Science and the Eastern Orthodox Church

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attitude toward scientific knowledge and inquiry which conforms with neither
the hostility and rejection of today’s biblical literalists nor with the narrow
three- or four-dimensional view of creation and human nature seen in the new
atheists’ scientific materialism. The two brothers approached Genesis with slightly
different hermeneutical methods – Basil more literal and Gregory more allegorical
– but both displayed familiarity with the scientific knowledge and theories of their
time and both made use of this material in a nuanced manner that did not reject
scientific knowledge of the physical world and the human body but that sought to
avoid the limits of physical investigation to explore the transcendent question
of why the physical world exists and what humanity’s purpose in it may be.

John Haught, fellow at the Woodstock Theological Center of Georgetown
University and professor and former chair of Georgetown’s Department of
Theology, has attempted in several works to articulate a theological understanding
of creation that is compatible with evolutionary biology. The key to this
compatibility is what Haught refers to as his “layered explanation”:

For example, if a pot of tea is boiling on the stove, and someone asks you why
it’s boiling, one answer is to say it’s boiling because H₂O molecules are moving
around excitedly, making a transition from the liquid state to the gaseous state.
And that’s a very good answer. But you could also say it’s boiling because my
wife turned the gas on. Or you could say it’s boiling because I want tea.\(^{39}\)

Haught’s “layered explanation” can be seen, in a perhaps less consciously
articulated form, more than 1,600 years ago in the writings of two brothers
from Cappadocia who fought against the scientific materialism of their day
while accepting scientific inquiry and knowledge itself. Evolution is a physical
description of how creation unfolded and continues to unfold, and is compatible
both with Basil’s understanding of how the Earth brings forth life and with
Gregory’s theory of the animalistic origins of humanity’s physical nature. But
scientific materialism’s claim that there is nothing beyond the physical elements
of the universe is based on hubris and a lack of imagination as well as a lack of
faith. For Basil and Gregory, creation exists – and humanity with that creation
exists – because God “wants tea.”

Orthodox theology is based on a self-consciously conservative stress on the
writings of the Fathers of the early centuries of the Christian era (especially those of
the Greek-speaking east). This now poses problems for some Orthodox Christians
because the science of the patristic era was so different from that of our own, and
the resulting suspicion of science has sometimes been exacerbated by sociological
factors. Many Orthodox lived, until very recently, in situations in which they were
inevitably influenced by the need to react against the Marxist-Leninist version of
atheism prevailing in their countries. As a result, even after the downfall of that
ideology, many of them still tend, almost instinctively, to see science and atheism
as having an intrinsic connection. Moreover, some influential Orthodox in the West
have developed a similar attitude for reasons that are susceptible to comparable
analysis. Especially if reacting against the recent liberalization of many of the
mainstream Western forms of Christianity, they too may tend to associate science
with the ideologies of those they perceive to be the enemies or diluters of faith.

This suspicion of science among at least some Orthodox Christians should
not, however, be equated with the superficially similar attitude of fundamentalists
Christians of the West. While the two groups are sometimes comparable in
sociological terms, their theological views are often very different. For example
even though a generally conservative approach to scripture is usual in Orthodox
circles, this approach is strongly influenced by the way in which the patristic
writers often read the Old Testament scriptures using an allegorical rather than
a literal mode of interpretation, and with due acknowledgment of their period’s
understanding of science and philosophy. This means, for example, that the
creation accounts in Genesis are not usually seen by Orthodox Christians a
priori as having literal, “scientific” truths about the way in which the cosmos came into
being. (Indeed, patristic writers such as St Augustine and St Gregory of Nyssa
are quite explicitly set aside the literal meaning of these texts.) Because of this subtlety:
in patristic thinking, it is not science and philosophy as such that are looked at
with suspicion by some Orthodox Christians of the present day, but only what is
perceived – rightly or wrongly – to be perverted forms of these disciplines.

Given this complex background, it is hardly surprising that there is, as yet
no consensus about how to formulate a contemporary Orthodox response to the
sciences in general and to neo-Darwinism in particular. Moreover, intellectuals

\(^{39}\) John F. Haught, quoted in Steve Paulson, “The Atheist Delusion,” Salon, 18
the Drama of Life (Louisville, Ky.: Westminster John Knox Press, 2010).
ferment in this area — characteristic of Western Christianity for several generations — has been effectively absent from Orthodox circles until relatively recently, and this again makes the wide spectrum of existing views within those circles more readily understandable.

At one end of the spectrum is the essentially anti-scientific attitude of writers such as Seraphim Rose and Philip Sherrard. The former in effect defends a kind of fundamentalism in relation to the patristic literature. The latter — with major concerns about ecology and about the need for the revival of a “sacred cosmology” — fails to perceive any validity in the distinctions commonly made between technology and pure science and between science and “scientism” (the belief that only the scientific methodology can give rise to valid forms of knowledge). For both of these writers, the development of a dialogue between science and theology within Orthodoxy that mirrored the Western one, with its positive attitude toward our current scientific understanding, would represent an unacceptable dilution of Orthodox Christian theology.

Not all Orthodox Christians who have major reservations about the Western dialogue are anti-science, however. At the middle of the Orthodox spectrum are a number of writers who, while not rejecting science, effectively deny the validity of the kind of dialogue between it and theology that has taken place among Western Christians over the last few generations. Of the exponents of this kind of position, Alexei Nesteruk perhaps presents the most sophisticated argument. While affirming science as being a legitimate expression of the human spirit, he tends to bypass questions about truth in science and theology, and about the consonance or dissonance between them, by interpreting both science and theology in terms of the philosophical approach known as phenomenology. Major themes in Orthodox theological thought can, he claims, be incorporated in this approach (Nesteruk 2008).

Further along the spectrum lie writers such as Basarab Nicolescu and myself. We, while insisting that Orthodox perspectives have an important role to play in the science—teology dialogue of the future, are sympathetic to much of the Western dialogue of the last two or three generations, with its positive attitude to science and its view that scientific insights provide genuine insights into major theological themes. In particular, we accept the major insight of the Western “theology of nature” of the present time: that God may be seen as having worked as creator in and through the naturalistic processes that are perceived by scientists as providing a valid explanation of the cosmos’s development from the Big Bang to the present time. From this perspective, insights from cosmology and neo-Darwinian evolutionary biology have a proper role in deepening the Orthodox understanding of God as creator.

