

A Science of the Real: The Renewal of Christian Cosmology

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The world must be given back [its]
sacramental quality, its dimension of
mystery, . . . such a reorientation . . . would
spell the final demise of mechanism
as the paradigm of cosmic order.

Throughout the twentieth century the "new physics" of Bohr, Planck, Heisenberg, and Shroedinger has been a congenial breeding-ground for mystical philosophies of all description.¹ It seems that the door of science is open once again to the idea of

¹See *Quantum Questions: Mystical Writings of the World's Great Physicists*, ed. Ken Wilber (Boulder: Shambhala, 1984). Two famous (now "classic") examples of this growing genre are Fritjof Capra's *The Tao of Physics* (London: Wildwood House, 1975) and Gary Zukav's *The Dancing Wu Li Masters* (New York: William Morrow, 1979). Antoine Faivre, in *Access to Western Hermeticism* (Albany: State University of New York Press, 1994), 275-96, concludes that most such speculations fall into pantheism, fail to take account of the Fall, and negate the importance of the human.

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levels of being, to ontology and final causation—elements in ancient cosmology that remain perennially valid. This possibility is important not least because of the urgent need to uncover (and treat) the deep roots of the environmental crisis, and to foster in our culture a less aggressive, more harmonious relationship with nature.² I want to explore here the contribution of Hans Urs von Balthasar to the conception of a contemplative science or science of "qualities"—meaning the qualities of the divine nature reflected in creation.³ Although Balthasar thinks that modern science "has its ready-made metaphysics in Aquinas's doctrine of order and relation," he tries to develop Thomism in certain important respects.⁴ Balthasar's reflections on the Christian Trinity and the drama of divine and human freedom—themselves, of course, neither uncontroversial nor "final"—offer an intriguing vision of a distinctively Christian cosmology.

The Rise and Fall of Mechanism

Modern science arose within a Christian milieu, bringing in its train a multitude of benefits, as well as the ecological and other crises for which Christians must bear some considerable responsibility. The birth of science in Europe was not a matter of mere chance but was intrinsically related to the nature of the Christian synthesis of biblical faith and Greek philosophy, as has been argued persuasively by historians of science from Pierre

²This has been a consistent theme of Islamic historian of science, S.H. Nasr, from *The Encounter of Man and Nature* (London: George Allen & Unwin, 1968) to *Religion and the Order of Nature* (Oxford University Press, 1996). His Gifford Lectures on the need for a recovery of *scientia sacra* are available as *Knowledge and the Sacred* (Albany: State University of New York Press, 1993).

³The following abbreviations will be used: GL = *The Glory of the Lord: A Theological Aesthetics* (San Francisco: Ignatius Press, 1982-91), 7 vols.; T-D = *Theo-Drama: Theological Dramatic Theory* (San Francisco: Ignatius Press, 1988-98), 5 vols.

⁴For one view of the differences between Balthasar and Thomas see James M. Buckley, "Balthasar's Use of the Theology of Aquinas," *The Thomist* 59 (October 1995). Cf. James P. Kow, "The Christian Distinction: The Others," in *Communio* 20 (Winter 1993). The quotation is from GL, vol. 4, 411. My own reading of Balthasar is indebted to David L. Schindler, *Heart of the World, Center of the Church* (Grand Rapids: Eerdmans, 1996).

Duhem to Stanley Jaki.⁵ In order for anything like modern science to arise, it was necessary to believe in both the intelligibility of the cosmos, and its contingency—the fact that it *made sense*, and the fact that it *might not have existed*. Intelligibility alone would lead to the priority of deduction over induction, as in the ancient philosophies of nature where an observed reality (such as the motion of the planets) had to be conformed to *a priori* structures (such as the perfect circle). Contingency, or the dependence of the cosmos on the decision of a Creator to bring into existence one of many equally possible worlds, meant that a certain priority had to be given to empirical observation, in order to find out what form this particular cosmos had in fact taken. The structure and harmony of the world thus revealed could shed light on the wisdom of its Creator. Aspects of that wisdom could be known, perhaps, in no other way.

The seeds of the modern scientific enterprise were sown in the thought of Scholastics such as Albert, Thomas, and Bonaventure. God, who made the human eye and all that it looks out upon, did so (they believed) in order to reveal something of himself—and to prepare us for the fuller revelation he would make in Christ. The universe as observed by the naked eye is a book of symbols waiting to be read; it is an act of self-expression by God, a theophany imbued throughout with the intelligibility of the divine Logos. To be real, to exist at all, is therefore to participate in a divine act of communication.⁶ Josef Pieper, a twentieth-century follower of St. Thomas, puts it this way: "All that exists, because it exists, is ordered towards a knowing mind, even towards the finite human mind. This means, not only is the eye sun-related, the sun as well is eye-related; all that has being is mind-related in its most intrinsic core. Mind and being are

interconnected."⁷ All things are therefore intrinsically "knowable." At the same time, they are *unfathomable* because they are rooted in God: their full truth is their nature as creatively known not by us, but by God.

