Fortieth Anniversary Symposium: Science, Religion, and Secularity in a Technological Society

RETHINKING THE SECULAR: SCIENCE, TECHNOLOGY, AND RELIGION TODAY

by Bronislaw Szerszynski

Abstract. Contemporary tensions between science and religion cannot simply be seen as a manifestation of an eternal tension between reason and revelation. Instead, the modern secular, including science and technology, needs to be seen as a distinctive historical phenomenon, produced and still radically conditioned by the religious history of the West. Clashes between religion and science thus ought to be seen fundamentally as part of a dialogue that is internal to Western religious history. While largely agreeing with Caiazza's account of the "magical" understanding of technology, I suggest that this needs to be seen as part of a more fundamental drift in religion and culture away from canonical meanings to more "indexical," pragmatic ones—but also that technology is still inflected by soteriological meanings that were coded into modern technology at its very inception in the early modern period. I conclude by arguing that a recognition of science and technology's grounding in Western religious history can make possible a more fundamental encounter with religion.

Keywords: John Caiazza; religion; the sacred; science; the secular; technology; Western religious history.

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John Caiazza (2005) has provided a provocative and stimulating starting point for *Zygon*'s fortieth year symposium. He presents us with a vivid account of the way that, while on one level science is in the ascendant, having seemingly displaced religion as the most privileged form of knowledge, on another level science's ability to trump religious knowledge claims seems to be becoming weaker. Science's status as the bearer of objective universal truth is being challenged not only by religious fundamentalists but also by academics in the social sciences and humanities. And greater and greater levels of abstraction within science itself means that arguments over scientific truths can rarely be definitively settled in the way that once seemed to be possible. Instead, Caiazza suggests, the primary reason for the advance of secularism is not the social authority of scientific truth claims but the power of technology to shape our lives—a technology whose causal mechanisms are becoming increasingly obscure to the lay public, who thus regard them as "magical" phenomena.

There is much in Caiazza's account of the contemporary technological condition that I would agree with. However, I want to suggest that his analysis of the present is compromised by an inadequate understanding of the secular as a historical phenomenon. Caiazza presents current debates over the relationship between science and religion as but the latest manifestation of a perennial tension between two different forms of knowledge, the secular and the revealed—a tension that was firmly implanted in European culture by the encounter between classical Greek and Judaic thought in the early Christian era. By contrast, I suggest that we need to see the modern secular, including science and technology, as a distinctive product of the West's religious history.[1] By taking such an approach we will be able to see how the modern secular world—including science and technology—has its own concealed theology. Once this move has been made, religious thought will be able to engage with science and technology in a deeper and more significant critical dialogue.

The Sacred and the Secular

Modern thought is dominated by a particular picture of the relationship between the sacred and the secular, one that sees the secular as the "unmarked" term, that which needs no explanation. The secular is understood as either a self-dependent reality underlying any specific sacralizations offered by the religions of the world or a universal form of thought that was always waiting within human history as a potentiality, indeed the destiny, of humankind. Instead, I suggest that we need to see the secular as a peculiar and distinctive product of the religious and cultural history of the West and as itself a religious phenomenon.

One immediate implication of this rethinking of the secular is that Caiazza's article title—"Athens, Jerusalem, and the Arrival of Techno-Secularism"—needs some reconsideration. In its present form, and as he un-

packs it on page 10, it seems to imply that current debates about the relationship between science and religion, such as those conducted in the pages of *Zygon*, can simply be seen as a contemporary manifestation of the recurrent tensions—sometimes creative, sometimes antagonistic—between Greek and Hebrew thought in European cultural history. But it is problematic to represent classical Greek philosophical thought as secular in the modern sense. Both Jewish monotheism and Greek philosophical thought took shape within the context of a radical shift in the understanding of the sacred that occurred across large swathes of the globe between 800 and 200 B.C.E. With this emergence of what Karl Jaspers (1953) calls the axial age, the cosmological monism of earlier understandings of the sacred was progressively reordered around a dualistic distinction between "this" world and a transcendent reality understood to exist "above" it. Religion and culture were no longer organized primarily around the reproduction of worldly life but became preoccupied with seeking a transcendence of particularity and necessity, whether through devotional practice, meditation, or contemplative reason. Thus, despite its obvious differences from the more overtly religious expressions of this shift, Greek philosophical reason shared with the world faiths that also emerged during this period the conception of a "higher" reality by reference to which an "empirical" world was rendered meaningful as a whole. And the Greeks would never have thought that our knowledge and manipulation of the material world could ever approximate the clarity of reflective reason.