Nicolescu’s main contribution here has been to develop a distinctive approach to science—religion dialogue that is essentially philosophical in nature. I, in a rather different (though arguably complementary) way, have focused on theological issues, and it is on these that I shall be focusing in the remainder of this chapter. My argument has been, essentially, that the main resource that Orthodoxy can bring to the current dialogue is the understanding of created things of the kind enunciated by patristic writers generally and by St Maximos the Confessor in particular. In an updated form that acknowledges current scientific insights, I have argued that this traditional Orthodox understanding, with its roots in the doctrine of the incarnation, can provide a new framework — what I call an “incarnational naturalism” — within which the legitimate questions enunciated by participants in the Western dialogue between science and theology can be answered more satisfactorily than they have been when examined in a purely Western context.

What then is the background to this approach? One of my starting points is the observation that a major question in the Western dialogue between science and theology is that of how God may be said to act in a world characterized by obedience to the “laws of nature.” The most widely accepted answer to this problem of divine action — characteristic of the work of Western theologians like Arthur Peacocke, John Polkinghorne, Philip Clayton, and many others — has relied, at least implicitly, on a traditional Western conceptual scheme which speaks of special mode of God’s action. In this understanding, a clear distinction is made between general providence — which arises straightforwardly from what a benignly designed cosmos will do on its own (so to speak) — and what will happen if God chooses to perform some act of special providence by interfering with or guiding those workings.

While those who use the concept of special providence now tend to avoid the language of supernatural intervention (with its implication that the laws of nature are set aside in acts of special providence), they still affirm, at least implicitly, that there sometimes occurs a kind of temporal divine interference with the workings of the world. If divine communication or answer to intercessory prayer is to be possible, according to this basic conceptual scheme, there must exist, at the very least, some kind of “causal joint” which allows God to manipulate the processes of the natural world in such a way as to bring about an appropriate response to events. Much effort has gone into identifying this joint in a scientifically literate way (Knight 2007a), some scholars appealing to quantum indeterminacy, some appealing to a general openness supposedly indicated by both quantum and chaos theories, and some appealing to arguments based on the insight that complex wholes can affect the behavior of the parts of which they are made up.

The main motivation for this insistence on the reality of a special mode of divine action is typically linked to one or both of two notions that I regard as misconceptions. One of these is the belief that the traditional theological conception of God as existing beyond time is incompatible with the notion of God’s “involvement” in temporal processes. God’s action must, according to this view, be seen as the action of a temporal agent, since a non-temporal God can only be a distant or even absent God. The other — often related — misconception is rooted in the Western theological history. Quite simply, Western theologians tend, quasi-ininstinctively, to identify any denial of special providence with eighteenth-century deism, in which an essentially distant or absent God was assumed and the scope of general providence was seen as extremely limited. (Intercessory prayer, for
example, was seen in classical deism as having no purpose – other than, perhaps, refining the religious sensibilities of those who indulge in it – and the possibility of events of the kind usually labeled miraculous was simply denied.

It is important to recognize that neither of these assumptions is as self-evident as is sometimes assumed. The notion of God’s essential temporality arises, typically, from a failure to appreciate the subtlety of the traditional notion of God’s non-temporal character, as affirmed in the mainstream of both Eastern and Western Christian traditions, neither of which assumes a distant or absent God. Moreover, it is not the case, philosophically, that classical deism is the only option available to those who wish to insist on what I call a “strong theistic naturalism” (Knight 2007b) in which the concept of special providence is avoided. A strong naturalistic view, in itself, assumes simply that the cosmos may be seen as developing at all times according to some intrinsic fixed instructions of a law-like kind. Something that deism seems not to have considered – the possibility that such instructions could have been divinely designed to bring about subtle and appropriate responses to events in the world – cannot be precluded a priori.

I have argued both these points from a philosophical perspective in my recent book, The God of Nature (Knight 2007a). I have also argued, both there and elsewhere (Knight 2005a), that, even though naturalistic mechanisms for events of the kind usually attributed to special providence are not entirely beyond conjecture, the validity of the kind of expanded theistic naturalism that I explore does not depend, philosophically, on the identification of these mechanisms. It depends, rather, on the acceptance of the general belief that lies behind the search for such mechanisms: that the creation – with its inbuilt fixed instructions – is much more subtle and complex than our present scientific understanding indicates. Some proponents of a strong naturalistic view might find this idea difficult to accept, but it is not incompatible with naturalism.

The point here is that the laws of nature that can be provisionally identified are simply those that can be explored through the scientific methodology. We cannot a priori preclude the possibility that the cosmos obeys not only the laws that can be identified in this way, but also other fixed instructions that are not straightforwardly susceptible to this investigative methodology. Indeed, this possibility may even seem likely when we consider the effects of complexity. Practical repeatability and discernible cause-and-effect are, in fact, characteristic of only relatively simple systems, which can be effectively isolated from factors that would obscure these characteristics. Moreover, as many now recognize, important issues related to the philosophical topics of reductionism and emergence suggest the necessity of positing laws or organizing principles of a kind that are not susceptible to ordinary scientific investigation, but can only be inferred from their general effect (see, e.g., Davies 1987).

Even before we begin to think about their theological implications, these issues have important ramifications for our response to the anecdotal evidence of phenomena of the kind labeled “paranormal” (which, when they occur in a religious context, we tend to think of in terms of the miraculous). It is, I would argue, simplistic for the strong naturalist to see such phenomena as spurious simply because they have not proved susceptible to investigation through normal laboratory methods. There is nothing incoherent in believing that such phenomena may occur through processes that exhibit law-like patterns but are, in practice impossible to replicate in a straightforward manner. The failure of laboratory methods may simply indicate that such phenomena occur only in situations of considerable complexity or extremity. This possibility may be argued both from a scientific perspective – in terms of what the physicist calls regime change (Polkinghorne 1986) – and from a theological perspective, in terms of the sort of implicit notion of a higher level of the laws of nature to be found in the writing of St Augustine (Knight 2007a). Once this perspective is recognized, I have argued, the supposed impossibility of paranormal phenomena from a naturalistic perspective turns out to be questionable, and a number of further questions present themselves for consideration. Not the least of these is what weight we should give to the anecdotal evidence for such phenomena, which (in the religious context in particular) we may judge to be considerable.

The point of these essentially philosophical considerations is that, when atheistic or deistic advocates of a strong naturalism deny the possibility of the kind of events usually ascribed to special divine providence, they do this in the context of inadequate philosophical presuppositions about the implications of a purely naturalistic view. It goes without saying that this realization does not, in itself, mean that a strong theistic naturalism is acceptable, because analysis from a theological as well as from a philosophical perspective is needed. It is helpful, all the same, to be able to begin that theological analysis without the picture being clouded by philosophical presuppositions of a spurious kind.

