contraception is the primary culprit responsible for high levels of estrogenicity, see Wise, O’Brien, and Woodruff, “Are Oral Contraceptives a Significant Contributor to the Estrogenicity of Drinking Water?” Environmental Science & Technology 45, no. 1 (2011): 51–60, at http://coe.ucsf.edu/coe/spotlight/env_hlth+wm/contraceptives_water.pdf. The possibility that the lion’s share of responsibility may lie with industrial farming, far from negating my point, only illustrates it. And the fact that the authors suggest improved wastewater treatment as one technical solution to this technical problem illustrates the point made by George Grant below.


Criticizing liberal theorists for attempting to divide sovereignty between its legislative and executive functions, or rather, for failing to understand the nature of sovereignty, Rousseau distinguishes between sovereignty and these manifestations of it, ascribing to it characteristics of eternity such as indivisibility and inalienability. With this notion of an inalienable and indivisible sovereignty, the state becomes the transcendent screen against and within which other entities are permitted—or not—to appear. It seems to me that the American Constitution exemplifies this understanding. It makes provision for change or amendment within its parameters, but it makes no provision for its own replacement with
it, “liberalism allows apparent total diversity of choice; at the same
time it is really a formal conspiracy to ensure that no choice can ever
be significantly effective.” The apparent dynamism of a liberal and
technological society conceals an extraordinary stasis because it is
now all but impossible to imagine that anything transcends them.

Finally, the reduction of nature to artifact and beauty to use
executes an a priori reduction upon the objects of technology in the
name of the endless remaking of the future, profoundly refashioning
work in what Laborem exercens calls its “objective sense.” But the
reduction of contemplation to action, the subjective corollary to this
transvaluation, exerts a similar reduction on work in its subjective
sense. The projection of human power beyond a human scale
requires the technologization of human labor, which has as its
counterpart the mechanization of the human subject in the form of
specialization and bureaucratization. Entailed in this is the ever-
present threat that the worker and his labor will be reduced to the
status of interchangeable parts in a “social machine” of production
and consumption. Simone Weil saw this coming to pass in the rise
of industrialism and the “bureaucratic machine.” Simone Weil took the rapid advance of bureaucratization as a sign of the
mechanization of society. “The rise of the bureaucratic element in industry is only
the most characteristic aspect of an altogether general phenomenon. The essential
thing about this phenomenon is a specialization increasing from day to day. The
transformation that has taken place in industry, where skilled workmen capable of
understanding and handling many types of machine have been replaced by
specialized unskilled hands automatically trained to serve one type of machine only,
is the image of a development which has occurred in every field . . . . The
scientists, in their turn, not only remain out of touch with technical problems, but
are furthermore entirely deprived of that general view of things which is the very
essence of theoretical culture. One could count on one’s fingers the number of
scientists throughout the world with a general idea of the history and development
of their particular science: there is none who is really competent as regards sciences
other than his own. As science forms an indivisible whole, one may say that there
are no longer, strictly speaking, scientists, but only unskilled hands doing scientific
work, cogs in a whole their minds are quite incapable of embracing.

“In almost all fields, the individual, shut up within the bounds of a limited
maintains that the process of “proleterianization” has triumphed, despite the passing of “Fordist” production as the predominant structure of labor in developed societies. “In the modern, totally mobilized state, all of both sexes, save the old, the young, and the infirm, are or ought to be workers . . . . In Marx’s sense—that a proletarian is one who lives by selling his labor—we are all proletarians now, down to the last yuppie.”

The result is the triumph of that “materialistic and economistic thought,” the political and economic expression of technological ontology, according to which our most fundamental identity is our economic identity as a producer-consumer, the dominance of which can be seen in the hyper-mobility of labor and the subsequent de-stabilization of family life, local communities, and intermediate association, interposed between the individual, the market, and the state, that used to make up “civil society.” The capacity for de-humanization here is obvious, in the subordination of labor to capital or to impersonal economic forces and in the state’s bureaucratic mediation of all human associations. But I wish to consider another de-humanizing facet of the technologization and bureaucratization of work and to suggest that ensuring the rights of workers in the ordinary, economistic, and materialistic sense, important though that is, is not sufficient to ensure the integrity of work in its subjective sense or to secure the “priority of man over things.” For lack of a better way of putting it, there is an ineliminably “aesthetic” dimension to the quest for social justice.

proficiency, finds himself caught up in a whole which is beyond him, by which he must regulate all his activity, and whose functioning he is unable to understand. In such a situation, there is one function which takes on a supreme importance, namely, that which consists simply in co-ordinating; we may call it the administrative of bureaucratic function. The speed with which bureaucracy has invaded almost every branch of human activity is something astounding once one thinks about it. The rationalized factory, where man finds himself shorn, in the interests of a passive mechanism, of everything which makes for initiative, intelligence, knowledge, method, is as it were an image of our present-day society. For the bureaucratic machine, though composed of flesh, and of well-fed flesh at that, is none the less as irresponsible and as soulless as are machines made of iron and steel” (Simone Weil, Oppression and Liberty [Amherst: University of Massachuetts Press, 1973], 13).