The intellectual and spiritual balance evident in this attitude was not preserved. By separating real from rational entities, science from faith, and God from nature, the *via moderna* of the nominalist philosophers destroyed natural theology and metaphysics. It effectively eliminated the "vertical" or "interior" dimension of reality—the dimension of metaphysical form, final causality, and divine providence—and with that virtually the last possibility of a contemplative science. The world's rational coherence could thereafter only be maintained by supposing a strict conformity with mathematical laws, imposed from without by the Creator or else subsisting without reason (as, later, in postmodernism). After Galileo, the *consciousness of the observer* could no longer be recognized as an intrinsic part of reality; it was relegated to the realm of the merely subjective, along with all those "secondary qualities" that did not lend themselves to objective measurement. Science had been transformed into a search for the mathematical models sufficient to account for the motion and transformation of matter. The divorce of faith and reason was consolidated by the Reformation, while the sense of God's presence in nature became increasingly tenuous and ghostly with the loss of the concept of sacrament.⁸

By the seventeenth century science had become an activity with a definite practical purpose. Its goal, as formulated by Francis Bacon, was to subjugate the whole natural realm to the

⁷J. Pieper, *Living the Truth* (San Francisco: Ignatius Press, 1989), 59.

⁸For the role of nominalism and voluntarism in shaping modern science and attitudes to nature see Louis Dupré, *Passage to Modernity* (New Haven and London: Yale University Press, 1993); also E. Gilson, *History of Christian Philosophy in the Middle Ages* (London: Sheed & Ward, 1955), pt. 11; Kenneth L. Schmitz, *The Gift: Creation* (Milwaukee: Marquette University Press, 1982) and *At the Centre of the Human Drama* (Washington, DC: Catholic University of America Press, 1993), 130–37; GL, vol. 5, e.g. 28–29 and 452; Jeremy Naydler, "The Regeneration of Realism and the Recovery of a Science of Qualities," *International Philosophical Quarterly* 23 (1983): 155–72; and Peter Henrici, S.J., "Modernity and Christianity," *Communio* 17 (Summer 1990): 141–151. Cf. Harold P. Nebelsick, *Renaissance and Reformation and the Rise of Science* (Edinburgh: T&T Clark, 1992). For Nebelsick, as a Protestant, the symbolic "sacramental" value of nature is merely a hangover from Platonist otherworldliness; science must assert the *intrinsic* value of particulars (17).

⁵See A.N. Whitehead, *Science and the Modern World* (New York: Cambridge University Press, 1945); E.A. Burt, *The Metaphysical Foundations of Modern Science* (London: Routledge & Kegan Paul, 1924); A. Crombie, *Styles of Scientific Thinking in the European Tradition* (London: Duckworth, 1994); S.L. Jaki, *The Road of Science and the Ways to God* (Chicago: University of Chicago Press, 1978).

⁶S.H. Nasr points out that, as a contemplative or symbolic cosmology, Ptolemaic astronomy was not invalidated by the discovery that the earth moves around the sun. As conscious beings, we stand at the center of the world looking out: that is part of what it means to be a created reflection of divinity. To extend the range of our vision does not make a symbolic cosmology impossible; but to interpret correctly what is found calls for a spiritual preparation that is lacking in modern science.

service of man. Scientific method offered results of such an eminently practical kind that it appealed not only to the scientists themselves, but to the new patrons of science, namely merchants and bankers, for whom the most important reality consisted in that which could be accumulated and counted.⁹ The last three hundred years have consequently been an increasingly empirical rather than metaphysical age: priority has been accorded to externals, to quantities, to experimental evidence (although this emphasis on the material externals masked a parallel absolutization of human consciousness as the sole source of certitude and value). Once Charles Darwin had extended the reductionistic method of the new sciences to the human and social realm, emphasizing the continuity between animate and inanimate matter, between animal and human life, the final triumph of nominalism seemed to be only a matter of time. The various animal species were merely *names*: nothing prevented a gradual drift from one category to another, as each new generation diverged from its predecessors. Hence the fervor with which Darwin in his correspondence with Charles Lyell defended "gradualism" against any suggestion that species might have originated by sudden mutation. The controversy resurfaces today: Stephen Jay Gould's "punctuated equilibrium" seems to imply a reality to the species as distinct from the individual. Gould's neo-Darwinist opponents, such as Daniel Dennett, view this reintroduction of the "intelligible essence" with great suspicion—even when it is couched in terms that suggest a purely material explanation for the essence itself.