Where, then, can we start scientifically? One possible starting point is the observation that one of the main objections sometimes voiced to a purely naturalistic theology is the assertion that such a theology – whatever the scope of divine action it allows – must still envisage the essentially absent God of the deistic model. And certainly, if one accepts the separation of God from the world that has characterized most Western philosophical theology, this objection must surely have some force. However, in the context of this argument, we must recognize that there has been something of a reaction against this concept of separation in recent years. What is called “panentheism” – the notion that the cosmos is to be seen as being in some sense “in God” – is in fact finding increasing favor from a number of different perspectives (Clayton and Peacocke 2004). This is important in the context, because if, for whatever reason, we adopt a panentheistic position, the argument about an absent God immediately fails. If the cosmos is within God, then God can hardly be said to be absent from it.

If, as this argument suggests, a strong theistic naturalism is more persuasive if it is expanded in terms of a panentheistic understanding of the relationship between God and the world, then this persuasiveness will undoubtedly be reinforced such an expansion is based on something more than an ad hoc juxtaposition of the two frameworks. This is possible, I believe, through a second Western approac
to the problem of divine action that I have not so far considered, which in my view complements and reinforces the philosophical arguments I have outlined. This is the approach that is, in Western theology (and especially in strands of neo-Thomist thought), usually expressed philosophically in terms of a distinction between primary and secondary causes. In the forms in which this understanding has existed hitherto, this approach has, admittedly, seemed inadequate to many and, as a result, it has had little influence in the current dialogue between science and theology. I have argued, however, that the perceived problems of this kind of model can be solved by recasting it in terms of the particular kind of panentheism which was characteristic of much of the early thinking of the Eastern Christian world, and which was most explicit in what is sometimes called the cosmic vision of St Maximos the Confessor (Louth 2004).

In both the book to which I have referred (Knight 2007a) and elsewhere (Knight 2005b) I have outlined the details of how I think this cosmic vision may be used as an inspiration for our current age. My argument hinges on the way in which St Maximos’s understanding manifests a general intuition that is implicit throughout the Eastern Christian tradition: that it is quite wrong to speak—as Western theology so often has—of divine grace as something added as a supernatural gift to “pure nature.” Rather, as Vladimir Lossky (1957: 101) has rightly noted, this Eastern tradition knows nothing of “pure nature” since it sees grace as being “implied in the act of creation itself.” Because of this, as he goes on to note, the cosmos is seen as inherently “dynamic, tending always to its final end.”

The belief that things have a natural “place” or telos toward which they naturally tend to move is known as teleology, and what Lossky hints at here is the way in which, for important strands of Byzantine theology, at least some aspects of the divine providence arise from within the creation through the intrinsically teleological factors that have been, so to speak, built into its components. This is particularly clear in the work of St Maximos himself since he sees the logos that constitutes the inner reality of each created thing, not only as a manifestation of the divine Logos of which the fourth gospel speaks, but also as what Metropolitan Kallistos (Ware 2004: 160) has described as “God’s intention for that thing, its inner essence, that which makes it distinctively itself and at the same time draws it towards the divine realm.” For St Maximos—and for the strand of the Greek patristic tradition that culminates in his work—the way in which each created thing has its origin and intended final end in God is intimately linked to the constitutive presence in it of a characteristic logos which is a manifestation, in some sense, of the divine Logos itself. This presence not only gives, to each created thing, the being it has in the temporal world, but also draws it—from within, not by some external, special action—toward its ultimate fulfillment in Christ.

This approach posits, then, a model of the created order that is both teleological and christological. It is a teleological model in the sense that created things are continuously drawn toward their intended final end (though not in a way that subverts human free will and its consequences). It is a christological model in the sense that this teleological dynamism comes about, not through some external created “force,” but through the inherent presence of the divine Logos—of Christ himself—in the innermost essence of each created thing.

At the present time, perhaps, few outside the Eastern Orthodox tradition are likely to accept the details of the Byzantine philosophical articulation of this cosmic vision, and even within that tradition it may seem legitimate, and ever necessary, to recast or expand that vision in terms of recent scientific insights (Louth 2004). Whatever view we take of this, however, what seems a legitimate goal—for both those within and those outside this tradition—is the articulation of what we might call a neo-Byzantine model of divine action, based on the genera “teleological—christological” character of the vision that St Maximos sets forth. For what such a model promises is a capability of envisaging a mode of divine action that is neither the special nor the general mode of the predominant strand of Western thinking. By allowing us to transcend the need for any distinction between what nature can do “on its own” and what can only be done through some special mode of action, a neo-Byzantine model of such a sort would allow us to see God’s presence and action in the cosmos simply as two sides of the same coin. In this respect, it seems not only to tend toward the sort of Western model that speaks in terms of primary and secondary causes, but also to give this Western model a far more definitive theological grounding than it has usually been given.

I would argue that we are helped here by the way in which the sciences of our time have evoked questions about teleology in a direct way. In particular, we are now aware that a universe whose development depends on laws of nature and certain fundamental physical constants need not necessarily be a fruitful one of the sort that ours clearly is. Only very particular laws, together with very finely tuned values of those physical constants, provide the possibility of a fruitful universe like our own. This insight, as is well known, has given rise to many arguments related to what is usually called the “anthropic cosmological principle” (Barrow and Tipler 1986), and from a theological perspective these arguments need careful analysis. Some, for example, have seen anthropic considerations as allowing the development of an apologetic approach comparable to that of the Western “natura theologia” of the past. This, however, has not been widely accepted, and in my view this caution is justified. I share, in fact, the majority view within the Western dialogue of science and theology: that the perception that the universe has been able to “make itself” so fruitfully is not persuasive of, but simply consonant with, the notion of its purposeful creation, providing the foundation, not for a natura theologia akin to that of the past, but for a theology of nature in which, for religious believers, scientific perspectives provide valid insights into the way in which God acts (Knight 2007a). If we accept, with those who think in this way, that God’s action as creator should be understood—partially at least—in naturalistic terms, then we are faced with the question of how we should understand the teleologica aspect of this viewpoint, and this will especially be the case if we wish to extend these naturalistic perspectives in the way that I have indicated. Here, two key points need to be made.
The first is that, in speaking of a teleological factor in this context, I am speaking of something very different to the teleological factor assumed in the Aristotelian thought of the late medieval West. The model I advocate does not compete with the concept of mathematical laws of nature, but focuses on the meaningful outcome of the working of those laws. It envisages what we might call a teleology of complexity: a framework in which we can see significance in the increasing intricacy of the cosmos’s structures and in the successive emergent properties to which this intricacy gives rise.