The privatization of beauty, the reduction of nature to artifact and of contemplation to action, is tantamount to the “technologization of subjectivity,” the elimination of mind, and thus freedom, and thus what is essentially human, from work itself. “True liberty,” Simone Weil writes, “is not defined by a relationship between desire and its satisfaction, but by a relationship between thought and action; the absolutely free man would be he whose every action proceeded from a preliminary judgment concerning the end he set himself, and the sequence of means suitable for attaining this end.”66 Retaining the liberty of contemplation within action does not require each man to become a philosopher-king, but it must leave open the possibility that he could become a philosopher-plumber. Weil puts the matter thus:

It is clear enough that one kind of work differs substantially from another by reason of something which has nothing to do with welfare, or leisure, or security, and yet which claims each man’s devotion; a fisherman battling against wind and waves in his little boat, although he suffers from cold, fatigue, lack of leisure and even of sleep, danger and primitive level of existence, has a more enviable lot than the manual worker on a production-line, who is nevertheless better off as regards nearly all these matters. That is because his work resembles far more the work of a free man, despite the fact that routine and blind improvisation sometimes play a fairly large part in it.

Similar differences are found in collective action; a team of workers on a production-line under the eye of a foreman is a sorry spectacle, whereas it is a fine sight to see a handful of workmen in the building trade, checked by some difficulty, ponder the problem each for himself, make various suggestions for dealing with it, and then apply unanimously the method conceived by one of them, who may or may not have any

66Weil, *Oppression and Liberty*, 85. Now I do not think this is a sufficient statement of the essence of “true liberty.” True ends are given in and with our being; they are not simply those which we set for ourselves, though our freedom consists partly in our embracing them. For this very reason I take liberty, the free embrace of our own being as gift, to consist in both a relationship between desire and satisfaction and a relationship between thought and action. Weil’s point is nevertheless profound, and is as insightful now as it was when she wrote in the 1930s.
official authority over the remainder. At such moments the image of a free community appears almost in its purity.67

Work in the post-industrial world has not ceased to be any less “specialized” for being less “Fordist” in form. Rare is the person, whether in a factory or a cubicle, whose work entails judgment in relation even to the good of the whole enterprise, as in traditional craft knowledge, rather than mere technical expertise in manipulating means to proximate ends. Where this kind of integral wholeness of action is recovered it can only be in a boutique way, that is, as a fragment—and often enough as a fetish for the well-to-do. “Anybody gone into Whole Foods lately and seen what they charge for arugula?”68

The expansion of specialization is the contraction of reason. Rarer still than the person who can integrate a range of judgment into action is the person who can integrate his work and life into a coherent whole in service of an end higher than the extrinsic goods, the bourgeois comforts, afforded by economic success. This is partly a function of what now passes for education, really a specialized vocational training (if you’re lucky) that leaves its victims with varying degrees of technical skill, a fragmentary (or reductively totalitarian) view of reality, and an adolescent’s capacity for philosophical thinking. To see this, one need only look at the philosophical acumen of some of the scientists who have appointed themselves “public intellectuals.” But this difficulty of integrating contemplation and action, work and life into a coherent whole stems also from the fact that our culture simply affords no provision for this, thereby raising the question of whether it even merits the designation of a “culture.” “If, for example, the citizens of New York chose to run their city according to that liturgical order which its gothic skyscrapers so strangely imitate (indeed Manhattan constitutes one gigantic cathedral-castle) with a third of the days off a year for worship and feasting, neither state nor market would permit this.”69

It is virtually impossible, in other words, for work to become an expression of worship, and thus to realize the original meaning of

67Weil, Oppression and Liberty, 100–01.
dominion. This is a crisis for Catholics, for it leads inevitably to the separation of faith and life. This is not to say, of course, that it is not possible to practice the “spirituality of work” commended by John Paul II, assisting others to live holier lives and uniting one’s own toil and suffering to the Cross of Christ. But it is to say that there is little work, little in the nature of work as conceived and practiced in our technological society, that is inherently ordered, by its own internal logic, to the sacramental order of creation and that permits the one who undertakes it to understand and reflect upon that order or to live a maximally coherent life in view of that reality.

