# THEOLOGY: REDUCTION OR AUTONOMY?

*by Gregory R. Peterson*

*Abstract.* Issues of the nature and task of theology remain important to the science-theology dialogue. This paper lays out a framework for understanding the nature of theology in relation to the other sciences. In particular, I argue that the primary question remains one of autonomy and reduction. If theology is a genuine academic discipline, then it should be an autonomous field with its own subject matter and norms. Wolfhart Pannenberg argues that theology is the science of God, but I suggest that theology be more broadly understood as the science of meaning. If we recognize this, the modes of interaction between theology and the other sciences becomes clearer.

*Keywords:* reductionism; science-theology conflict; science-theology typologies; scientific theology; theological method.

---

Is theology a legitimate field of inquiry? Or are its claims reducible to psychological and sociological impulses? Much of the history of theology since the dawn of the modern period has been concerned precisely with this question. Social scientific critics of religion have argued for at least two centuries that adherence to religious belief is not rationally based and arises because of a variety of primarily psychological and sociological factors. By implication, if religion is an illusion (as Freud bluntly put it), theology is the systematization of an illusion and, as such, has no intellectual foundation. In this view, theology has the same intellectual standing as astrology and extrasensory perception, and should be treated as such. When scientific conferences are held, one may occasionally find the oddball philosopher invited to speak; rarely will one find a theologian.

As a consequence of this critique, theology has spent much of the modern period defending its integrity while at the same time trying to find a rational grounding that would reestablish its intellectual respectability, if

Gregory R. Peterson is Assistant Professor of Religion and codirector of the Global Institute at Thiel College, Greenville, PA 16125. His e-mail address is gpeterso@thiel.edu.

[*Zygon*, vol. 36, no. 4 (December 2001).]
 ISSN 0591-2385

not necessarily former preeminence. As a consequence, theological method has become *the* primary question for theology, and the modern period has been characterized by the ongoing quest for such grounding.

Is this possible? A number of contemporary theologians contend that it is. I concur, but I also suggest that such grounding requires taking a starting point slightly different from those that have been put forth in recent years. More specifically, we must first ask what it is that theology seeks to explain. It is only having carved out an explanatory domain that theological theorizing can begin and proceed in a way that is intellectually respectable. If correct, it also suggests a slightly different typology of the relationship between theology and science than is usually offered.

## The Challenge of Religious Reductionism

There now exist a number of typologies of the relationship between science and religion generally as well as the relationship between science and theology specifically. The most famous of these is Ian Barbour's (1997) fourfold typology of Conflict, Independence, Dialogue, and Integration. John Haught has proposed his own, more euphonious typology in terms of Conflict, Contrast, Contact, and Confirmation (Haught 1996). Haught's typology significantly overlaps Barbour's while at the same time highlighting slightly different issues. Ted Peters (1996) and Philip Hefner (1996a) have both put forth more elaborate typologies that apply specifically to science and theology. Hefner, for instance, describes the major theological trajectories of the latter twentieth century (including the postmodern/new age, postmodern constructivist, and evangelical categories) with an eye toward how each regards its relationship with the sciences. Peters performs much the same task, but with a strong normative bent, offering critiques of such positions as church authoritarianism on the one hand and scientism on the other.

Such typologies have their applications, and my purpose is not to criticize them significantly here. Barbour's typology, in particular, has been widely employed, and each has important insights to contribute to a healthy dialogue. At the same time, I would suggest that lurking behind each is a more important question: Is theology intellectually viable at all? Because most individuals working in the science-religion dialogue have already answered in the affirmative, this question does not usually appear in the typologies for the science-religion and science-theology relation; yet it is *the* question that has to be initially addressed for any genuine dialogue to proceed. Until it is resolved, all other questions are moot. Indeed, one could argue that the way an individual theologian or scientist handles the question of theological reduction and autonomy determines, in significant part, how the relationship between religion and science is perceived. If theology is reducible, for instance, to some other form of discourse, the

theology-science relation must necessarily take the form of conflict (theologians and religious people generally are simply mistaken about their truth claims) or independence (theological talk is not really about a God "out there" but employs language games that can be therapeutically useful). If theology does represent some autonomous sphere of knowledge, however, other modes of relationship are possible.

Reductionist accounts of religion and theology come in two primary variants. The first of these may be labeled social scientific reductionism. Stemming from the work of such nineteenth- and early-twentieth-century thinkers as Ludwig Feuerbach, Karl Marx, Sigmund Freud, and Emile Durkheim, the arguments of social scientific reductionism are quite familiar to most contemporary theologians, and wrestling with the validity and implications of these critiques is typically a part of modern theological training. Most of these critiques take the form of the projection thesis initially advocated by Feuerbach ([1841] 1957). Religious beliefs are characterized primarily by their (seemingly) incredible claims: a fatherly God, miracles, an immortal soul, resurrection of the dead. People are willing to believe such incredible things only because of some social or psychological compulsion. In Freud's analysis, for instance, religious belief is an illness that results from unresolved psychological problems ([1918] 1962). The implication, for Freud and others, was that if you cured the social and psychological illness in question, religious belief, defined by its irrational character, would simply go away.