Just as it is possible for Simon Conway Morris to talk about evolutionary convergence in terms of predictable, functional solutions to problems of adaptation – “attractors” analogous to those in chaos theory – so here teleology is understood, not as in medieval Western philosophy, but in terms very similar to those that Morris has outlined. The interaction of chance and the laws of nature is such, it would seem, that certain developmental paths are in practice very likely to be followed, and these “attractors” may, in a theological perspective, be explicitly understood as a component of the divine intention. In terms of biology, for example, what for Morris is simply a guess about the outcome of a scientific research program may be taken, for a theological model, as axiomatic: that there is “a deeper fabric in biology in which Darwinian evolution remains central as the agency, but the [attractors] are effectively determined from the Big Bang” (Morris 2003: 309–10).

The second point to be made arises from this insight. It is that, in speaking here in terms of teleology, I am not adopting the sort of quasi-vitalistic framework in which the components of the universe are seen as being drawn toward an intended final end by some external agent or force. Attractors – in the sense in which Morris uses the term – do not literally attract through some kind of force or influence that they exert. They are simply some likely outcomes of the laws of nature acting on the components of the universe, and they may be understood, scientifically, in terms that make no reference to these outcomes themselves. We may, in a theological context, choose to speak of the reality of these attractors in terms of God’s design of the entire universe, but, if we do this, it is important to recognize that the tendencies we identify as part of the divine design are, for the purposes of purely scientific description, irrelevant. The theological interpretation of these tendencies in no way impinges on their scientific description in the way it would if a vitalistic understanding were adopted.

The relevance of this second point to the question of divine action becomes clear when we recall the character of the teleological tendency posited by the strand of the Byzantine tradition embodied in the work of St Maximos the Confessor. For there too, as we have seen, there is an understanding of the cosmos’ teleological tendency that has precisely this character. Put in modern terms, the *logoi* of each created thing, as perceived by St Maximos, is not something which is added to the laws of nature but is, rather, something manifested in those laws.

Recognition of this parallelism between ancient and modern perspectives cannot, of course, lead in any simplistic way to the claim that the earlier model anticipates an important aspect of contemporary science. At the level of details, this is clearly far from true. At a more fundamental level, however, we can surely recognize that there is a broad consonance between the two kinds of understanding. By pointing to the way in which the laws of nature perceptible to the scientist have a teleological effect – both in the physical development of the cosmos and in the biological evolution of the species of our planet – scientific perspectives do suggest important parallels between what we now call the laws of nature and what St Maximos calls the *logoi* of created things. At the very least, there seems to be a sense in which, when teleology is discussed at this low level, there need be no dissonance between the scientific perspectives and the basic insights of the teleological–christological model that he articulated.

Moreover, when we take into account philosophical and scientific perspectives on the effects of complexity that are now widely accepted, we can go much further than this. If one accepts my argument that there is no need to limit the fixed instructions of the universe to scientifically explorable ones, then this conclusion will have a specific application here. It indicates that there is no reason to limit the teleological tendency of created things to the inherent creativity of the particular laws of nature that scientists can investigate. Rather, from the perspective of a teleological–christological model, it is quite possible to see the laws of nature that are perceptible to the scientist as representing no more than a low-level manifestation of what St Maximos calls the characteristic *logoi* of created things. Over and above this level of manifestation, there may be for this model, at least in principle, higher levels of manifestation that will – even though they are law-like – inevitably be beyond what the scientific methodology is able to examine.

My conclusion from all these considerations is that we can articulate a teleological–christological model of divine presence and action in the world which allows us both to acknowledge the general insights about teleological tendencies that arise from the natural sciences and to appropriate these insights in such a way that we can bypass the usual objections to the concept of teleology and avoid the conventional distinction between general and special providence. On the one hand, we can acknowledge that the teleological traits of the cosmos that are visible to the scientist – those to be seen in the physical development of the universe and in the biological evolution of the species of our planet - represent an important clarification of what we might call the low-level teleology inherent in a teleological–christological cosmos. On the other hand, we can insist, from a theological perspective, that manifestations of a higher-level teleology are to be expected in the model we are using. These latter manifestations, while lying beyond what the scientists’ methodology can investigate, need not in any way be contradicted by a scientific understanding. They can, in principle, account for all that has previously been attributed to God’s special providence.

Interpreted in this way, the teleological–christological model of divine presence and providence clearly manifests a number of advantages over the competing models of divine action. The model is based on an explicitly theological understanding rather than on abstract philosophical questions about the divine agency. Questions about how God acts “on” the world – as if from outside – are
rendered meaningless since the model rejects the usual conceptual picture of what the cosmos can do “on its own” or when merely “sustained in being.” This means, among other things, that the conventional distinction between general and special providence cannot be made, and all aspects of providence are comprehensible in terms of a single, simple model. While the model is at one level naturalistic, there need be no inherent limitation – of the sort assumed by the deists and by more recent advocates of a strong theistic naturalism – to the scope of divine providence. The question of what God has done or could do becomes, not an abstract philosophical one, but a broader theological one, focused on a Logos christology. Moreover, the model removes the tension between scientific understanding and belief in divine action in two distinct ways. It enables us to incorporate, within a theological perspective, specific aspects of scientific understanding that are sometimes held to challenge religious belief, such as the role of chance in the created order (Monod 1972). In an important way, it also allows for the intrinsic limitations of the scientific methodology to be seen much more clearly than hitherto.

One of the most interesting aspects of this model is, in my view, the way in which it can be seen not only as a valid extension of an important strand of Eastern Orthodox theology, but also as complementing another aspect of that theology; that which speaks of the world in which we live as a subnatural, fallen one (Nellas 1997; Knight 2007a; Knight 2008) and of the sacraments, in particular, as a manifestation of how the subnatural world of our everyday experience can be returned, by the invocation of God’s grace, to the “natural” state which was God’s original intention for it and which is the Christian’s eschatological hope.