No, if we are to adequately understand the contemporary secular world, and the possibility for a religious engagement with it, we will need a more fine-grained understanding of the conditions of its historical emergence (see, for example, Milbank 1990; Gauchet 1997). For, originally, the concept of the profane always presupposed the sacred; conceptually, they operated as a pair, with the contrast between them only relative, and one that could be switched around at particular moments (van Gennep 1960). In its original sense in the classical world, the profane, or worldly, was thus itself understood religiously—indeed, the Latin *pro-fanum* originally referred to the space in front of the temple (Gadamer 1975, 150). Yet modern secular thought and action understands itself as secular or profane in an absolute, not relative, sense. How did a cultural form emerge that understands itself not as engaging in heresy, idolatry, or apostasy but as *non*religious, to be understood in its own, immanent terms, with no need of a sacral reference point to make it intelligible? And are the religious correct to concede this claim—to see the dialogue between religion and the secular, including science, as one between radically separate ways of knowing, each with its own magisterium?

The key move I want to make here is to turn the tables on secularism and suggest that, rather than understanding religion as a distinctive cultural phenomenon within a fundamentally secular world, and one open to

being explained by reference to secular realities such as psychology, interests, or ideology, it is the *secular* we should problematize—by understanding it as a specifically modern cultural development whereby the profane, always a space within a sacral cosmos, became seen as a self-grounding, independent reality.[2]

The Theological Roots of Modern Science

This idea, that the modern secular came into being not by making a decisive break with religious thought but through the transformation of specific religious ideas, has significant implications for the *Zygon* project of reconciling, or yoking, religion and science. For, rather than the emergence of modern science in the seventeenth century being a decisive event in "the separation between secular and revealed knowledge" (Caiazza 2005, 10), it was the moment of a spectacular fusion between religious thought and natural philosophy. As historian Amos Funkenstein argues, the work of Galileo, Descartes, Newton, and Leibniz can be seen as a high point of convergence between science, philosophy, and theology. Funkenstein describes the activity of these and other natural philosophers of the time as a "secular theology," in the sense that this was a theology oriented to the "world" in a way that had not been the case before. This was a world increasingly seen not, as it had been for the axial religions, as a transient stage for the development of human souls but as having its own religious value, both as a dwelling place and as a creation whose study can reveal the mind of its creator. As Funkenstein puts it, "[t]he world turned into God's temple, and the layman into its priests" (Funkenstein 1986, 6).

The scientific revolution thus did not in itself dispose of God; nevertheless, its proponents changed the meaning of theological language, which allowed divine attributes to be progressively absorbed into the empirical world. In order to carry out their project of reconfiguring the human understanding of nature to make it capable of mathematical certainty, figures such as Descartes, Newton, More, and Leibniz recognized that they needed a clarity and distinctness in their ideas about God that paralleled that which they sought in relation to nature. Language about God's attributes and very being had to be stripped of metaphor and given clear univocal meanings; similarly, talk of divine action in the world had to be purged of mystery, as it was made to play specific roles in the emerging scientific picture of the world (Szerszynski 2005, 48). Thus modern science was born in a particular—and one might say heretical—transformation of theological discourse, although these theological roots became progressively obscured as decades and centuries passed.

Against this background, it should not be surprising that, as Hava Tirosh-Samuelson (2005) and John Polkinghorne (2005) pointed out in the March issue of *Zygon*, the relationship between modern science and religion has certainly not been one solely of conflict. Instead, there have been repeated

episodes of mutual influence: sometimes religion has taken ideas from science, sometimes science from religion (see also Brooke 1991). But even where there has been conflict, it is possible to see this as evidence not for the radically autonomous rationalities of the two modes of thought but for their common dependency on theological postulates. Disagreement is less a matter of talking about different things (angels versus forces, for example) than it is of disagreeing *about the same thing*—the nature of time, being, and so on. Such a move should embolden religious critics of scientific claims to enact such struggles not always on the territory of scientific justification—those of evidence, replicability, and coherence with the body of scientific knowledge—but also on the more fundamental territory of theology. What picture of being is taken for granted by this way of looking at the world? How might such a passive, mechanical view of matter imply an excessively voluntarist view of divine sovereignty over creatures? What does this seem to imply about humans, if they are made in God's image?

THE "SCIENCE WARS"

This way of thinking about the relationship between science and religion may help nuance our understanding of what is at stake in contemporary "science wars" (Ross 1996). These conflicts over the authority of science are more complex than Caiazza indicates (2005, 13); the fight is less over the *existence* of science than over what might loosely be called its *democratization*. People in many walks of life are concerned about the way that the assumed epistemic privilege of science seems to be used as a device for excluding wider considerations from influencing scientific and technological developments: questions over values, ends, and means; the epistemic value of lay knowledge and ethical reasoning; the increasingly close relationships between science, commerce, and the state; and so on. These concerns cannot be reduced to any simple opposition between revelation and reason; indeed they are broadly shared by religious and nonreligious critics of scientism—although even the self-professed secular critic might often reach for religious language to express anxieties about technological directions (Deane-Drummond and Szerszynski 2003).