Not all forms of the social scientific critique are equally pejorative. Durkheim developed a functionalist account of religion that has had wide influence in both sociology and anthropology ([1912] 2001). For Durkheim, religion could have benefits, inasmuch as it served as the motivating basis for social organization and order. Nevertheless, even in Durkheim's analysis there is no real cognitive content to religious claims. Theological claims that are made about God and the ultimate nature of things are, in Durkheim's analysis, really about the society of which one is a part. Religion is vital for the function of society but is mistaken nevertheless.

In more recent decades, such social scientific critiques have been complemented by biological ones as well, usually stemming from evolutionary theory and neuroscience. For sociobiologists, traditional religions have a survival function, inasmuch as they promote survival of offspring and kin. Because religion is usually associated with altruism, an explanation of altruism is taken to be an explanation of religion as well. Thus, Stephen Pinker (1997, 439–40) attempts to explain religion in terms of a misplaced kin altruism, wherein family labels of "brother" and "sister" are transferred to non-kin relations in the religious community. More insidiously, religion has also been characterized as a cultural virus, infecting individual minds in ways that are ultimately detrimental to society (Blackmore 2000).

Less hostile evolutionary accounts also exist. Walter Burkert (1998), for instance, has attempted to trace the origins of religion and myth in particular to facets of our evolutionary makeup and history. Merlin Donald (1991) has presented a model of human evolution in which religious ritual plays a central role. Like that of Durkheim, these friendlier accounts do not register religion as unequivocally bad, but they do call into question its cognitive status. It is a short step from providing biological reasons for believing something to implying that the biological reasons make the belief altogether superfluous. If I believe in God because (so the argument goes) my genes find it adaptive to do so, in what sense can I fairly evaluate the other reasons I give for such belief?

Neuroscientists walk this fine line of reductionism as well. V. S. Ramachandran (1998) as well as Eugene D'Aquili and Andrew Newberg (1999) have suggested neurological underpinnings for specific kinds of religious experiences. While these authors are careful to avoid completely reductionist interpretations, such research does have the potential for suggesting that the origins of religious experiences are other than those traditionally given by the devout. Neuroscientist Michael Persinger (1987) goes down precisely this route, arguing that the existence of brain correlates of religious experience show the experience to be an illusory by-product of mental functioning.

I cite these arguments and findings not because I believe that all of them are valid or that all of these observations do in fact lead to reductionism (I don't) but to show the primary challenge that theology has to face. The strength of some of these challenges comes from their at least partial and not insignificant plausibility. Marx was quite correct to observe that religious institutions can and do serve the needs of the wealthy at the expense of the poor. Freud was correct to observe that, at least for some, God functions as a sort of surrogate father for those who are unable to cope with adult life. Certainly, evolutionary considerations have shaped the kind of creatures that we are and, arguably, the shape of the evolution of religions as well. The strength of such criticisms has been such that it has impelled some to abandon the explanatory and referential character of theology altogether in favor of a model of theological discourse that understands itself, after all is said is done, in cultural-functionalist terms. Influenced initially by Ludwig Wittgenstein, scholars such as D. Z. Phillips (1971) argued that religious talk formed a separate language game, important to its participants but distinct from and incommensurable with other forms of discourse. George Lindbeck (1984) distinguished between cognitive, experiential, and cultural-linguistic forms of theological discourse, clearly preferring the latter. Charley Hardwick (1996) is a contemporary example of one who takes this general approach, following a program that demythologizes Christianity in a way that is consistent with his understanding of scientific naturalism.

Although there are significant differences between these approaches (and there are a number of other examples that could be adduced), they are notable for what they have in common. First, with some caveats, all three of these approaches essentially take a sociological form. Religion is primarily a form of cultural expression. The task of theology, then, is essentially to save the phenomena, to show how Christian language and symbols can be understood as cultural expressions rather than referential truth claims. How to proceed on this task may be a matter of debate. Indeed, those thinkers influenced by Wittgenstein would reject the idea that they were reducing religious language to anything, even though that is precisely the effect of their approach.

A second characteristic of these approaches is that they simply assume some version of scientific (some might say scientismic) naturalism. This is clearest in Hardwick's argument, but it is at least tacit in the other accounts as well. One reason that more robust accounts of theology are rejected is that they seem to conflict so clearly with the worldview that modern science presents. Miracles, revelations, and divine incarnations, it is argued, are simply too incredible for a scientific age. If theology is to survive, it must give up such absurd notions. Consequently, a version of scientific naturalism ends up buttressing sociological and biological forms of reductionism. It is the combined effect of scientific naturalism and sociological or biological reductionism (or both) that makes this case so convincing to many. The perceived effect for theology is disastrous. Not only must theology give up many of its truth claims; it must transform itself into a form of cultural analysis. Theology becomes essentially a creative subdiscipline of the social sciences, a means of fostering local communities, using ancient religious symbol systems to convey modern philosophical and social scientific insights.