What I mean by this is that the sacraments are, for the Orthodox tradition, what Alexander Schmemann has called (1987: 33–34) “a revelation of the genuine nature of creation.” What is indicated in the sacrament is, as Philip Sherrard has put it, “something universal, the intrinsic sanctity and spirituality of all things, what one might call their real nature.” Although the Fall has, for this theology, led to the estrangement and alienation from its intrinsic nature” of the created order, in the sacrament “this divided, estranged and alienated state is transcended,” so that the “essential and intrinsic nature [of the created order] is revealed.” The sacrament represents, therefore, not a transformation caused by something being added to, or replacing, the stuff of the empirical world, but rather it is “a re-creation of the world ‘as it was in the beginning’” (Sherrard 1964: 134).

This notion of the potential for any part of the created order to become, in the sacrament, more fully transparent to the purposes and presence of God is, I believe, an extremely important one when we come to consider God’s action in more general terms. Put simply, what Western theology has called God’s special providence may be seen, in this perspective, not as the product of some kind of interference with the world, but rather as the outward manifestation of something that is already present but hidden within that world – what we can properly call its “natural” state. The miraculous is not, in this perspective, the result of something being added to the world. It is, rather, the wiping away from that world of the grime of its fallen state in order to reveal it in its pristine splendor.

While the created order obviously has a certain transparency to the purposes of God before any specific invocation of divine grace – its divinely ordained ability to evolve naturalistically from the Big Bang up to the present time, for example – it is clearly not fully transparent to the divine purpose before that invocation. As the well-known “problem of natural evil” indicates, this transparency is only relative. In a fallen, subnatural world, there is a certain opacity to God’s purposes and – as the centrality of intercessory prayer to the Christian tradition indicates – this opacity is usually overcome, and what is thought of as God’s special providence is brought about only through the human recognition and invocation of God’s will.

When the universe changes so as to bring about miraculous events, it is a sign and foretaste of what is to be when all the purposes of God have been fulfilled. As the grime of fallen human nature gets wiped away in any person through response to God in faith, not only is the fullness of human nature that was manifested in Jesus Christ actualized in that person to some degree; in addition, one of the fruits of that person’s sanctity is that the world around him may also be cleansed, so that the subnatural “nature” of our everyday experience becomes truly “natural” once more. It is no accident that anticipatory experiences of the time when “the wolf shall live with the sheep and the leopard lie down with the kid” (Isaiah 11:6) are linked, in the memory of the Christian community, with the responses of wild animals to saints such as Francis of Assisi, Seraphim of Sarov, and Cuthbert of Lindisfarne.

My argument in the latter part of this chapter has, then, been that the “naturalistic” thinking that led to my initial view of divine action – primarily philosophical and scientific in inspiration – may be reinforced and refined by a deeper level of thinking rooted in the theological understanding of the Christian East. The use of two notions intrinsic to that understanding – of the teleological character of the Logoi of created things, and of the miraculous fruits of sanctity as a revelation of what is truly “natural” – turn out to complement, in a remarkable way, the naturalistic, philosophical understanding of divine action with which I began.
Chapter 4
Ecology, Evolution, and Bulgakov
Gayle Woloschak

Ecology

Ecology is the scientific study of the distribution of living organisms and how their distribution and abundance are affected by the interactions that the organisms have with their environment. The term is derived from the Greek words οἶκος meaning household, and λόγος meaning knowledge or study. It is the study of our "household," the earth and its environment and how the interaction with the environment plays a role in the survival and development of living organisms. The environment that an organism lives in includes physical factors like sunlight and climate, and other physical factors that comprise habitat of the species. In sharing the same biotope with the rest of its own population and populations of other species, an organism is a part of a biological community. The term "ecology" was first used by Ernst Haeckel in 1866 and he used it to describe "the comprehensive science of the relationship between the organism and its environment." It is considered to be a highly interdisciplinary field with interactions among areas including geology, geography, biology, population dynamics, statistics, and others. Eugenius Warming (1841–1924) is considered to be the founder of the field of ecology as a separate discipline of biology.

Evolution (Darwin 1874; Darwin 1996)

Biological evolution is defined as descent with modification. This definition includes both small-scale evolution (such as changes in the frequency of a particular gene within a population from one generation to the next) and large scale evolution (which is the descent of different species from a common ancestor over many generations). Evolution as a biological theory was first proposed by Charles Darwin, a British naturalist who explained that species develop over time and that they develop from a common origin. His two most important works are On the Origin of the Species, first published in 1859, and The Descent of Man and Selection in Relation to Sex, published in 1871 (Darwin 1874; Darwin 1996). The major tenets proposed by Darwin -- and accepted by the mainstream scientific community today -- were that there is a common ancestry for all of life on earth; the species develop through variations in form (now known to be result of inheritable mutations); and that natural selection selects variations and drives speciation.
the time, the books were controversial both from a public view and also from a religious perspective. The Church of England scientific establishment reacted against the book at the time, although this view softened into an uneasy acceptance over the ensuing decades. Even the Roman Catholic Church eventually took a pro-evolution perspective through the work of noted scholars, such as Teilhard de Chardin and others, and these views were supported by the contemporary Popes. More recently, however, the Roman Catholic position has been called into question by Pope Benedict XVI who has noted in some of his own writings that evolution may not be the only explanation for life’s origins.

Evolution was originally presented as a scientific theory, a logically self-consistent model describing the behavior of a natural phenomenon originating and supported by observable facts. Like all other scientific theories (such as the theory of gravity, the theory of relativity, etc.), evolution theory is formulated, developed, and evaluated according to the scientific method. Often in everyday language, people use the word “theory” to mean a “speculation” or a “conjecture.” In scientific practice, however, the word theory has a very specific meaning—it is a model of the world (or some portion of it) from which falsifiable hypotheses can be generated and verified through empirical observation of facts. In this way, the concepts of “theory” and “fact” are not opposed to each other but rather exist in a reciprocal relationship. While it is a fact that an apple falls from a tree, it is the theory of gravity that explains it.

The scientific method which is used to test a scientific theory is not radically different from a rational attitude that is used in many aspects of everyday life; e.g., the fire inspector who is attempting to uncover the cause of a fire, and the detective who is trying to solve a crime all use approaches similar to the scientific method in their tasks (Peacocke 2001). The scientific method is characterized by several major features: (1) it uses an objectivity in approach where the goal is to observe events as they are without falsifying them; (2) the results (if produced experimentally) must be reproducible in a broad sense in laboratories anywhere in the world; (3) there is an interplay of inductive reasoning (from specific observation and experiments) and deductive reasoning (reasoning from theories to account for specific experimental results); and (4) the objective of the work is to develop broad laws that become part of humanity’s understanding of natural laws (such as the theory of gravity developed by Isaac Newton). The definition of a scientific theory, which is generally considered to be a paradigm that is proven or assumed to be true, is in marked contrast to a dogma, which is a principle that is proclaimed as true. It is at the core of science to fight hard to be open to change imposed on it by the utilization of the scientific method. Because of that, science has refrained from making dogmatic claims. Instead, science relies upon hypotheses, which are assumptions used as the basis for investigation or argument and which can be tested. These hypotheses when all lined up together should support their originating theory.