It is notable also that, when faced with evidence against a purely Darwinian evolutionary process, Dennett's strategy is to respond: "I cannot (yet) see how to refute this objection, or overcome this difficulty, but since I cannot imagine how anything other than natural selection could be the cause of the effects, I will have to assume that the objection is spurious; somehow natural selection must be sufficient to explain the effects."¹⁰ Of course, this is standard scientific procedure: you cannot abandon a good working hypothesis at the first sign of difficulty. However, more lies behind his enthusiasm for Darwinism than this: it is bound up with an emotional commitment to materialist atheism. If there is a place for the great religious traditions, he writes, it is in

⁹Louis Bouyer, *Cosmos* (Petersham, MA: St. Bede's Publications, 1988), 115.

¹⁰Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (Harmondsworth: Allen Lane, The Penguin Press, 1995), 47.

"cultural zoos" for those who still need them. Similarly, for Richard Dawkins it is clear that DNA is the bedrock of reality, and needs no ultimate explanation in terms of final or formal cause: in an abdication of reason that amounts to an unconscious parody of theology he asserts that "DNA itself just is."¹¹

The modern critics of Darwin—or at least of the reductionistic sociobiology that grew from his work—have nevertheless been able to draw strength and inspiration from recent developments in the physical sciences, and particularly from developments in the new physics.¹² According to the view of "classical" (nineteenth-century) physics, the universe was like a giant machine. It could best be studied by analyzing it into component parts, and isolating these as far as possible under controlled laboratory conditions. The scientist was supposed to be a detached observer, recording what took place in any experiment without personal bias and without interfering in any way with the result. The twentieth century changed this picture completely. The uncertainty principle formulated by Werner Heisenberg in 1927 established a new paradigm for scientific knowledge, making it axiomatic that any act of observation will

¹¹Cited in Colin Grant, "The Gregarious Metaphor of the Selfish Gene," *Religious Studies* 27(1991): 431–50.

¹²M. Polanyi's critique of Neo-Darwinism in *Personal Knowledge* (Chicago: University of Chicago Press, 1958), especially in chap. 13 on "emergence," foreshadowed that of S.J. Gould's *The Panda's Thumb* (New York: W.W. Norton, 1980), and the provocative question posed in 1981 by the British paleontologist Colin Patterson at the American Museum of Natural History: "Can you tell me anything about evolution, any one thing, that is true?" Patterson is an exponent of "transformed cladistics": the systematic classification of the hierarchies of organisms in nature without regard for the theory of evolution. Michael Denton's *Evolution: A Theory in Crisis* (London: Burnett Books, 1984) and *Biology: The Anthropropic Perspective* (Paris: Lib. Artheme Fayard, 1996), Brian Goodwin's *How the Leopard Changed its Spots* (London: Weidenfeld & Nicolson, 1994), and Michael Behle's *Darwin's Black Box: The Biochemical Challenge to Evolution* (New York: The Free Press, 1996) seem to represent a growing trend. Goodwin argues that Darwin's fundamental mistake was to lose sight of the very organisms whose existence and variety was his original interest. He draws on the sciences of complexity and emergent order to show that organisms "are as real, as fundamental, as irreducible, as the molecules out of which they are made"—in which case the metaphor of evolution by competition gives way to a metaphor of cooperation. This holistic perspective runs counter to nominalism, and leads to the rediscovery of natural kinds and substantial form.

change what is being observed. No one can establish by observation both the position and momentum of a given particle: determine location and you affect velocity. At this submicroscopic level, at least, the observer is no longer detached: he or she has become a *participant* in the system. The idea of "participation" now runs all the way through physics. According to quantum theory, particles are not solid objects resembling billiard balls; they may act as solids in some circumstances but like waves in others. What they are in themselves, we are now told, is not our concern, for we can know them only insofar as they participate in events with us. Matter is a form of energy; time is inseparable from space; gravity results from the curvature of spacetime by matter.

This participatory physics raises the question of "reality" in an acute form. According to the Copenhagen interpretation of quantum mechanics, physics is not concerned with a supposed underlying reality, only with hypotheses or theories designed to correlate the observed results of experiments. "There is no quantum world. There is only an abstract quantum description."¹³ This interpretation was strenuously resisted by Albert Einstein, who, with colleagues Boris Podolsky and Nathan Rosen devised in 1935 a thought experiment to place physicists on the horns of a painful dilemma. In the "EPR" experiment, two particles are correlated by an interaction that takes place before their separation. Thereafter, according to Heisenberg's principle, the position of one particle cannot be determined without instantly determining also the position of the other, no matter where it happens to be—even on the other side of the universe. It is as though information can fly faster than light from one particle to another, "telling" the second particle where to be. Einstein confronted his fellow-physicists with the choice of either positing some kind of "spooky action at a distance," or abandoning the interpretation that led to it.