Our technological ontology and its fragmentation of the universe are thus reflected in a form of human making that fragments both the objects of our labor and the subjects as well, making it possible not only to manipulate the world and indeed our own nature as an object with ever greater facility, but to be manipulated by technical, political, and market forces beyond our control. And this makes it virtually impossible, in turn, to live in a coherent way that is genuinely human or to realize anything like an authentically human culture. With this we come up against our original thesis, that the recovery of an adequate, and adequately lived understanding of human nature, goes hand in hand with the recovery of a genuinely human art and that a genuinely human art depends upon the rediscovery of ourselves as creatures.

2. Creation and co-creation: metaphysics and human making

We began by claiming that human making is an integral and an original dimension of the imago Dei and that this in turn informs the meaning of human making in its original structure. An image, of course, represents something beyond itself, so in considering some of the characteristics of modern technological making we have attempted to consider the ontology of which it is the reflection. Similarly, in considering human making in its ontologically original form, we must consider the Creator and the act of creation that are its archetype and in which human making itself participates.

Aquinas insists with the whole tradition that God does not act for an end in creation.70 Creation does not realize some goal or

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70 Aquinas, ST I, q. 44, a. 4, resp.
actualize some potency otherwise lacking in God, who is already esse ipsum subsistens—the fullness of being itself, and the world is not a means to an end—an instrument—for some purpose as yet unfulfilled. Rather God creates out of the superabundance of his goodness as Trinity, that there might simply be something good and beautiful other than God. This is one reason why creation is not artifice, in spite of the fact that the tradition takes frequent recourse to the craft analogy, because the being of the world is not a means to an end but an end in itself, beautiful and good, indeed very good, “in its own right.”

We can specify this further. Precisely because God is already the fullness of act, he need do nothing other than be in order to cause the world. All the “action,” as it were, is on the side of the world, precisely in and as this gratuitous “surplus” of being. Properly understood then, creation ex nihilo is not first and foremost a question of temporal origins, of what happens in so-called Planck Time, for instance, $10^{-43}$ of a second before the Big Bang. Nor is it some “third thing,” a force or a mechanism or a skyhook as Daniel Dennett ignorantly supposes. Creation, another name for the presence of God to the world, is immediate: “non potest aliquid esse medium inter creatum et increatum.” Creation is rather a matter of

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71 The other reason creation differs from artifice, which we shall come to shortly, is that creation ex nihilo presupposed nothing whereas artifice already presupposes being. The difference between traditional uses of the “craft analogy” for creation, and quintessentially modern uses, such as one finds in Intelligent Design and Neo-Darwinism and which follow upon the conflation of nature and art, is that the former are conditioned by a proper sense of analogy, itself grounded in an adequate understanding of divine transcendence and the God-world difference, wherein any analogical likeness to God is transcended by an ever-greater difference and unlikeness. The conversion of nature to art, which empties nature of its interiority, also deprives God of his transcendence and renders him as a finite object within being, juxtaposed to the world. Once this occurs, analogies such as the craft analogy no longer give evidence of an ever-greater difference, but express a simple parallelism between God and the world. One sees variations of this in Galileo, Descartes, and Newton, as well as in the contemporary use of this analogy by the so-called New Atheists.

72 Thus Aquinas says that creation, in its active sense, is simply the divine essence with a certain rational relation to God. Aquinas, In Sent., 2.1.1, a. 2.


74 Aquinas, De Veritate, 8.17.
ontological origins, and thus the ontological structure of the world at every moment of its existence, *ex nihilo* being the negative name given to this structure.75 “Hence the non-being which things have by nature is prior in them to the being which they have from another, even if it is not prior in duration.”76

Creation *ex nihilo* means that nothing but God’s infinite goodness is presupposed for the exercise of divine generosity. It means that the world, as Kenneth Schmitz puts it, “is not called for.”77 Positively speaking, it means that creation “is not as such a remedy for some lack, but is rather an unexpected surplus that comes without prior conditions set by the recipient . . . . Creation is to be understood as the reception of a good not due in any way, so that there cannot be even a subject of that reception. It is absolute receipt; there is not something which receives, but sheer receiving.”78 Because I am sheer receiving, my being is marked from the very beginning and always by this prior receptivity, by being *from*. Yet what I receive in receiving my being is *act*, agency, which is by definition self-communicating and causative, a being with and a being *for*. Precisely in being, which is being-at-work, each thing is an image of God.79 This gratuitous surplus “shows up” in this way, not as a qualification of the world, or something done to it, but as *esse commune*, the act of being common to all things and incommunicably proper to each thing. Every creature is a “concrete universal.” It exists only according to a given universal form, and yet as the subject or bearer of that form it is a true *novum*, existentially irreducible to the antecedent causes upon which it depends. Every child awakens for the first time in Eden.