It is undoubtedly the case that in some parts of the world fundamentalist forms of religion seem to be aligning against free inquiry, whether scientific, philosophical, artistic, or theological. But in the optimistic spirit of *Zygon* we should resist characterizing this as the result of an inevitable clash between revelation and reason. Indeed, it is possible to develop a religious critique of much scientific practice that castigates it for not being skeptical *enough*. For example, if doubt is a "constant part of faith," as Caiazza quotes Dorothy Day as saying (2005, 15), this is not because of the existence of some constant "secular" world that the Christian encounters but because Christianity is itself a particular experience of time (Manchester 1993). The Christian is suspended in the messianic time

between the "already" of the incarnation and the "not yet" of the eschaton. Christianity radicalized Judaism's breaking of the sacral continuities of the archaic sacred, opening up a yawning gap between divine and earthly truth. With Christianity's rejection of cultic and gnostic understandings of salvation, believers were thrown back on themselves and the church to determine how to live—a church that thus at once symbolized and promised to mediate the gulf between Earth and heaven in this time of suspension. Doubt and the individual conscience were thus psychic phenomena immanently produced by the very structure of the Christian experience of time (Gauchet 1997, 137).

From such a viewpoint, it might be said that, insofar as it embraces an unbending scientism, science itself has gone cultic by seeming to offer a form of knowledge that denies the messianic nature of time, a form of knowledge that could be possible only at the moment of eschatological fulfillment. Anthropologist and philosopher of science Bruno Latour has recently called for a "secularization" of Science (with a capital *S*)—the abandonment of science's mythical claim to have privileged access to objective truth (Latour 2004, 30–31). He suggests that the sciences (with a small *s*) —the particular, fallible ways we have of generating knowledge about the world—need saving from this myth, not least so that we can dispel the dangerous illusion that scientific knowledge-making can and should ever be insulated from politics and debate. Latour calls this "secularization" to indicate the way that this would be a removal of science's transcendental epistemic privilege, bringing it down to the level of the world, and a leveling of the terms of engagement between science and politics. Yet, ironically, this very secularization of science also could facilitate a more productive engagement between science and *religion*, by bringing to the level of conscious reflection and debate shared and conflicting theological assumptions about time, finitude, and human epistemic powers.

Technology and Human Meanings

In his intriguing closing pages, Caiazza points to technology as the chief reason for the displacement of religion from civic life (2005, 18–19). In order better to judge this claim, it is perhaps useful to distinguish between two dimensions of religion that have been identified by anthropologists. David Mandelbaum (1966) suggests that in Western society the emphasis is on the *transcendental* dimension of religion, a concern with the long-term welfare of society and with questions of ultimate significance, whereas the focus of other religions is often on the *pragmatic* dimension, the local and the particular. A similar contrast is made by Roy Rappaport (1993) between the *indexical* dimension of religious action, focusing on present needs and situations, and the *canonical* dimension, concerned with abstract, impersonal ideas of cosmic order.

Such distinctions can help us to understand the cultural role of science and technology in contemporary society. In terms of its reception by the public, science seems to speak primarily to the canonical dimension of people's needs. The appeal of popular science, such as cosmology or sociobiology, seems to be its power to provide an overarching narrative for reality without making apparent normative prescriptions. Its focus is on the content rather than the form of science, on the products rather than the process of scientific knowledge making (and thus could itself be said to encourage an uncritical orientation to science). By contrast, the immediate appeal of technology seems to be indexical, in terms of its pragmatic power to meet the particular needs of particular individuals.

Later on I qualify this contrast, but for now I simply want to make the point that perhaps the shift in public discourse that Caiazza perceives away from theoretical science toward technology as the highest form of knowledge is part of a broader cultural shift away from canonical and toward indexical forms of meaning and action—and one that is taking place in religion as well. Then, perhaps the most fundamental shift is not *from* religion *to* technology but one that is occurring *within* both religion and the technical sciences, away from impersonal canonical meanings and toward indexical, pragmatic solutions.