Unfortunately for Einstein, not only was "non-locality" eventually established (by Bell's Theorem) as an intrinsic feature of the quantum world at a theoretical level, but in the early 1980s it was proved by Alain Aspect and others that such "spooky"

¹³ This famous remark was made by Niels Bohr in 1927, when the quantum debate erupted at conferences in Como and Brussels. Bohr's position is strenuously criticized by Stanley L. Jaki in his account of this controversy in *The Road to Science and the Ways to God* (Chicago: University of Chicago Press, 1978), 200–202.

correlations do in fact occur—moreover the design of the experiment eliminated the possibility that this could be the result of the particles *having a definite position before they were measured*. Apparently, before being measured a particle was "neither here nor there": it was in what came to be called a "superposition" of states, and only the act of measurement "collapsed" the probability wave into one state or the other. The absurdity of this is illustrated by another thought-experiment, the Cat Paradox devised by Erwin Schroedinger. If the life of a cat is made dependent upon the decay of an atomic nucleus, but that nucleus exists in a superposition of states, then the cat itself must be in a superposition of states—neither alive nor dead—until it happens to be observed.¹⁴

The Catholic mathematician Wolfgang Smith (following a lead given by Heisenberg) has recently traced these extreme examples of so-called "quantum strangeness" to the loss of the Aristotelian-Thomistic distinction between form and matter—and more fundamentally to that between actuality and potency. Like Whitehead, he attributes the shipwreck of modern thought to the Cartesian bifurcation between subjective and objective, between *res cogitans* and *res extensa*. This took the place of St. Thomas's subtler metaphysical distinction, and the result was a physical reductionism quite simply incompatible with reality. The incompatibility reveals itself both in the various quantum paradoxes and in the need to construct ever more bizarre ontologies to escape from these. Smith shows that the paradoxes in question simply disappear once we realize that the "physical" world—by which he means the quantitative world, as conceived and measured by the physicist—is mere potentiality in relation to the "corporeal" world perceived in human consciousness. (It

¹⁴ One significant but controversial attempt to counter the anti-realism coming out of Bohr's Copenhagen school was the ontological interpretation of quantum theory developed by David Bohm, who posited hidden variables to account for apparent indeterminacy, and an "undivided wholeness" or state of unity prior to all division across time and space to account for non-locality: D. Bohm and B.J. Hiley, *The Undivided Universe* (London: Routledge, 1993), 6; D. Bohm, *Wholeness and the Implicate Order* (London: RKP, 1980). For theological commentary see David L. Schindler ed., *Beyond Mechanism: The Universe in Recent Physics and Catholic Thought* (Lanham, MD: University Press of America, 1986).

occupies an intermediary position between that world and Aristotle's "prime matter.")¹⁵

In this account, the act of measuring—of course basic to modern science—is itself not somehow "neutral" but a *creative act* and a determination of reality. For the physicist must always employ a corporeal instrument that is "in act" to decide which of two possible states or positions of a particle obtains. In so doing he necessarily collapses what was merely potential into a single definite outcome. Every such collapse of probability into actuality echoes by analogy the divine act of creation *in principio*—that ultimate discontinuity that forever grounds the unity of the two ontological domains. Our participation in this "open" universe reflects, in its own way, the creative involvement of God in its creation and conservation. Indeterminacy is resolved in favor of "vertical causation" rather than randomness. Indeed, Smith writes, quantum discontinuity "can now be understood by analogy to the phenomenon of artistic production."¹⁶ Given a further distinction between ontological realms "below" and "above" the corporeal, Smith suggests that the denial of

¹⁵W. Smith, *The Quantum Enigma* (Peru, IL: Sherwood Sugden, 1995), 59. William A. Wallace published a sympathetic response in "Thomism and the Quantum Enigma," *The Thomist* 61 (July 1997), as did Kenneth M. Batinovich in *The Chesterton Review* 23, no. 4 (November 1997) and S.H. Nasr in *Sophia: A Journal of Traditional Studies* (Summer 1997). Smith's account may not be widely known or accepted, but it has the merit of avoiding another absurdity: that of multiple universes. This fashionable theory is based on the idea that every quantum discontinuity engenders two parallel but diverging realities: of two possible but mutually exclusive outcomes both occur, and every possible universe exists. The fact that this would violate one of the core principles of science, the conservation of energy, remains a problem for its supporters, but like the "inflationary universe" theory (that the world originated as a random fluctuation in a primal vacuum) or the "no boundary" hypothesis (that the world, though finite, has no temporal boundary or beginning), it is regularly seized upon as a way to dispense with the unacceptable conclusion that the world needs a cause or a Creator. The laws of this universe appear to be fine-tuned to permit human life: if a multitude of lifeless universes exist, governed by other laws, it would no longer seem so surprising. All such attempts to undermine theism suffer from the same flaw: a failure to understand that the doctrine of creation is designed to account for existence as such, not for the beginning of a process, and for the existence of the laws of physics as much as that of the things we see and touch. See William E. Carroll, "Thomas Aquinas and Big Bang Cosmology," *Sapientia* 53 (1998).