Creation thus understood implies a unity of contemplation and action deeper than was conceived by the Greeks. The fact that each *ens* (and every event of knowledge) is itself a novelty, and the fact that each novelty is intensively inexhaustible in its very intelligibility, means at the same time that there must be an active,

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75I am referring here to what Aquinas calls the passive sense of creation.
76Aquinas, *In Sent.*, II.1.1, a. 5, ad 3.
78Ibid., 33.
79Aquinas, *SCG* II, 6, 4.
creative, or “poetic” dimension inherent simply in the knowledge of the universal.  

This is evidenced by the fact that universals are only ever apprehended through the mediation of historically contingent languages, none of which is fully reducible to any other. Just as there are certain potentialities in the world qua visible, sensible, and intelligible that cannot be realized until there is someone to see, think, and know them, so there are universals that cannot be realized in the world before there is a language through which to think them. So the moderns are right in a certain sense.

80 This too, I would argue, is an analogical reflection of the trinitarian archetype, in which generativity and receptivity, unity, identity, and novelty, always coextend in the eternal generation of the Son from the Father. In this case, we may suggest that the “fallenness” of modern science consists not simply in its equation of knowing and doing, nor in the fact that it replicates Adam’s gesture in seeking to “be like God” (Gn 2:3), but rather that it seeks to create and to be like God in a paternal rather than a filial mode, though the co-eternity of Father and Son means that there is no real paternity without filiality.

81 Obviously, I cannot here resolve all the “semiotic” difficulties—I use the term advisedly—which this particular relation between universality and particularity raises and which has given rise historically to distinctions between the interior and expressed word, langue and parole, scheme and content, sense and reference, etc., distinctions whose meaning and function depend on prior, though typically unstated, metaphysical presuppositions about the relation between a transcendent order of being and the historical order. When these are tacitly or explicitly juxtaposed, then the creativity and stability of historical convention becomes “mere” convention and the cage of either an idealist or linguistic immanentism.

If being and history are not inversely, but “proportionally” correlated, however—as ultimately is disclosed in the hypostatic union—then historical creativity and convention are not the antithesis of an order of being that transcends any particular language and in which all languages participate, but rather the expression of this order.

82 The qualifier “in the world” is important here; obviously from the point of view of creation, that intelligibility is already actualized in the divine ideas. In saying this, I am drawing on Aristotle’s contention that the actuality of any efficient cause is realized not in the cause but in the effect, in which case the intelligibility of the world, as the cause of our knowledge of it, is realized in us, as it is contemplated. Jonathan Lear makes the interesting observation, “If, in Aristotle’s world, form which exists as a potentiality is in part a force toward the realization of form at the highest level of actuality, then one ought to conceive of perceptible forms embodied in physical objects as forces directed toward the awareness of form. For it is only in the awareness of a perceiver that perceptible form achieves its highest level of actuality. The sensible form of a tree is a real force in the tree toward being perceived as a tree. The perceiving of the tree must occur
Knowledge must always be “made” and made anew, in order to “catch up” with what the object itself gives out of its inexhaustible depth; I see no way of simultaneously denying this and affirming that poetry, much less prayer, is a form of seeing.

Yet the very act that establishes the novel identity of the ens and differentiates it substantially from every other binds it into an antecedent order of actuality shared by every other. Obviously this is true not only of the objects of knowledge, but of its subjects as well, whose acts of being and knowing implicate this antecedent order in its substantial identity. This antecedent order confirmed in the act of being and the mutual actuality of knower and known means that there is a priority of contemplative receptivity in all knowledge of the world, as indeed there must be if it is to be knowledge of the world. I can have no knowledge of any particular thing, including myself, without the myriad ways that the world has already taken up residence in me, ways including, but not limited to, my consciousness. My every action is therefore preceded, ontologically if not temporally, by an act of contemplative receptivity. Paradoxically, then, while there is a “creative” or active moment within the receptivity of contemplation, there is a priority of contemplative receptivity within the creativity of action.