On the positive side, this shift in emphasis in theology has produced insights about the nature of religious discourse that would probably have been ignored otherwise. At the same time, it is important to note that this shift involves, I shall argue, a crucial mistake. The assumption implied in this shift is that theology is *merely* the interpretation of the symbols of a religious tradition. Therefore, if our understanding of the origin and functions of religious symbols changes, the task of theology changes as well. To many, this understanding of theology does not seem a mistake at all. Is not the task of theology the interpretation of religious symbols? While such an understanding is common, I would suggest that it is precisely backwards. Rather, religious symbols are used for the primary task of theology, which is to provide a framework for understanding questions of meaning and purpose. It is only by acknowledging this that theology avoids a path that eviscerates it of meaningful content.

## Theology as the Study of Ultimate Meaning and Purpose

If theology is not *merely* the interpretation of religious symbols, what is it? Arguably, this has been *the* question for theology in the modern period, and in many ways the history of modern theology has been the history of attempts to answer it. In the wake of the Enlightenment, traditional confessional theology seemed to many ill-suited to the task of rational inquiry, tainted as it was by the twin legacy of frequent schism and religious war, which rendered the motivation of its defenders suspect. In response to the new criteria of the Enlightenment, some adopted, as one means of preserving the rationality of theology, a natural theology that demonstrated the existence of God through rational analysis and evidence from the nascent natural sciences. Given that revelation is not self-justifying, the rational grounding of theology must lie elsewhere. In the wake of David Hume's critique, the approaches of Immanuel Kant, Friedrich Schleiermacher, and G. W. F. Hegel, among others, provided alternative methods of rational grounding, each using a different starting point and, consequently, coming sometimes to different conclusions about the nature, scope, and validity of theological claims.

Arguably, much of the current theology-science dialogue remains preoccupied with precisely this task. The reason that the natural sciences have once again become so important to a number of theologians is that the natural sciences currently hold the explanatory high ground. By revealing the limits of the sciences, room is made once again for theology. There are a variety of ways in which this is currently being done in the dialogue. One primary means has been to distinguish science from scientism, undermining in one fell swoop secularist ideologies that use science to discredit religion (Barbour 1997; Peters 1996). Others include emphasizing areas in which science reveals inherent limits (for example, scientists cannot tell us why the universe began with a big bang or explain human consciousness) or the degree to which science still supports some argument from design, or simply showing that particular scientific theories (such as natural selection) are consistent and coherent with theological claims and, consequently, nonthreatening. Often these strategies are used in combination, providing a potentially powerful cumulative argument (as in Peacocke 1993 and Haught 2001).

With each of these approaches, I have no problem. Such attempts at harmonizing and making consistent are part of the theological endeavor and need to be engaged at some point or another in the development of a theological perspective. To the extent that theologians limit themselves to such endeavors, however, they are potentially making a mistake similar to that made by those who embrace a largely cultural approach. Once again, the task of theology easily comes to be understood as the interpretation of

religious symbols, although here interpretation is more typically understood as defense within a particular metaphysical context.

I suspect that such a mistake is relatively rare in the science-theology dialogue. Many do give a justification and explication of the nature and character of theology independent of the more specific task of establishing its relationship with the other sciences. Two of these can serve as hints as to the correct direction to go. Among those theologians sensitive to the needs of rationally grounding theology, Wolfhart Pannenberg has provided, in many ways, one of the most straightforward explications of the nature and task of theology. Pannenberg has argued that theology is, first and foremost, the science of God. As such, theology as a discipline begins independently of particular claims to revelation and independently of particular arguments as to the existence and nature of God (1976). In Pannenberg's scheme, Christian theology is one competing form of theological inquiry that stands alongside Jewish, Muslim, and other forms. Within Christian theology, Pannenberg's own proposal that God should be understood as the world's all-determining future must stand alongside and in competition with other proposals. In elucidating the claim that theology is the science of God, Pannenberg has performed the tremendously important task of defining what theology is *about*. This, indeed, is the primary question. If theology is truly a legitimate form of intellectual inquiry, theology should be able to denote a domain that is distinct from other forms of intellectual inquiry. In this sense, a theology that is reduced to a form of cultural analysis ceases to be a genuine theology and becomes a form of social scientific inquiry instead.

Although Pannenberg's insight is important, it does not go far enough. This becomes clear as he develops his particular theological claims; for while many might agree with Pannenberg's assessment that theology is the science of God (some might add, Could it be anything else?), a good number of theologians do not subscribe to his particular claim that God is the all-determining future or that Jesus is a proleptic revelation of that future (1977; 1993). This disagreement, although not unusual for modern theology, proves to be problematic for understanding theology as the science of God. If there is widespread disagreement about the nature of God (of which there is little doubt), the claim that theology is the science of God can become nearly vacuous. The conceptions of God held by Martin Luther, Baruch Spinoza, and Alfred North Whitehead are all quite different from one another. To borrow a term from the philosophy of science, Pannenberg's approach raises the question of whether the term *God* denotes a natural kind. While there is, perhaps, enough overlapping even between Luther and Spinoza to reply in the affirmative, demonstrating this would be a trick, and ultimately it risks halting much theological work even before it gets off the ground.