¹⁶*Ibid.* 96.

bifurcation would lead to the recovery of the concept of (non-mathematical) substantial forms in science, and thus a renewed appreciation of the role of "qualities" in the generation of order and design.¹⁷

In general terms we may say that in the new physics the world is increasingly compared to an *organism*, rather than a machine. That is to say, it is a pattern of relationships, preserving itself in a meaningful homeostasis or equilibrium in the midst of change, while the matter of which it is composed is in constant flux. The development of the sciences of organization—cybernetics and General Systems Theory—established a conceptual framework for the study of systems as such: that is, of wholes whose properties depend not just on the sum of their parts but on their interrelationships.¹⁸ This in turn made theoreticians increasingly aware of the need for some kind of metaphysics; hence the various attempts to find illumination from Eastern religious philosophy, Western hermeticism and German Romanticism.¹⁹ It fed also, in a few cases, to the re-application of certain key ideas from the European tradition of St. Thomas. But St. Thomas is used differently by his various interpreters. It is what Balthasar does with the metaphysics of St. Thomas that I intend

¹⁷According to Smith's interpretation of Bohm, the pilot wave associated with every quantum particle must belong not to the "physical" realm as he has previously defined it, but to a "supra-" corporeal level of being, beyond which lie the spiritual archetypes and the Logos at the center of creation.

¹⁸Morris Berman, in *The Reenchantment of the World* (Ithaca, NY: Cornell University Press, 1981), looks to cybernetics and the thought of Gregory Bateson for a scientific holism capable of overcoming bifurcation. F. Capra, in *The Web of Life* (London: HarperCollins, 1996) turns to Bateson and Humberto Maturana.

¹⁹An interesting attempt has been made by physicist Basarab Nicolescu in *Science, Meaning and Evolution* (New York: Parabola Books, 1991) to understand the ontology of the quantum world in terms of Jacob Boehme's "sevenfold cycle" (reading him not as a theologian, but as a cosmographer expressing himself mythologically). More pertinent to the present essay is the growing interest in Goethe's scientific method. J. von Goethe (1749–1832), best known as a poet, was also a leading figure in the Romantic reaction against Newtonian science. His theory of color and work on plant morphology has long been ridiculed by the scientific establishment, but is now being reassessed: see H. Bortoft, *The Wholeness of Nature: Goethe's Way of Science* (Edinburgh: Floris Books, 1996), 214–15; A. Zajonc, *Catching the Light* (New York: Bantam, 1993); J. Naydler ed., *Goethe on Science: An Anthology of Goethe's Scientific Writings* (Edinburgh: Floris Books, 1996). See also the article by Naydler mentioned previously.

to explore in the section that follows, before concluding with some reflections on the possible implications of all this for modern physics.

A Trinitarian Cosmology

Hans Urs von Balthasar regards the so-called "real distinction" of Thomas between essence and existence in all that is not God as the very center and criterion of an authentically Christian worldview. Lacking this distinction, Aristotle had taught the eternity of the world; with it, Aquinas was able to make sense of the doctrine of God as Creator. (Balthasar finds the distinction implicitly even in an earlier thinker, Denys the Areopagite.)²⁰ It was St. Thomas, in fact, who gave the clearest philosophical expression to the idea of God as creative principle. Created things only exist because the God in whom they participate is Existence (the *actus essendi*) and communicates existence to them. After St. Thomas the world was conceived as having a reality that was more than simply the "ideas" in the mind of God, even if *what* it was remained entirely the expression of those ideas. Its reality, its deepest substance, the energy of its existence, its "to be," is continually received from God: its nature is that of a freely given gift. It receives from God even its capacity to receive. (And yet at the same time it does truly *receive*. It is not simply a mode of God's knowledge of himself, but a nature in its own right, albeit one which exists perpetually in dependence upon God.) Balthasar writes: "The metaphysics of Thomas is thus the philosophical reflection of the free glory of the living God of the Bible and in this way is the interior completion of ancient (and thus human) philosophy. It is a celebration of the reality of the real, of that all-embracing mystery of being which surpasses the powers of human thought, a mystery in which creatures have access to participation in the reality of God, a mystery which in its nothingness and non-subsistence is shot through with the light of the freedom of the creative principle, of unfathomable love."²¹