In a recent empirical study of the changing character of religion (Heelas et al. 2004), we found that the religions and spiritualities that are growing in the developed world are those that are felt to resource the individual within the context of his or her own distinctive life narrative. These forms of religion typically are concerned more with the here and now than with the afterlife, and with nurturing the unique, individual, lived life rather than simply promoting life in a particular prescribed social role. We argued not only that organized religions are shrinking at the expense of a growing alternative sector but also that one can detect a turn to the indexical occurring *across the board*—within organized religion, within forms of alternative spirituality, and also in the more diffuse spiritualities and sensibilities of popular culture.[3] Reading Caiazza's list of the characteristics of the "ethics of techno-secularism" (2005, 19–20), it is striking how closely these fit with this powerful turn to the individual, lived life that we discovered within the domain of religious thought and action, suggesting that we are dealing here with a fundamental tidal swell within the ongoing historical development of the sacred.

Nevertheless, it is important not to overestimate the indexical character of the meaning of technology in the contemporary world. Particularly in the (post)monotheistic West, the promise made by technologies to meet local, particular needs and desires is deeply inflected by another, more "canonical" kind of promise—that of release from earthly limitations and uncertainties.[4] The Western understanding of the practical arts was transformed in the seventeenth century as knowing nature became synonymous

with intervening in it, and, conversely, intervening in nature became grounded in the claim to know nature objectively, from the viewpoint of its creator. As part of this shift, modern ideas of technology emerged, as the practical arts (*techne*) became seen as capable of the certainty that was characteristic of reason (*logos*) itself and thus were given the soteriological function of liberating humankind from finitude and necessity (Bacon [1605] 1960). Caiazza's emphasis on the pragmatic dimensions of technologies neglects the way that contemporary understandings of technologies are still profoundly shaped by this move, one that gives them an allure, bringing them under the aesthetico-religious figure of a "technological sublime" (Nye 1994) that seems to transcend quotidian perspectives and interests.

Thus I want to suggest that the "magical" understandings of technology that Caiazza ascribes to contemporary lay publics coexists with more "religious" understandings. (Indeed, the purely "magical" and the purely "religious," with their respective logics of interestedness and disinterestedness, are surely always ideal abstractions from any religious system of meaning.) But I also would dispute Caiazza's implication that the reason *why* contemporary technologies are seen as magical is that people simply cannot understand how they work. Technology is thought of as mysterious not simply because of ignorance or some process of mystification but because it *is* mysterious. Engineers conceive of technology from their own point of view, in what might be called a "device" mentality, where the meaning of a technology is more or less exhausted by the function it was created to perform. This is an important element of our understanding of technology, but it should not blind us to other dimensions of the technological. Technologies do not just do what the designers intend. They are adapted by users and yoked to other ends. They also extend and transform these ends and thus transform our concepts of human need, flourishing, and even identity. They can have unanticipated side effects that become far more significant than their intended function. Think of the nineteenth-century factory belching out CO_2, or the motor car, or the use of chlorofluorocarbons (CFCs) as aerosol propellants. Part of the mystery of technologies is certainly their "power to change our lives" (Caiazza 2005, 18), but this is not only in terms of the way they might extend our power to achieve our earthly goals or align us with a suprapersonal technological reason. Technologies as dynamic sociomaterial phenomena will always burst the bounds of any static schema of thought, whether indexical—in terms of the pursuit of particular goals—or canonical—in terms of alignment with transhistorical meanings.

Caiazza's essay has sparked much fruitful debate about the future of the dialogue between religion, science, and technology. To my mind, however, the most productive path for that dialogue has to be for religion to engage not only with the fruits of scientific and technological activity but with the often deeply hidden religious meanings that continue to inform

them at a very fundamental level, even in an apparently secular age. We should not see science and technology on the one hand, and religion on the other, as confronting each other as wholly autonomous forces with their own independent logics, for they all have been conditioned by the same extraordinary religious history of the West. Their tensions and clashes derive from their origins in a common cultural world—from their having taken up different positions in shared theological debates. So long as we remember that, we may be able to recall that what is at stake is not the simple truth of this or that knowledge claim, or the acceptability of this or that technological development, but also far more fundamental questions.

NOTES

1. For a sustained development of this argument see Szerszynski 2005.
2. In making this argument I am of course indebted to the work of John Milbank (1990).
3. See *www.kendalproject.org.uk*.
4. This promise is, of course, endlessly deferred. It is difficult if not impossible to separate the material reality of technological development from the imaginary hope and expectations that are projected into the future and that "pull" that development in particular directions, such that the expectations are partly fulfilled, partly transformed, partly thwarted (Brown, Rappert, and Webster 2000). Witness the similar rhetoric deployed by succeeding generations of technicians as traditional plant and animal breeding was overtaken by scientific Mendelian breeding, then by genetic modification, and most recently by the promise of the biological engineering being pioneered at MIT. In each case, the "promise" of the new technological paradigm was the introduction of unprecedented levels of certainty and accuracy in the production of traits and functions.

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