Aquinas insists that creation, properly speaking, belongs to God alone, as only God, who is esse ipsum subsistens, can grant it to

in the sense faculty of a perceiver, but the perceiving itself is nevertheless the highest realization of sensible form.” In other words, form is essentially self-communicating and things “want,” as it were, to be contemplated. Here we have an intimation of the Augustinian-Bonaventurian insight that the very intelligibility of things is itself an imago Trinitatis. See Lear, Aristotle: The Desire to Understand (Cambridge: Cambridge University Press, 1988), 109.

83Maurice Blondel, Action (1893) (Notre Dame: University of Notre Dame Press, 2004), 421. “All that precedes only expresses the inevitable exigencies of thought and practice. That is why it is a system of scientific relations before appearing as a chain of real truths. In thinking and acting, we imply this immense organism of necessary relations. To lay them out before reflexion is simply to unveil what we cannot help admitting in order to think, and affirming in order to act. Without always noting it distinctly, always we are inevitably brought to conceive the idea of objective existence, to posit the reality of objects conceived and ends sought, to suppose the conditions required for this reality to subsist. For, not being able to do as if it were not, we cannot include in our action the indispensable condition for it to be.”
another to be.\footnote{Aquinas, \textit{ST} I, q. 45, a. 5.} All human making and all secondary causes, by contrast, presuppose being, and move from something to something. We affirm this, of course, and yet once we recognize the analogical relation, the continuity and discontinuity, the irreducibility of every effect to every cause and of every moment to every other, we can see that human making, which follows intimately upon human being, is a participation in creation, and thus is co-creation, to take the phrase from \textit{Laborem exercens}, precisely where it differs from creation \textit{ex nihilo}, \textit{in} the fact that it moves from something to something. The arrangement of stones into a cathedral is not merely the imposition of a form on matter; with the emergence of the cathedral there comes to be something genuinely \textit{new} where once there was not.

I am trying to suggest that human making is a participation and an image of creation in its difference from it, and that its status as image informs its true structure. How so? We have seen that there is a novel, creative \textit{ex nihilo} moment in human reason even in its apprehension of the universal, and an analogous moment in human artifice, in its movement from something to something. This moment is not contrary to its historicity but proportional to it. And yet, we have also seen that human reason and human making are ontologically receptive before they are active, that there is an ontological priority of contemplation even \textit{within} action. Human thought and human making never outrun being. However man exercises dominion over being, however much his dominion distorts or conforms to the divine image, “he nevertheless remains in every case and at every phase of this process within the creator’s original ordering.”\footnote{\textit{Laborem exercens}, 4.}

What are we to say of this paradox? The \textit{ex nihilo} moment in human being, knowing, and making is itself a reflection of the \textit{Logos}, which Benedict frequently refers to as \textit{creative} reason and in whom, \textit{quoad nos}, thinking and making coincide.\footnote{Among the many instances see Ratzinger, \textit{Truth and Tolerance: Christian Belief and World Religions} (San Francisco: Ignatius Press, 2004), 162–83. I would maintain that the \textit{Logos} is “essentially” creative, not because the Son is less than eternally generated from the Father, or because the creation of the world is not a free \textquoteleft{decision} on God’s part, but because the Son is eternally not the Father even as...}
world by knowing and loving it. And yet this *ex nihilo* moment is not its own origin: it bears within the novelty of its action both a debt to the particularity of each historical moment and a priority of receptivity over action. This is a reflection of the fact that this creative *Logos* is eternally *dia-logos*, the Son eternally generated from the Father, who speaks the words the Father gives him and does what he sees the Father doing, and that this transcendent *Logos* became flesh, in a particular historical instance, and dwelt among us. The spontaneity and novelty that characterize human being, doing, and making are not Promethean projections into the void. They are essentially filial because we are children, ontologically

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87 For this reason, Robert Miner argues that the connection between knowing and making cannot be *per se* problematic, that “making” (or doing: Jn 3:21) truth need not be equated with “making up” truth. One reason for this is that the connection between knowing and making had already been effected by orthodox theologies of creation as God's knowledge of creation “extends as far as his causality extends” (Aquinas, *ST*, I, q. 14, a. 11, c), which is not merely to the form or the universal, but to the entire being (*esse*) of each singular, whereby God, for Aquinas, has knowledge of singulars otherwise inaccessible to us. Inasmuch as God's gratuitous generation of *esse* from nothing is the precondition for all created agency (see Aquinas, *In II Sent.*, d. 1, q. 1, a. 4)—then a space is open to see in the apprehension of truth a genuinely creative human contribution, irreducible to *téchnē* ancient or modern, which nevertheless does not violate the priority which should be accorded to the receptive, contemplative “moment” within the creature’s being and knowledge. Indeed D. C. Schindler contends for something along these lines, in very different terms, in his development of Balthasar’s conception of truth as *Gestalt.* For Miner, then, the problem is not that secular modernity, paradigmatically represented by Bacon, Descartes, and Hobbes, connects knowing and making, but rather that “its particular mode of connecting the two ultimately serves to deny the dignity of making itself” because they “engage in the willful detachment of human ratio from divine ratio . . . through preserving the constructive character of reason while severing construction with connection to recollection and illumination.” See Miner, *Truth in the Making*, xv, 3, 127. See also D. C. Schindler, *Hans Urs von Balthasar and the Dramatic Structure of Truth: A Philosophical Investigation* (New York: Fordham University Press, 2004), 163–254, esp. 245–50.