Balthasar believes, however, that in the end the full majesty of Being and the gift-nature of creation are revealed fully

and can be preserved *only in a religion that possesses the doctrine of the Trinity*. His emphasis on the importance of "difference" within God as the basis for the reality of the created order resolves a dilemma that has long dogged the Latin tradition. The mystics have always tended to stress the *nothingness* of creation in comparison to God. The theologians, on the other hand, have focused on the power of God to create a world other than himself (indeed, containing creatures endowed with sufficient independence to be able to choose eternal damnation). The first tendency leads to pantheism; the second to dualism. The second is undoubtedly more orthodox, but it leaves a lingering sense that a deeper truth has not yet found expression. Furthermore it has been alleged that the ecological crisis is partly bound up with the failure to adequately grasp the sense in which the world exists "in" God—in other words, to find a way out of this dilemma that does justice both to the requirements of orthodoxy and to the mystics' experience of union.²² Balthasar argues that the *otherness* in unity of love is the only basis for the created *otherness* from God of things which exist by participation.²³

The paradoxical inclusion within the godhead of both unity and difference implies, for Balthasar, that the distinction of one person from another deepens in direct proportion to their unity in love (that is also their unity in will and knowledge). "The 'not' which characterizes the creature—it is 'not' God and cannot exist of itself—is by no means identical with the 'not' found within the Godhead. However, the latter constitutes the deepest

²²The Greek Orthodox theologian Philip Sherrard, in *Human Image: World Image* (Ipswich: Golgonooza Press, 1992), and in *Christianity: Lineaments of a Sacred Tradition* (Edinburgh: T&T Clark, 1998), identifies the failure of Western theology with the doctrine of creation *ex nihilo* interpreted to mean that God creates *ad extra* or "outside" himself. Many of Sherrard's legitimate concerns—and those of the mystics he discusses—are answered, directly or indirectly, by Balthasar. Without adopting the Palamite distinction between essence and uncreated energies in God, Balthasar maintains the paradox that God reveals himself yet always remains unknown. The Holy Spirit is in a sense the "personalization" of the *ever-more* of the divine essence within the Trinity itself: even God cannot exhaust the divine infinity (T-D, vol. 5, 78, 82).

²³Despite the notorious Thomistic separation of treatises *de Deo uno* and *de Deo trino* (following the Boethian "individualist" definition of the person), this is fundamentally in harmony with the spirit of St. Thomas, when like Bonaventure he teaches that the act of creation is a kind of image of the intra-trinitarian act of generation. See T-D, vol. 4, 53–7.

²⁰GL, vol. 2, 186–9. A similar point is made concerning Nicholas of Cusa in vol. 5, 235. Even Plotinus as read by Balthasar seems closer to Aquinas than to Plato: GL, vol. 4, 301.

²¹GL, vol. 4, 406–7.

reason why the creaturely 'not' does not cause the analogy of being between creature and God to break down. The infinite distance between the world and God is grounded in the other, prototypical distance between God and God.²⁴ In other words, an absolute Monad could not make a world other than itself. The world would have no "place" to be. But because there are Persons in God there can be a world that participates *through personhood*—and specifically through the personhood of the Incarnate Son—in the very otherness-in-unity of those divine Persons, and the history of that world will be a drama of love, of divine and human *eros*.²⁵

For Balthasar, then, the Incarnation of the Son and the paradoxical Trinity-in-Unity of the Godhead is a mystery revealed only within the Christian tradition, and equivalent neither to the Hindu Trimurti nor to the Plotinian Hypostases which may superficially resemble it. Trinity and Incarnation are bound up together in a way that must—when fully grasped—transform both the metaphysical conception of God and our conception of Being. On this basis Balthasar is able to claim that "the Christian is called to be the guardian of metaphysics for our time."²⁶ He certainly intends to "save" whatever may be saved from among the insights of the other religions and ancient paganism. But he saves by assuming and transforming those insights. The world may be a symbol and a picture of God to the

²⁴T-D, vol. 2, 266 (and whole section 260–77). The distinction between necessary and non-necessary existence ultimately derives from the freedom of God to give himself in love, Person to Person. This does not mean that the "real distinction" itself can be found in God, but simply that difference *from* God depends on a prior difference *within* God. Without that grounding within God, a created thing would be merely a privation of being relative to the Absolute, like a numerical fraction contained implicitly within the Prime Number, and Thomism would collapse back into essentialism.

²⁵In J. Boehme, V. Solovyev, S. Bulgakov and P. Sherrard one finds the suggestion of a "Divine Sophia," a feminine aspect of God. God's Sophia or Wisdom is his *beauty*, the archetypal basis for the act of creation. Now while Balthasar's emphasis on the exchange of love between the divine Persons leads him to admit ("feminine") receptivity within God—receptivity as a perfection rather than, as Thomism has tended to conceive it, a deficiency—he believes that this receptivity is in God as a relational principle rather than a cosmic hypostasis. He regards Vladimir Solovyev's three visions of Sophia as apparitions of the Virgin Mary, because it is in Mary alone that Sophia becomes a "person."