I would suggest that the error in Pannenberg's conception of theology is

that he, like so many others, has made the mistake of putting the answer before the question. Genuine intellectual inquiry is not characterized so much by the answers it gives as by the questions that are asked. Do you want to know why things move the way they do? Ask a physicist. Why did the Huns migrate west and sack Rome? Ask a historian. Why can't I get the ants out of my kitchen? Ask a biologist. An intellectual discipline is defined more by its questions than by its answers. Although one can frequently characterize a discipline by its subject matter (botanists study plants), the primacy of the question takes over once again as subdisciplines emerge. Plant biochemists study photosynthesis not because the particular mechanisms of photosynthesis were anticipated in the understanding of what botany implies but because photosynthesis answers the question, How do plants harness energy? Likewise, it would be a mistake to characterize cosmology as "the science of the Big Bang," for the simple reason that the Big Bang is a contingent answer to the question, How did the universe begin? The Big Bang is a well-established theory, but it could be replaced by another. The question, however, would remain the same.

The implication, then, is that God is, as strange as this may sound, more like the Big Bang than like botany. God is the contingent (although nonetheless important) answer to a question or set of questions. The fact that not all religious traditions subscribe to the idea of a personal God also suggests that this is the case. A Buddhist theologian may seem an oxymoron. Nevertheless, while Buddhist conceptions of the nature of reality are quite different from Christian conceptions, we can still recognize that Buddhist and Christian thinkers are in some sense engaged in the same sort of task.

What are the questions that theology seeks to answer? At base, theology is primarily concerned with what may be called *meaning questions*. At least, historically it seems to be that type of question with which theology is most concerned. By *meaning questions* I refer to questions that we need answered in order to orient ourselves spiritually and ethically in life. Where do I come from? Where am I going? Is there such a thing as human nature? Can I expect to achieve happiness? These questions may seem hopelessly broad at first. Could not these questions be answered by a number of disciplines? Where I come from is addressed by evolutionary biology, and one can go beyond that to physical cosmology. Questions of human nature are addressed by biology, psychology, and other social sciences. The same might even be said about achieving happiness and direction in life. Many of these questions have historically been addressed by philosophy as well. There seems little about them that makes them intrinsically theological.

Yet, a closer examination reveals quite the opposite. It is worth noting that the science-theology dialogue involves precisely this kind of question. Big Bang theory and evolutionary biology have attracted the attention of theologians precisely because these areas of science raise such questions.

When scientists attempt to give answers to issues of origins and human nature, they inevitably raise what Barbour (1997) has called *limit questions*. Furthermore, one does not have to look far to see that these are the sort of questions on which theologians focus. Arthur Peacocke's finely argued *Theology in an Age of Science* (1993) makes this quite explicit, with chapter titles such as "What's There?" "What's Going on?" and "Who's There?"

Such questions achieve religious and theological importance because, as Paul Tillich noted, they unavoidably address issues of ultimate concern. Indeed, Tillich (1951) defined the term *God* precisely as the answer to the question of ultimate concern. Although Tillich's approach has been of some importance for religious studies, his influence has waned considerably in recent decades for a number of reasons. Among these is that Tillich tied his understanding of ultimate concern and meaning to a form of existentialist philosophy that, in retrospect, was overly narrow in its scope, defined as it was by the particular context of Western late modernism and Cold War anxiety. The category of angst does not resonate as it once did, and it seemed utterly irrelevant for those in developing countries, where issues of justice and even survival have been more at the forefront. In places such as Brazil, liberation theology flourished as an alternative to the existentialist theologies that occupied many in the industrial north.

It would be a mistake to simply assume, however, that because later theological movements rejected Tillich, these movements were no longer concerned with these basic questions of meaning and ultimacy. Quite the contrary: the rise of liberation theologies shows that these questions were of prime importance but took quite different forms. In liberation theology, questions of human nature have been more closely tied to questions of proximate and ultimate direction. Indeed, by insisting on a preferential option for the poor and on describing theology as second-order reflection on the experience of the community in action, liberation theologians built in a kind of empirical basis for their program that other theological movements arguably lack (see, for example, Gutiérrez 1988).

As a final indicator for the validity of this approach, one may also observe the explanatory function that God plays in traditional theological discourse. Of what is God an explanation? One finds the same issues appearing. God is an explanation of the ultimate origins of the cosmos. God is an explanation of the origins of human beings and, according to the doctrine of the image of God, God also serves as an ultimate explanation of human nature. Doctrines of the Fall and redemption in the hands of sophisticated theologians provide significant insights into the human condition and, together with eschatology, provide significant orientation toward the future. This is not to say that God is reduced to these categories, but it does show that God as a category certainly functions to answer these questions in a way that is important to believers.

Moreover, such questions are not limited to Christianity or even to monotheistic traditions; they have their analogues in other traditions as well. Both Buddhism and Taoism, for instance, provide sophisticated accounts of human nature. Most religious traditions provide origins accounts, even though the extent to which they emphasize them may vary. Interreligious dialogue is made possible, in part, precisely because of these shared concerns. To the extent that naturalistic philosophers attempt to answer these basically theological questions, they too are doing theology, a point that the recent advocacy of an openly religious naturalism by Ursula Goodenough (2000) and others seems to acknowledge.