The Link Between Ecology and Evolution

The link between ecology and evolution has long been recognized in academic circles; many universities have a single department of evolution and ecology, and studies in one discipline usually require coursework in the other. They are usually viewed as two different sides of the issue of organism-environment interaction with evolution studying the interaction from the perspective of the organism over time and ecology examining this same interaction but from the perspective of the environment over time. There are numerous examples of how environment affects evolution and how organisms affect environment.

Perhaps the most classic example of evolution-environment is that of the peppered moth, originally defined in Britain and also later identified in Detroit and industrial areas of the United States (Cook 2003; Grant 2004). The peppered moth (Biston betularia) evolution has been studied for over 200 years. When first identified, these moths had a light coloration which camouflaged them against lichen-covered light-colored trees so they would not be eaten by their predator the bird the great tit. Air pollution caused by the industrial revolution in England caused the death of lichens and trees became covered with black soot. The occasional peppered moths that were dark colored survived because they could not be easily identified by their predators, while those that were light colored were eaten by the birds because they could easily be seen against the black backgound of the soot-covered trees. After a period of time the vast majority of peppered moths were dark in color. In modern times, with cleaner air standards, the tree returned to its white color, the lichens regrew, and the peppered moth of the light variety is now better adapted to the environment and once again the light colored peppered moths prevail. This change in color has been well studied in the scientific literature and appears to be caused by a difference in a single gene that is selected through the action of a predator depending upon visibility of the moths. This complex interplay between environment and species selection—the soot it the environment, the lichens growing on the trees, the peppered moth adapting to the environment, and the great tit as predator bird—demonstrates how difficult it is to understand the impact of environmental changes unless one has a grasp of evolutionary concepts.

A second example that can be used to illustrate the role of environment and evolution is the example of sickle cell anemia and its relationship to malaria in humans. Sickle cell disease is caused by a single mutation in both copies of the beta-globin gene, which encodes a protein that transports oxygen in red blood cells. The genetic mutation is a change in a single DNA nucleotide that results in shortened globin protein that cannot carry oxygen well. People with one short copy of the globin protein and one long (healthy) copy of the globin protein are resistant to malaria, which is endemic in Africa and areas of the Mediterranean region and which also existed in southern parts of USA. People who have two copies of the short version of the gene will die of sickle cell anemia and, in regions where malaria is found, people with two copies of the long version of the gene will die o
malaria. In the present day United States, Western Europe and other areas where malaria is not found, there is no advantage to having a copy of the short version of the gene in the genome; it is only in areas where malaria is endemic that the sickle cell gene is actually useful. When the gene is taken out of its environmental context (malaria endemic regions) it loses its benefit.

These two examples illustrate the interaction between environment and evolution and demonstrate how it is difficult to understand one without the other. Rejection of the ideas of evolution, then, can lead to a misunderstanding of the relationship between organisms and their environment and may contribute to an ambivalent attitude toward environmental concerns. Anti-evolution sentiment may be associated with anti-environmental attitudes. In general, Orthodox Christians do not accept a literal understanding of scripture and should not have a problem with the concept of evolution. One modern Orthodox scholar who dealt extensively with the topic of evolution, nature and theology is Fr Sergius Bulgakov.

Causality and Bulgakov

The concept of eternity and the creation of time is also linked with questions about causality. Much of early science was oriented toward understanding God. Mendel, a monk of the Catholic Church, pursued genetics as a way of understanding nature and thereby getting a view into God’s creation. Galileo peered into the stars to understand the universe in hopes of better understanding the One who created it. These early science perspectives were linked to the “two book” model for understanding science and religion – with the “book of nature” and “the book of scripture” being two different approaches of understanding God and his creation. God was the source of all causality, and creation was a reflection of God’s action in the universe. Modern science has distanced itself from any concept of a Creator, focusing instead on understanding intermediate causes or “subcausalities.” God is not present in this equation. Further, it should also be mentioned that humans are often driven to find the causes of things. Tolstoy in his book War and Peace acknowledged this when he wrote: “The human intellect cannot grasp the full range of causes that lie behind any phenomenon. But the need to discover causes is deeply ingrained in the spirit of man” (Tolstoy 2006: 1362). This drive to find causes is found in all areas of investigation: history, where we try to uncover the cause of events in hopes of not repeating mistakes; psychology, where we hope to find the cause of mental disorders and thereby cure the patient; and medicine, where we hope to find the underlying cause of disease and give the appropriate therapy. The overall goal of science is to provide useful models of reality, and this is by nature driven by the cause-effect relationship.

Scientists look at bacteria and viruses as causes of infectious diseases, psychological trauma as causes of mental disorders, etc., but scientists do not attribute any aspect of this to God. In fact, while many people have complained that science is wrong because it does not consider God as a cause, there is really no need for God to be the direct cause of small individual events. Science attempts to be objective with the goal of uncovering a pathway or defining a chemica response; this provides a language and approach that is unified among all scientists and allows for communication across the globe and even across disciplines. When biologist in Chicago and a biologist in Japan are talking about a particular response to radiation, they both know what it takes to define that response and whether the appropriate criteria have been met to establish that it is in fact a response to radiation. When journal papers are being peer-reviewed for inclusion in a particular journal, often the comments on the paper will be similar regardless of whether the review is from Germany or Canada. While many feel confused and even angered by the fact that scientists can discuss creation without putting God into the story, these same people do not understand that there is humility in not discussing God. There is a limit to what science can define, and that limit is based on the objective scientific approach of performing hypothesis-driven experimentation. God is no subject to such testing, and therefore whenever the scientist brings God into the discussion that would be based not on scientific experimentation, but rather on his or her personal belief system.