²⁶GL, vol. 5, 656. Cf. vol. 1, 193.

pagan, but in Christ it becomes his very Body. "The Christians of today, living in a night which is deeper than that of the later Middle Ages, are given the task of performing the act of affirming Being, unperturbed by the darkness and the distortion, in a way that is vicarious and representative for all humanity: an act which is at first theological, but which contains within itself the whole dimension of the metaphysical act of the affirmation of Being."²⁷ This affirmation of being includes the cosmic hierarchy of forms and meanings that have now become the receptacle of divine glory.

It is the *inclusion* of the cosmic hierarchy within a christocentric cosmology that finally distinguishes Balthasar's project from that of the Protestant theologian Colin Gunton, whose account of the "modern," and whose conclusion that we need to integrate modern science within a Trinitarian ontology, are otherwise remarkably parallel. (Coleridge plays a role in his thought analogous to that of Goethe in Balthasar's.) For Gunton, as for Balthasar, "All particulars are formed by their relation to God the creator and redeemer and to each other. Their particular being is a being in relation, each distinct and unique and yet inseparably bound up with other, and ultimately all, particulars."²⁸ But Gunton continues, "Their reality consists, therefore—and this is the crucial difference from other theories of substance—not in the *universals they instantiate*, but in the shape of their relatedness with God and with other created hypostases" (my emphasis). The failure of the medieval synthesis is due to Augustine's "replacing of Christology by Platonic universals,"²⁹ so that when this doctrine "collapses" under the impact of Ockham and others we are left with a world of abstract particulars lacking real relations, held together by the will of God. Gunton therefore locates himself more in opposition to Aquinas and the Augustinian tradition than Balthasar who, for all his strictures against "Platonism," does in fact present us with a kind of christocentric Platonism, within which the classical tradition may be retrieved: "If we call the incarnate Son God's primal Idea in creating the universe . . . (Col 1:16), this all-embracing primal Idea contains the (primal) ideas of the individual creatures. In the one, exemplary, primal Idea, the incarnate Son, raised from the

²⁷GL, vol. 5, 648.

²⁸C. Gunton, *The One, the Three and the Many: God, Creation and the Culture of Modernity* (New York: Cambridge University Press, 1993), 207.

²⁹*Ibid.*, 55.

dead (1:18), all creatures, especially those endowed with freedom, have their own exemplary idea."³⁰

Through the Church, the world becomes the "body" of a God who takes up into union with himself all the forms of creation in their ordered hierarchy—as the Church Fathers saw clearly—and brings them to unexpected perfection through his death and Resurrection. "If the cosmos as a whole has been created in the image of God that appears—in the First-Born of creation, through him and for him—and if this First-Born indwells the world as its Head through the Church, then in the last analysis the world is a 'body' of God, who represents and expresses himself in this body, on the basis of the principle not of pantheistic but of hypostatic union."³¹

A New Science of Living Nature?

What we are considering in this essay is the possibility of what C.S. Lewis in *The Abolition of Man* calls "a new Natural Philosophy, continually conscious that the 'natural object' produced by analysis and abstraction [Smith's "physical" as distinct from "corporeal" world] is not reality but only a view, and always correcting the abstraction." "I hardly know what I am asking for," he says. "The regenerate science which I have in mind would not do even to minerals and vegetables what modern science threatens to do to man himself. When it explained it would not explain away. When it spoke of the parts it would remember the whole. While studying the *It* it would not lose what Martin Buber calls the *Thou*-situation."³² Balthasar aims to unite the aesthetics of St. Thomas with the "gentle empiricism" of Goethe. He believes that a "true science of living nature as, for instance, Goethe strove for in his morphology" is possible; it would "combine the cool precision of scientific research with a constant awareness of the totality apparent only to the eye of reverence, the poetic-religious eye, the ancient sense for the cosmos."³³

There can be no question of theology dictating to physics (or biology) what it will find. Physical theories cannot be deduced

from the data of Revelation: faith cannot take over from reason, or muscle it aside. Nevertheless, theology may not be written off by science as having no bearing on its own methodology, or its conception of an objective world. As David Schindler puts it: "an anticipation of the truth of something like an organic understanding of the cosmos is already given in our christological faith."³⁴ The whole point of the perspective described here is that the connection between subjective and objective is no longer arbitrary (as for Cartesian science)³⁵ but *intrinsic*: knower and known, while eternally distinct, belong to one single reality, and the meaning at the center of that reality is the Person of the Logos. The unity-in-distinction of the Trinity is the basis for an analogy that runs right through creation as a kind of watermark: the analogy of "spousal" union between subject and object, self and other. The life of love revealed in Christ promises to each of us no mere absorption into the Beloved, but our own integrity and fulfillment in the very measure we give ourselves away.