## EITHER/OR?

Understanding theology in this light provides some possibly significant insights for understanding the theology-science dialogue. Before moving in that direction, however, two further observations are important.

Historically, the discipline of theology has had two orientations. The first of these is generally metaphysical in character. In answering the basic questions related to meaning and ultimate concern, theology typically has functioned by providing a metaphysical framework that gives an account of (to use Clifford Geertz's phrase) a general order of existence. Theology tells us not simply about God but also about the general character and history of the world as well as what kind of things we should expect to find in it. A world that is created good is, presumably, different from one that is created evil. A God who creates order out of chaos is different from one who creates chaos out of order. It is this metaphysical form of theology that has typically been most in conversation with the natural sciences, precisely because the natural sciences have so profoundly shaped the way that we think about the universe and our place in it. Interestingly, this form of theology tends to be somewhat retrospective in character, more concerned with how the past informs the present than with the how the present informs the future. I do not think this is necessarily characteristic, but it does seem pervasive and important to the task.

The second orientation of theology is soteriological in character. That is, theology has historically been important because it also provides a path for salvation, enlightenment, or (more modestly) whole living. Soteriology is very much about the individual and the community and seeks to provide a map or guidelines for life. Typically, but not always, soteriologies imply that the present state of affairs is unsatisfactory. Consequently, most soteriologies provide a path out of this predicament. It is precisely because of our state of sin and suffering that we require Christ, the Torah, or the teachings of the Buddha. Whereas metaphysical theology tends to be retrospective, soteriological theology tends to be future oriented. The focus is often on the ultimate future, but soteriological theology also typically

provides guidelines and goals for the present. Soteriological theology has had much less interaction with the natural sciences than with the social sciences. This is perhaps natural, for the social sciences themselves have a future-oriented and, in some forms, even soteriological character.

One could envision a future in which metaphysical theology and soteriological theology are treated as separate academic disciplines. At the very least, it would be an interesting experiment in academic organization. Ultimately, however, the two disciplines are linked. Metaphysical theology informs soteriology in a profound way by providing the background of expectation and possibility. A metaphysical theology that allows for the possibility of justice in our meek, temporal realm supports a quite different soteriology from one that suggests we are so tainted by sin that such projects are doomed to fail.

In addition to noticing this twin orientation of theology, it is important to observe that theology can proceed as an intellectual discipline in two ways. For much of its history, theology has been understood as a rational and scientific (in the classical sense) enterprise. Theology, like philosophy and the sciences, proceeds by means of rational analysis and argumentation. As a result of this conception, theology in the ancient and medieval periods was highly influenced by Platonic and Aristotelian traditions that served as the standards of rationality. As philosophical epistemology changed in the wake of the Enlightenment, theologians have struggled in their efforts to continually refit the discipline to the sometimes-radical changes that have taken place.

Within the science-theology dialogue, this struggle has manifested itself largely in scholarship that has striven to show that theology either parallels certain aspects of scientific practice or, more strongly, can be (and in fact is) scientific in character. Thus, critical realists such as Barbour (1974), Peacocke (1984), and John Polkinghorne (1986) have attempted to show that theology engages in many of the same sorts of rational practices that the sciences do. Pannenberg and Nancey Murphy, in quite divergent ways, have argued that theology itself can be scientific in character and therefore should be considered as a discipline on par with other sciences. Murphy's claim has been particularly bold, arguing that religious experience can serve as a datum from which theological hypotheses can be derived and likening the interpretation of scripture to scientific theories of instrumentation (Murphy 1990).

Contrasted with advocates of this scientific approach are those who see theology as a more holistic discipline that relies heavily on symbol and metaphor. Whereas this emphasis on symbol and metaphor has been part of theology historically, these categories have become particularly important in the late twentieth century, and significant theories about the role of symbol and metaphor in theology have been put forth by Tillich, Paul

Ricoeur, and Sallie McFague. While those who advocate a scientific approach to theology tend to understand language as a vehicle of representation, those who advocate a more symbolically oriented approach are more likely to emphasize the disclosive power of language. The play of words, symbols, and metaphors serves not merely to describe but to unlock our own psychological, emotional, and spiritual states. Whereas scientifically minded theologians are more likely to be in dialogue with philosophy and the sciences, symbolically oriented theologians find affinity as well with literature and the arts. Murphy coauthors a book with renowned physicist George F. R. Ellis (1996); McFague (1997) quotes Pulitzer Prize–winning writer Annie Dillard. Arguably, a symbolic approach is more holistic in character than a scientific one. Whereas a scientific theology is limited to rational considerations, a symbolic approach is more likely to involve the whole person. At the extremes, symbolic theologians (to modify Whitehead's famous quotation) find scientifically oriented theologians simpleminded, and scientifically oriented theologians find symbolic theologians muddleheaded.