88 *Caritas in veritate*, 4.
speaking, and because creation itself, the gift of being ex nihilo, is essentially filial.

What practical principles can we derive from this understanding? What would human making look like, how would its inner logic differ from the logic of technology, if it were true to this filial form? Of course the material answers to these questions have to be worked out from within the vast range of human arts and sciences, but we can offer some very general observations.

The first thing to say is that human making, insofar as it participates in and reflects creation, must first let the world be, treating it as having its own inner integrity and as something good and beautiful in its own right, and not as something first to be commanded or controlled. This does not preclude our exercise of dominion or our taming and subduing the earth through téchnē, but it does mean that téchnē should strive, so far as possible under conditions of sin and toil, to bring to fruition nature’s own “passive potencies,” to work within the forms that nature supplies. This means acknowledging, once again, the form and finality that present themselves to us in the world’s elementary self-disclosure to us, and not treating these as the epiphenomenal or “folk” by-products resulting from temporary compromises of energy and force.

Since we reflect and participate in creation in the ontological mode of the child, receiving our being as a gift, the inner form of making, in its subjective sense, is characterized by wonder and thanksgiving, and this has a profound effect on its objective dimension. “The consequence is stunning: wonder and thanksgiving, in providing the inner form of all making, change the most basic meaning of making from work to play and, in so doing, change the most basic nature of the thing made from what is first useful (from simple instrument) to what first simply is (“being”): and thus the integration of the natural (born) and the mechanical (the made) proceeds on terms set by the former and not the latter.”

Thus, because human making, like human being, is responsive before it is active, all great art is praise, in the phrase of the great John Ruskin: “The art of man is the expression of his rational and disciplined delight in the forms and laws of the Creation of which

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he forms a part.” Precisely because this delight is receptive before it is active, it is contemplative before it is productive, and thus restores the primacy of contemplation within productive action. Recovery of the primacy of the beautiful over the useful, as the outward manifestation of the interiority of being, even within the useful, is therefore essential to the recovery of a form of making in which the world is allowed the integrity of its own being and our humanity is given its full rein and expression. We could do worse, then, to adapt as our own what Ruskin calls “the guiding principle of all right practical labor and source of all healthful life energy—that your art be the praise of something that you love.”

Delighting in “the forms and laws of the creation of which [we] form a part” means granting creation the unity conferred upon it by esse commune, and this in turn means recognizing our (wholly legitimate) experimental and technological interventions as the abstractions that they are. In a technological ontology wherein the parts of reality are ontologically prior to the whole of it, abstraction is always an extrapolation from the particular to the general. When, by contrast, the actual world is acknowledged—that is, the world of things in act mutually implicated in one another through the act of being—abstraction is the artificial isolation of the particular from the infinity of relations that characterize its actual existence. Recognition of the nature of technological abstraction and the order in which these abstractions occur requires a newfound respect for human limits and a properly human scale. And this, in turn, requires a newfound respect for the nature and limits of place. A properly filial, and thus human making would therefore observe in its scale and in its attention to locality a kind of subsidiarity. Even so, particularity and universality are not opposed but are reciprocally


91Ibid., 38. He continues, “It may be only the praise of a shell or a stone; it may be the praise of a hero; it may be the praise of God—you rank as a living creature is determined by the height and breadth of your love; but, be you small or great, what healthy art is possible to you must be the expression of your true delight in a real thing, better than the art. You may think, perhaps, that a bird’s nest by William Hunt is better than a real bird’s nest. We indeed pay a large sum for the one, and scarcely care to look for, or save, the other. But it would be better for us that all the pictures in the world perished, than that the birds should cease to build nests.”
related. Thus a properly filial making, aware of its nature as image and thus its inevitably symbolic character, would strive to represent what is eternal and intelligible and therefore universal precisely in particular forms that point beyond themselves.