This belief system is not amenable to scientific experimentation but rather based on personal faith and experience. If scientists were to put God into their scientific results, one wonders what the basis for this would be and what criteria would be used for including some faith-based information and not other such information. In fact, it could be argued that much of the animosity in the science-religion discussion is based on scientists overstepping the bounds of science and delving into faith-based comments. A recent conference, “Beyond Belief,” held by scientists to discuss the science-religion interface (lectures are available at www.beyondbelief2006.org), demonstrated how challenging it is to find middle ground between believing and non-believing scientists. The misleading aspect of this discussion occurs when prestigious scientists like Stephen Hawking or Richard Dawkins take strong stands against religion and one is led to believe that they are doing this based on scientific evidence rather than their own personal beliefs. The issues of causality from a scientific perspective and those from a theological perspective become confused. As modern science finds scientific causes (e.g., beginning of cosmos) further and further from God (as described by the “God of gaps” above), God appears to be smaller, and one wonders whether God is even there.

One early proponent of God as the cause was Thomas Aquinas (Aquinas) who argued that God is the Primary Cause of all things: “There must be found in th nature of things only one first immovable Being, or primary cause, necessarily existing not created; existing the most widely, good, even the best possible; the first rule through the intellect, the ultimate end of all things, which is God.” This argument of Aquinas has become a hallmark for the Western church when in defining the relationship of God and Creation with God as the Primary Cause and other causes as secondary causes. At first examination, this statement of God as the Primary Cause of all seems well based in reasoning and understanding, and in fact...
Sergius Bulgakov (2002) takes this perspective to task arguing that “The One Who Causes” is not a proper designation for God. He bases this on how we understand the word cause. When humans cause things to happen, we think about cause-effect relationships; for example, turning the key in the car ignition causes it to start, or exposure to influenza virus causes the person to develop the flu. This is not the proper way to think of God’s relationship with the world. Bulgakov argues that the proper description of God’s relationship to the world is that of Creator and creation, and that this is not the same as “The One Who Causes.” If human creativity is somehow a micro-relations to God’s creativity and God’s creative activity, then perhaps we can understand God as Creator by noting human creative acts as having a relationship to creative acts of God through considering creative acts as humans (as opposed to causative facts). A comparison of cause-effect actions with creative actions actually shows that these two actions are quite different. Creativity is often considered to be a mental activity that involves the generation of new ideas or new concepts, although it is difficult to define there is great difficulty in defining it and its features. The source of creativity has been attributed to a variety of different processes (social environment, cognitive processes, divine intervention, serendipity, etc.) and is usually multidimensional in nature. Creativity is not something that can be dictated or even defined, nor is it something that can be legislated, such as “Today I will be creative.” This is much different from a cause-effect relationship where the end result can be easily attributed to a specific action. So, a person can easily say, “I will make a ___,” and proceed to do it, if it involves no inspiration; but such is not the case with creation and creative thinking. While a person can indicate that they will design a particular experiment or a particular building at a given time, the inspiration for a creative component to that work cannot be dictated and may come when least expected or may never come. Thus, we often hear people claim that their best ideas (creative moments) happen in the shower or when they first wake up in the morning. If one then extrapolates from human experience with creativity, it becomes clear that creativity and cause-effect are very different things. Bulgakov provides a critique on aspects of Western theology including arguments against the doctrine of first and second causes. He prefers instead a concept of “co-imagedness” in which the creatures contain the living image of the Creator, and he argues that the world does not have a cause since it was created, and God is not the cause of the world but rather is the world’s Creator and Provider. In this sense, the world becomes a correlative unity understood by its connection with its Creator rather than an autonomous and unrelated entity. We can also easily understand this stand from our own creative experiences – things we caused to be made are much less important to us than those we created drawing upon our inspiration, our originality. Such things we are proud of and want to be measured by them – in some way they are us ourselves. There is another meaning to be had from the word originality: when we create and are the origin of a creation, we are truly original. God as Origin of all is infinitely more than a cause. Bulgakov (2002: 221-22) reasons that the proper relationship of the Creator and creation is expressed as an icon:

In general, the idea of the Creator and creation does not need to be translated into the language of mechanical causality, for it has another category, its proper one, that of co-imagedness, since the creature contains the living image of the Creator and is correlated with Him ... The world does not have a cause, since it is created; and God is not the cause of the world and not a cause in the world, but its Creator and Provider. God’s creative act is not the mechanical causation through Himself of the world’s being, but His going out of Himself in creation ...

This co-imagedness fits well with the Genesis context of humans being made in the image and according to the likeness of God. Humans bear the imprint their Creator, the icon of God. We acknowledge this liturgically by censing the image of God in each person.

Bulgakov is one of the few Orthodox theologians who have attempted to address questions of the interaction of God and the world, taking into consideration modern scientific thinking about evolution. There are a few others who have addressed the issue of the interface of science and religion in contemporary Orthodox thought (Zizioulas 1985; Sherrard 1992; Staniloae 2000; Vukanovic 1995; Wolosch 1996; Hart 2003, 2005; Nesteruk 2003; Yannaros 2004). They too have used the theological approach to address questions of environment, anthropology, creativity and other things, and while much of their thinking touches directly on evolution and biology and its meaning in a religious context, they have not had this topic as the major goal. While Bulgakov’s writings are often tangential to this topic, he has specifically examined the theory of evolution and its implications for Orthodox Christianity. His book The Bride of the Lamb tackles the issue of the creation of the world “of nothing” and uses this as an opportunity to introduce his view of Sophiaic and its role in God’s relationship to humanity and to the world (Bulgakov 2002). Bulgakov is noted for his idea that there is a connection between God and Sophia that is without separation and also without identification (Bulgakov 1993). Th Divine Sophia or Divine Wisdom is God’s exhaustive self-revelation, the fullness of divinity, and the absolute content of God. Yet, Sophia is not a hypostasis. Gc has Divine Sophia, She belongs to God, and in some sense She is God’s eternal power and uncreated divine essence. Divine Sophia gives rise to a creature Sophia that acts in the world, but this created Sophia of the world belongs not God but to herself.

Bulgakov deals with a variety of problematic questions for the science vs. religion discussion. Was there a time when God was not Creator? Bulgakov considers that the power of creation is so integrated into the Godhead that Gc cannot fail to be the Creator and God cannot be understood as separated from Creation. God never began being Creator because God was Creator eternally. God’s interaction with the world is predominantly creative, not mechanistic
Creation is an ongoing process that has not ended and will not end. Bulgakov sees this as being consonant with views of evolution where the life continues to be changed and hence created even now.

How can one understand the eternity of Creation and the temporality of its being? Is there a beginning of time? Bulgakov considers that eternity is accessible to creatures only through temporality and the overcoming of temporality. He notes that the symbolism of the six days of creation places the creation of time itself only on the fourth day, i.e., after the fullness of already existing creaturely life has been implanted. Time exists for the humanity who by nature has consciousness and knowledge of time. The world was not created in time – time was created in the world, but this creation was supra-temporal not extra-temporal. Bulgakov (2002: 44) states:

Even if one could seek the beginning of creation, it would have to be perceived not outside, not in time or in space, but inside, in the character of creaturely being, and in the last analysis, in divine being.