Scientific and symbolic represent ideal categories. In reality, many theologians adopt elements of both. Jürgen Moltmann (1993), for instance, develops sophisticated arguments in defense of his theological approach but also acknowledges the poetic character of theology. While McFague (1993) emphasizes the metaphorical character of theology, she too engages in dialogue with the sciences and builds theological models that are to be taken seriously. Wentzel van Huyssteen has spent more than a decade developing a theological methodology that takes the sciences seriously but gives equal weight to postmodern voices that are critical of science's limitations (1999). Nevertheless, scientific and symbolic represent contrasting tendencies, and there is often a temptation to eliminate one in favor of the other.

I would argue, however, that such an eliminativist move is unwise. The scientific/philosophical project has been and remains important to the theological enterprise. To the extent that theology attempts to be a knowledge-building discipline and not merely a cultural language game, this is necessarily the case. Questions of meaning ultimately require metaphysical and soteriological models that have theoretical heft. A theology that attempts to reject the rational enterprise completely or attempts to ignore it inevitably falls into confusion or absurdity. We may be not merely rational animals but *significantly* rational animals, and such models serve to guide and orient us in a way that poetry and symbols alone cannot do.

Yet, in the end, we need the poetry and symbols as well. Scientific models are always limited by the standards of reason imposed. Scientific theories are necessarily partial; they overdetermine the acceptable data but underdetermine experience. When this is forgotten, theories can become totalizing and oppressive, asserting a hegemony that they do not deserve.

In addition, scientific theories can describe but do not necessarily provide the kind of personal insight needed, particularly when soteriology is involved. Describing ballet and performing ballet are two quite different things. Between the scientific and the symbolic, Michael Polanyi's concept of tacit knowledge may serve as a useful bridge (1974). Theories, while important, only touch the surface. Symbols, while unpredictable and sometimes equivocal, touch the deeper chords within.

## Theology and the Other Sciences

Far from being an irrelevant play of the imagination or merely a reflection on cultural practices, theology is a genuine area of intellectual inquiry, on par with other areas of academic inquiry. In this broad sense, theology is a science, a discipline devoted to the development, analysis, and application of knowledge. If this is the case, where does theology fit in the scheme of things? How can and should theology relate to other fields of knowledge?

Pannenberg argues that theology occupies a peculiar position in relation to other academic disciplines (1976). Since, for Pannenberg, theology is a science of the whole, the task of theology is to reflect on the data provided by other disciplines, which, because of their ongoing development, are necessarily partial in character and constantly subject to revision. Theology therefore retains something of the status of the queen of the sciences, albeit without the presumption that such a claim once had. Rather than dictating from on high, theology carefully listens to and analyzes what comes from below.

Despite a different theological framework, Peacocke has presented a more elaborate version of this type of claim (1993). Peacocke understands the sciences in terms of hierarchies of complexity. One can thus understand the sciences in a kind of vertical relationship, from the least complex (physics) to ever higher levels of organization. Psychology is at a higher level, because psychology is more complex than biology, which is more complex than chemistry, on down to physics. The highest level is reserved for the cultural products of humankind, including religion. Because of this, Peacocke places theology at the top of the hierarchy. The intent, similar to that of Pannenberg, is to suggest that because theology deals with the most important and complex of subjects, it belongs at the top.

While Peacocke's hierarchy certainly has a heuristic value, it is not without its problems. By placing disciplines at different organizational levels, the chart can easily be taken to imply that physics is only important at the lowest level and that each level above is independent of those below. It would be more accurate to say, however, that physics runs through all systems, chemistry runs through all systems above it, as does biology, and so on. This is not a trivial point, because it is suggestive for theology as well.

There is a sense in which theology, as Pannenberg suggests, must necessarily draw on and interpret the research of other fields. Inasmuch as metaphysical theology necessarily deals with questions of origins and human nature, there will inevitably be overlap with other "lower-level" disciplines such as astrophysics and biology. Because of this, however, theology is not simply at the top; theology can be understood as descending in relationship to other disciplines as well. Indeed, for a theology that does indeed posit God or a reality beyond the merely physical, one might say that theology deals, in fact, with the most basic of realities, even below physics, and should therefore be placed at the bottom.

One can get carried away with this sort of analysis, but it at least reveals the complexity of the relationship between theology and other disciplines. Because theology deals with its own set of unique questions, theology necessarily exists as an autonomous discipline in the same way that biology and sociology are autonomous disciplines not reducible to chemistry and physics. Theology need not worry about this sort of reductionism any more than biology need worry about being reduced to physics, for the precise reason that the kinds of questions that biology asks are different from those asked by the physicist.