3. Liturgy, labor, and laïcité

These principles will no doubt seem abstract and unrealizable, and for good reason. We experience technological society as fated because, in a sense, it is. The instruments we have made to serve us have re-made us and our culture in their image. Projecting human power beyond a human scale, the leviathan of this technological ontology, in its political, economic, and scientific-industrial forms, is proving resistant to human governance, a fact frequently celebrated by trans-humanists and some systems theorists. Everywhere we are surrounded by crises of our making, ecological, human, economic, and political, that no one has any idea how to resolve.

We cannot recover a more human and humane téchnē without at the same time fundamentally altering the governing assumptions, institutions, and systems structuring modern life, which are engineered to be impervious to such alterations. I do not have a proposal for how to do that, and neither, as a matter of principle, does the Church, which has no politics or philosophy of its own precisely because it transcends every politics and philosophy.

What the Church does have to offer is Christ and herself, united in both joy and suffering to his sacrifice, and this has proved sufficient before to interrupt the immanent circle of fate.92 Although the difficulty is compounded this time by the fact that Christ and the Church are the very “things” that modern institutions and assumptions are engineered to be impervious to, I believe history will show that it is one of the great benefits of Benedict’s pontificate to have offered Christ as hope against the counsel of resignation cloaked in the robes of inevitable progress.93

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At the center of this offer of hope is the liturgy, understood not as “escape” from quotidian toil, though the “hallowing” of the Sabbath does mean “a rest from all relations of subordination and a temporary relief from all burden of work.”\textsuperscript{94} Rather the liturgy is only truly capable of providing such relief because it is the form and end, “the source and summit” of the human way of being in the world. As Joseph Ratzinger put it, “Worship, that is, the right kind of cult, of relationship with God, is essential for the right kind of human existence in the world. It is so precisely because it reaches beyond everyday life. Worship gives us a share in heaven’s mode of existence, in the world of God, and allows light to fall from that divine world into ours.”\textsuperscript{95}

Ruskin’s maxim, that “all great art is praise,” is attested to by the fact that all of the greatest achievements of human art, architecture, literature, and music, have sought to make visible the mystery that is disclosed fully in the liturgy. This is not to suggest that all of the greatest human artifacts are pieces of religious, or even Christian art—though a great many of them are—but it is to reiterate with Ruskin that all truly great art has as its aim to praise and make visible that mystery of being-in-itselfness that is more and better than art, the mystery that discloses itself and unites itself to us, as love, in the liturgy.

Where that mystery is eclipsed or suppressed there can be no contemplation, much less can contemplation take a social form. Where there is no contemplation, there can be neither great art (save under the irrepressible form of suffering) nor great festivity, for without a contemplative openness to the mystery of being there can be no gratitude and joy in its gratuity.\textsuperscript{96} Where there is neither great art nor great festivity, there can be no “priority of man over things” and ultimately be no genuinely human and humane making, whether beautiful or useful. Where there is no priority of man over things, work ceases to be “for man”; man lives “for work,” and our

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\textsuperscript{94}\textsuperscript{94} Ratzinger, \textit{The Spirit of the Liturgy}, 25.

\textsuperscript{95}\textsuperscript{95} Ibid., 21.

\textsuperscript{96}\textsuperscript{96} Thus Cardinal Ratzinger formulates this “basic rule: where joylessness reigns, where humor dies, the spirit of Jesus Christ is assuredly absent. But the reverse is also true: joy is a sign of grace” (Ratzinger, \textit{Principles of Catholic Theology: Building Stones for a Fundamental Theology} [San Francisco: Ignatius Press, 1987], 84).
instruments become our masters. To repeat: “Worship, that is, the right kind of cult, of relationship with God, is essential for the right kind of human existence in the world.” The crisis in liturgy that has swept over the Church these last forty years—the rejection of our artistic patrimony, the banality of its vernacular and music, the triumph of “Pizza Hut” church architecture—parallels, in a way, the crisis in modern art in that it reflects the narrowed horizons of modern immanence and a certain “blindness of spirit.” In many ways, the crisis in liturgy is even worse than the crisis in art, not simply because the stakes are higher, but because these developments lack the profundity or the pathos which often impels modern artists.