The cultural implications of this principle are endless. In particular, it guarantees the legitimate autonomy of reason, and of scientific research, even as it overcomes the separation between science and religion.³⁶ If love is the deepest meaning of the objective universe, the scientist and the mathematician are fully vindicated in their intuition that beauty (or "elegance") must somehow be the signature of truth. Central to Balthasar's thought is the *Gestalt* that enables a recovery of the notion of substantial form, and it is this which makes beauty possible.³⁷ In the first volume of *The Glory of the Lord*, he writes: "every created thing is a manifestation of itself (the more intensively the higher it ranks): the representation of its own depths, the surface of its own ground, the word from its essential core; and upon this essential movement of being (from its interior to its exterior) are founded

³⁴D.L. Schindler, *Heart of the World*, 214.

³⁵The Cartesian error has been unmasked by several modern authors, including Michael Polanyi in the work already mentioned, and more recently by Catherine Pickstock in her book *After Writing* (Oxford: Blackwell, 1998), 57–74: for Descartes, she says, "Representation is now prior to ontology."

³⁶See D.L. Schindler, *Heart of the World*, e.g. 19–29, 212–20.

³⁷He was influenced here not only by Goethe but by Brentano's pupil, the musician C. von Ehrenfels: see Francesca A. Murphy, *Christ the Form of Beauty* (Edinburgh: T&T Clark, 1995), 134.

³⁰T-D, vol. 2, 302–3.

³¹GL, vol. 1, 679.

³²C.S. Lewis, *The Abolition of Man* (London: Geoffrey Bles, 1946), 47.

³³GL, vol. 1, 447; vol. 5, 363.

the good, the true, and the beautiful."³⁸ "A being *appears*, it has an epiphany: in that it is beautiful and makes us marvel. In appearing it *gives* itself, it delivers itself to us: it is good. And in giving itself up, it *speaks* itself, it unveils itself: it is true."³⁹ Beauty unites not only truth with goodness, but also observer with observed—and knowledge in its full sense is found only in this marriage or compenetration of knower and known. Beauty is what makes the true attractive to us; what draws the will towards it. But this means that it is a function of *love*, a response of love called forth by what is received in the *given* by one who is disposed to gratitude.

This implies a restoration of the sense of natural interiority, of the metaphysical "depth" to all things, by which the Giver is in the Gift.⁴⁰ The world must be given back this sacramental quality, its dimension of mystery, which was too hastily stripped from it by the successors of nominalism. All identities—from that of numbers in mathematics to that of corporeal objects such as apples and pears, and above all human persons—are fundamentally identities-in-relation, existing as gifts one to another, and ultimately as gifts from one divine Person to another. Such a reorientation, he thinks, would spell the final demise of mechanism as the paradigm of cosmic order: the end of seeking to understand a thing by breaking it into parts and reassembling these in a purely extrinsic order.

"We have to feel our way back," he writes; "we have to overcome a certain blindness to the primal value of being. This sick blindness is called Positivism, and it arises from regarding reality as raising no questions, being 'just there'—for the phrase 'the given' already says too much, since there is no one who 'gives.' In fact [from a Positivist point of view] the only question

that arises is: what can we do with this material?"⁴¹ Thus the secular conception of the world culminates no longer in contemplation, but in technology, and with the whole gamut of problems caused by the Baconian will to power. Against the "sick blindness" of positivism Balthasar projects the possibility of a visionary science in which empirical observation and quantitative description would be integrated within a metaphysics of gift. The attitude of a science that takes this insight seriously would have to be completely changed; fascination with technology need not usurp the place of contemplative wonder. The power granted to such a science would be no longer the power to degrade and destroy, but the power of beauty to heal and unite. □

³⁸GL, vol. 1, 610.

³⁹H. U. von Balthasar, *My Work: In Retrospect* (San Francisco: Ignatius Press, 1993), 116.

⁴⁰K. L. Schmitz, *The Gift: Creation* (Milwaukee: Marquette University Press, 1982), 58, 90; also "The First Principle of Personal Becoming," *Review of Metaphysics* 47 (June 1994). This sheds light also on *transubstantiation*, which has been wrongly regarded as making sense only within the metaphysics of Aristotle. If the substance of a thing (its reality) is what it is *as gift*, then the substance of bread must change when it is consecrated according to Christ's intention, and becomes his *gift of himself* to us.

⁴¹T-D, vol. 2, 286. In vol. 4 he writes that human power unintegrated with the fundamental act of prayer "becomes a tyranny over the earth, exploiting it and heedlessly laying it waste" (159). These remarks on "technocracy," which he relates to the "Battle of the Logos" in world history, may be expanded with reference to *Science, Religion and Christianity* (London: Burns & Oates, 1958), 54–61—and applied to other areas of culture, from art to economics. See D. L. Schindler, *Heart of the World*, 161–76.