While theology as a discipline has its own irreducible autonomy, the situation for individual theological claims and theories is a bit more complex. Here the modes of interaction provided by Barbour and Haught may be of some assistance, but it seems to me that some categories fit better into such organization than others when transferred to theology. I would suggest that theology interacts with the other sciences along two poles, as described in figure 1. The first of these is that of independence-reduction. Although theology as a discipline may not be reduced to the categories of other disciplines, particular theological concepts and claims may well be. In this case, reductions can take either friendly or hostile forms. Much of the recent work on nonreductive physicalism within the theology-science dialogue (for example, Brown, Murphy, and Malony 1998) may be regarded (somewhat ironically) as reductionist in its attempt to basically identify theological categories of personhood (often traditionally

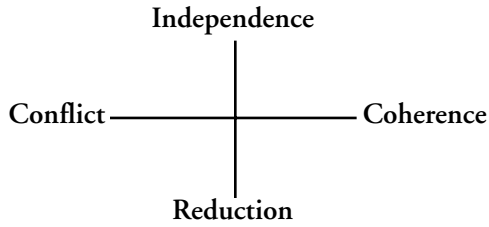


Fig. 1. Relation of theological programs to other sciences.

understood as a soul or spirit) with those of psychology and neuroscience. Here the reduction (or, more neutrally, identification) is considered a good thing. Not only can Christian theological conceptions of human nature be identified with those of the sciences; such identification retains or enhances the richness found in the theological tradition itself. Some reductions, however, may be perceived to be more hostile in character. Researchers in other disciplines may attempt to explain the concepts of particular theological programs in terms of their own discipline in a way that creates opposition. Peters refers to this as a form of scientific imperialism. This may be so in some cases, but it could be understood in terms of the healthy interaction of border disciplines. Hefner (1996b), for instance, coins the term *anti-discipline* to refer to two disciplines that exist adjacent to each other, with the consequence that each jostles with the other for explanatory power. Particularly with regard to human nature and related areas, it would not be surprising to find this a regular experience for theologians.

Despite this, many theological programs retain concepts that show considerable independence from anything found in other scientific disciplines. Any theology that posits a metanatural reality will have these features, inasmuch as concepts such as God have no analogue in other disciplines. Conversely, naturalistic theological programs do not show much activity on this end of the spectrum, being more inclined to identify particular theological concepts with those derived from other scientific disciplines.

In addition to this continuum of independence-reduction stands that of conflict-coherence. The category of conflict hardly needs elaboration, and the situation for theological programs here parallels the descriptions for religion given by Barbour and Haught. Theological programs that have premises that clearly entail a young Earth clearly conflict with those disciplines involved with natural history. Conceivably, a theological program that relied heavily on particular kinds of mystical experience might also experience conflict with psychologists over the interpretation of the source of these experiences. Despite this, it is important to note that this is not a conflict between the fields of theology and psychology but rather a dispute between particular research programs within those fields.

On the other end of the spectrum lies coherence. Because much of the theology-science dialogue has been devoted to generating theological programs that exemplify coherence, this also should be a familiar category. Haught's *God After Darwin* (2001) and Hefner's *The Human Factor* (1993), for instance, are two theological efforts that take seriously the need to show consistency between theology and other disciplines, in this case evolutionary biology. In its strongest sense, coherence implies not only consistency but also using findings from the other sciences as data for theology. Design arguments are a classical example of this sort of approach.

Ideally, a good theological program should show little conflict and much coherence with other scientific disciplines. Nevertheless, it is important to

observe that the degree of commonality depends on the state of the other scientific disciplines. While, generally speaking, lower-level disciplines are more likely to require changes in higher-level disciplines than the reverse, this is not always the case. Conflict, while undesirable, seems an occasional and even important part of scientific growth. While the creation-evolution battles come to mind as a particularly distasteful example of conflict, it should be noted that the more mainstream theology-science dialogue has its own conflicts as well, most notably over sociobiology (Cavanaugh 2000). Those who have opposed extreme forms of sociobiology frequently have done so not only for scientific but for theological reasons as well. To the extent that this opposition shows some sign of vindication (Sober and Wilson 1998), one might conclude that in this case the theological reasoning is valid.

## *THE* UNDERSTANDING OF THEOLOGY?

Is this *really* what theology is about? I would not be so presumptuous as to make such an overarching claim. Like every field, theology is as much defined by its broad history and development as it is by any theoretical account. Theology has traditionally occupied itself with a range of topics, and this is particularly true if one moves beyond the Christian and monotheistic paradigms. Despite this fact, I think that the task of definition, notwithstanding its inherent limitations, has considerable importance, for it does shape the way we go about practicing our discipline. For theology this problem is still particularly acute, as it remains a marginal and marginalized discipline in broader academic discourse.

The vitality of theology is important for the science-theology discourse as well. Arguably, one of the more important lessons of the ongoing science-theology dialogue is that, whether or not it is recognized, the picture of the world coming out of the sciences is begging for theological interpretation. That so many scientists and science popularizers strive to answer the kinds of questions traditionally addressed by theology is not so much a sign of the maturity of science as it is of the pressing need for interpreting the provocative picture that the physical, biological, and information sciences are revealing. To understand the basically theological nature of such interpretation is the first step toward a richer interdisciplinary framework—and one that recognizes that the science-theology dialogue should not be considered an oddity but a regular part of the ongoing adventure of intellectual exploration.

## REFERENCES

Barbour, Ian. 1974. *Myths, Models and Paradigms: A Comparative Study in Science and Religion*. San Francisco: Harper and Row.

———. 1997. *Religion and Science: Historical and Contemporary Issues*. San Francisco: HarperCollins.