The crisis in liturgy is therefore a crisis of the first order that goes right to the heart of the “social question,” and thus the human question. Objectively, the loss of a transcendent horizon signals the eclipse of what Cardinal Ratzinger calls liturgy’s “cosmic dimension,” the relationship between the paschal mystery and the meaning and destiny of the universe. Liturgy thus loses its connection with life. Subjectively, it represents a deficit of adoration, wonder, and gratitude. Both are reflected in the inorganic and a-cultural character of contemporary liturgical development and its failure to generate a culture of festive gratitude capable of reflecting the mysteries of creation and redemption in time and space or to penetrate the world of human making. The crisis in liturgy thus reflects the triumph of action and technologism over contemplation. To acquiesce to this crisis is ultimately to deliver up the laity to the inhuman dynamism of technological culture. For if there is no place for beauty and for contemplative making in the life of the contemporary Church, what hope is there for the future of human making as a whole? Those who would argue for the “democratic” leveling of liturgy, for

97 *Laborem exercens*, 6.


99 “It is precisely this cosmic dimension that is essential to Christian liturgy. It is never performed solely in the self-made world of man. It is always a cosmic liturgy. The theme of creation is embedded in Christian prayer. It loses its grandeur when it forgets this connection” (ibid., 70).

100 One of the most remarkable features of post-conciliar liturgical development, at least in the English-speaking world, is its a-cultural character, the fact that these “folk” developments express precisely no concrete and pre-existing folk culture.
removing all trace of grandeur or mystery or transcendence in the name of “the people” argue at cross purposes with themselves.

I do not offer these criticisms in the name of liturgical “traditionalism.” I embrace the liturgical reforms of Vatican II—as well as the “hermeneutic of continuity”—and I am well aware that traditional liturgies can become precious and that they too can become “a feast that the community gives itself, a festival of self-affirmation.” Whenever this happens, it represents not the excess of contemplation but a dearth of it. For it to be otherwise, for the liturgy to be not a retreat from the world, but the ever deeper penetration of transcendence into the world—including the world of human work and making—for these to realize fully their liturgical form, we must recognize that the contemplation which the liturgy affords us has a fundamentally “lay” structure. The fiat that gratefully receives and responds to the gift offered to us in the liturgy is an essentially Marian fiat. Recovering the integrity and beauty of the liturgy, then, means not simply embracing our artistic and musical and liturgical inheritance, it means embracing an understanding of the laity—a laïcité positive, if you will—that is more than simply non-clerical, a state which contributes something indispensable not only to the moral structure of the culture but to the contemplation of the whole Church precisely in its receptive-active dimension. This is extraordinarily hard even to imagine in a society where monasticism is a curious eccentricity pushed to the margins of culture. And perhaps it has always been difficult to realize. John Milbank writes,

It never quite worked out how, if contemplation is the highest end of human life, then leisure could be “the basis of culture” for every individual as well as the whole of society. Nor did it question a theory/practice duality or come to the realization that work can also be contemplative. This was a failure to grasp adequately its own reality; it took Chateaubriand, Hugo, Pugin and Ruskin in the 19th century to point out that medieval contemplation was also the work of the church masons, the composers, and the poets.

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102 Milbank, “The Gift of Ruling,” 219. The Anglo-Catholic wing of Anglicanism from which Milbank writes has a strong tradition of recognizing this relationship between laity, liturgy, labor, and culture—as well as the relationship
If grasping the universality of contemplation is essential to grasping the fullness of the Church’s own reality, and if truth is indeed in the making in a certain sense, then it follows that restoration of the mystery to the liturgy is not only essential to recovering the contemplative humanity of téchnê as the truth of human making, but recovering the contemplative humanity of téchnê—which is tantamount to a “new kind of seeing”—is essential to the integrity of the liturgy, and to repairing the contemporary schism between liturgy and life.  

The liturgy, whose growth together may be likened to that of a mustard seed, no guarantee that a restored liturgy will not function sociologically as decoration in some kind of techno-religious bricolage. It may therefore seem rather anemic to propose contemplation and the restoration of the liturgy to its rightful grandeur and solemnity and festivity as a response to the ever more aggressive inhumanism of modern, technological culture. Thinking, much less praying, seems a poor substitute for “doing something.” Certainly these concluding reflections only begin to introduce the relation between liturgy and labor. I do not pretend to have done more than scratch the surface of the vast complex of theological and philosophical issues raised by this relation. Nor do I raise this connection as a substitute for “doing something” as if attending to this relation between liturgy and labor excluded other courses of action. But if contemplation and action indeed form a unity, then thinking—understanding the truth—is doing something. And if the liturgy allows us to see and to be embraced once again by the Truth that graciously condescends to us, then we may yet hope once again, and in spite of fate, that the truth will set us free.

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between liturgy and social justice—epitomized in figures such as William Morris (and the arts and crafts movement more generally), Percy Dearmer, Conrad Noel, Ralph Vaughan Williams, and Martin Shaw. There is much to be learned here.