Blackmore, Susan. 2000. *The Meme Machine.* New York: Oxford Univ. Press.
Brown, Warren S., Nancey Murphy, and H. Newton Malony, eds. 1998. *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature*. Minneapolis: Fortress Press.
Burkert, Walter. 1998. *Creation of the Sacred: Tracks of Biology in Early Religions.* Cambridge: Harvard Univ. Press.
Cavanaugh, Michael. 2000. "A Retrospective on Sociobiology." *Zygon: Journal of Religion and Science* 35 (December): 813–26.
D'Aquili, Eugene G., and Andrew B. Newberg. 1999. *The Mystical Mind: Probing the Biology of Religious Experience*. Minneapolis: Fortress Press.
Donald, Merlin. 1991. *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition*. Cambridge: Harvard Univ. Press.
Durkheim, Emile. [1912] 2001. *The Elementary Forms of Religious Life.* Trans. Carol Cosman. New York: Oxford Univ. Press.
Feuerbach, Ludwig. [1841] 1957. *The Essence of Christianity.* Trans. George Eliot. New York: Harper and Row.
Freud, Sigmund. [1918] 1962. *Totem and Taboo: Some Points of Agreement between the Mental Lives of Savages and Neurotics.* Trans. Peter Gay. New York: W. W. Norton.
Goodenough. Ursula. 2000. *The Sacred Depths of Nature*. New York: Oxford Univ. Press.
Gutiérrez, Gustavo. 1988. *A Theology of Liberation: History, Politics and Salvation.* Trans. Sister Caridad Inda and John Eagleson. Maryknoll, N.Y.: Orbis.
Hardwick, Charley. 1996. *Events of Grace: Naturalism, Existentialism, and Theology*. Cambridge: Cambridge Univ. Press.
Haught, John. 1996. *Science and Religion: From Conflict to Conversation.* Mahwah, N.J.: Paulist Press.
———. 2001. *God After Darwin: A Theology of Evolution*. Boulder, Colo.: Westview Press.
Hefner, Philip. 1993. *The Human Factor: Evolution, Culture, and Religion*. Minneapolis: Fortress Press.
———. 1996a. "Science and Religion and the Search for Meaning." *Zygon: Journal of Religion and Science* 31 (June): 307–21.
———. 1996b. "Theological Perspectives on Morality and Evolution." In *Religion and Science: History, Method, Dialogue*, ed. W. Mark Richardson and Wesley J. Wildman, 401–23. New York: Routledge.
Lindbeck, George A. 1984. *The Nature of Doctrine: Religion and Theology in a Postliberal Age.* Louisville, Ky.: Westminster.
McFague, Sallie. 1993. *The Body of God: An Ecological Theology.* Minneapolis: Fortress Press.
———. 1997. *Super, Natural Christians: How We Should Love Nature*. Minneapolis: Fortress Press.
Moltmann, Jürgen. 1993. *God in Creation: A New Theology of Creation and the Spirit of God.* Minneapolis: Fortress Press.
Murphy, Nancey. 1990. *Theology in the Age of Scientific Reasoning*. Ithaca, N.Y.: Cornell Univ. Press.
Murphy, Nancey, and George F. R. Ellis. 1996. *On the Moral Nature of the Universe: Theology, Cosmology, and Ethics.* Minneapolis: Fortress Press.
Pannenberg, Wolfhart. 1976. *Theology and the Philosophy of Science*. Philadelphia: Westminster.
———. 1977. *Jesus: God and Man*. Philadelphia: Westminster.
———. 1993. *Towards a Theology of Nature.* Louisville: Westminster.
Peacocke, Arthur. 1984. *Intimations of Reality: Critical Realism in Science and Religion*. Notre Dame, Ind.: Univ. of Notre Dame Press.
———. 1993. *Theology for a Scientific Age: Being and Becoming—Natural, Divine, and Human.* Enlarged ed. Minneapolis: Fortress Press.
Persinger, Michael A. 1987. *Neuropsychological Bases of God Beliefs.* Westport, Conn.: Praeger.
Peters, Ted. 1996. "Theology and Science: Where Are We?" *Zygon: Journal of Religion and Science* 31 (June): 323–43.
Phillips, D. Z. 1971. *Faith and Philosophical Inquiry.* New York: Schocken Books.
Pinker, Stephen. 1997. *How the Mind Works.* New York: W. W. Norton.

Polanyi, Michael. 1974. *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago: Univ. of Chicago Press.
Polkinghorne, John. 1986. *One World: The Interaction of Science and Theology*. Princeton, N.J.: Princeton Univ. Press.
Ramachandran, V. S., and Sandra Blakeslee. 1998. *Phantoms in the Brain: Probing the Mysteries of the Human Mind*. New York: William Morrow.
Sober, Elliott, and David Sloan Wilson. 1998. *Unto Others: The Evolution and Psychology of Unselfish Behavior.* Cambridge: Harvard Univ. Press.
Tillich, Paul. 1951. *Systematic Theology.* Vol. 1. Chicago: Univ. of Chicago Press.
Van Huyssteen, J. Wentzel. 1999. *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science.* Grand Rapids, Mich.: Eerdmans.