To what extent is humanity God’s creation? Bulgakov’s view is that humanity is created by God’s call into being in some cosmic sense, but that there is also an extent (paradoxically) to which humanity is its own creator, brought about by the freedom of choice given to humanity by God. Human freedom comes with a creative power that is capable of self-determination, while humans are considered noncreaturely-creaturely beings, created and self-creating, intended to become a god by grace or even a created god. This is balanced by each person’s personal acceptance of universal sin, which can be different from one person to another, a concept that Bulgakov favors over traditional views of original sin. Furthermore, this position is tightly bound to his understanding of evolution.

What does acceptance of evolution mean for our understanding of an original Edenic state of humanity on earth? Bulgakov notes that the evolutionary outlook on human origins is diametrically opposed to any view of an original state of humanity that is associated with Eden and a perfect life. This point is expounded upon in detail as the contrast between the language of empirical history and meta-historical events are described. Bulgakov considers the idea that, while evolution takes place as a series of apparently capricious events, there is an inner progression of creation that allows for the actualization in time of a prior reality that is beyond creation. While evolution defines the “how” of creation, the “what” of creation is defined by this inner progression that reflects a different reality, a reality that existed before this reality, a reality that humans “remember” as an Eedenic state and of God’s garden. So, just as God is always a Creator, the extra-temporal creation that God has always created is always the goal and the memory of the material creation, its Eden. Bulgakov states: “…although man is phylogenetically connected with the animal world by his animal nature, his origin is not merely an evolutionary achievement, but an express and new divine creative act that is outside the evolutionary process. It is something new in creation” (Bulgakov 2002: 174). The appearance of a godlike spirit in humanity is a mystery that not understood empirically, and evolution does not attempt to define when or how this spirit first appeared in humans or human-like creatures, nor is it supposed to.

Concluding Thoughts

Evolution and ecology are tightly linked, and separation of the two only leads to an inadequate understanding of nature and an inappropriate orientation toward the environment. Evolution as a concept should be acceptable to Orthodox Christians particularly in light of the fact that Orthodox generally do not accept a literal understanding of Genesis. Fr Sergius Bulgakov, a member of the Slavophile school of theology who wrote in the early twentieth century, expounded a view creation that included evolution and a more clear understanding of God as Creator (rather than Causer) of the cosmos. A reawakening of Bulgakov’s theological thinking may enlighten thinking about environmental and evolutionary issues that confront the world today.
At the outset, it is vital that the following critique of the limits of human knowledge is not understood as a denunciation of modern science, nor is it a claim that science is not descriptive of at least some form of reality. Generally considered, modern science is arguably the most reliable and successful source of information about the natural world we have. The desire is to see scientific knowledge received and interpreted in a balanced manner, one which allows for a spiritual form of knowledge. The spiritual form of knowledge is seen as a supplement to the scientific one, not a replacement, and more especially pertinent in dialogue about ultimate questions, that is, the meaning and purpose of life, the nature of consciousness, and existence of life after physical death. The denial or disregard of scientific discoveries is not something that Orthodox Christians should pursue and arguably it is not part of our tradition. Finally, I am arguing specifically within the context of the religious and science dialogue.

Introduction

The compatible relationship of religion and science, when stripped of its Western Christian historical setting, is difficult to envision in a society that has been educated to think in the manner of a materialist. However, when science is freed from the belief system of materialism, it resumes its role as a method of inquiry rather than an apologetic for a materialistically based atheism. In regards to questions about ultimate reality, there is a role for science, but there is no requirement that modern science be the only form of rational or verifiable knowledge.

The question in such a dialogue about ultimate reality is not whether something is scientific, but whether it is or may be true. To say something is not scientific (in the common usage of the term) is a description of the qualities of a topic and its conformity to a method of inquiry constituted upon certain agreed-upon rules, rather than a statement of its veracity. If, within this dialogue, nothing is to be accepted as substantive except what falls under the umbrella of the current knowledge base of science, it results in acquiescence but not dialogue. To require that ultimate things be constrained to the latest models in science is pure metaphysics; it reduces all that which is knowable to one form of knowledge, and fails to account for the
historical and correctable nature of science which is to say that the current models may be altered in some fashion and possibly even replaced in the future. It is also argued that it is not *science per se* that is the main force against acceptance of religious experience, but philosophy, especially that of materialism.

Modern scientific societies must be willing to consider religious experience if there is to be any claim to a dialogue on ultimate questions. The term “religious experience” is necessarily vague in this chapter due to space constraints. However, it incorporates phenomena that are both subjective and intersubjective and through this chapter emphasizes the Orthodox Christian understanding; it also alludes to the full range of legitimate human experiences. A general awareness of the full range and extent of these experiences, along with the substantial veracity behind many of them, undermines fundamental axioms of materialism and is seen as a first and necessary step in breaking the suffocating hold of scientific materialism on the modern worldview.

The materialist (not the scientist) must deny all of the axioms because if just one is true, then the edifice upon which they construct their worldview threatens to crumble. Certain forms of experience, some supported by science, seriously threaten the tenuous claims of reductive neurobiology and monism (a very brief list includes Carter 2007, 2010; Kelly and Kelly 2009; Radin 2009; Storm and Josephson 2004; Tart 2009). Included under the general term “religious experience” are manifestations of clairvoyance (which take myriad of forms), medical healings, out-of-body experiences, near-death experiences, mystical experiences, and many other events experienced by people who are not even religious. Many of these manifestations contain veridical aspects. Rather than view such events as counteracting let alone threatening to science, they can be viewed as a complement to scientific knowledge in the same way they complement and enlighten ordinary experience. Such things do not undermine ordinary experience—they enrich it. They inform us as humans about existence in a way that the sciences are not capable.

Religious experience is a threat to philosophical materialism but not to science as an objective method of knowledge. The argument that miracles defy natural laws carries with it an implication that we know more than we can actually testify to. The so-called laws of nature are labels applied by humans in response to repeated sense or observable phenomena. The cosmos does not identify them as laws, nor does it state that they are immutable; it is people that make those claims. The attempt to restrict and define what God is capable of doing within the creation stems from disbelief in God or a concept of God more in line with paganism than Orthodoxy.

If we are attempting to explain the human condition then we must include the human condition. If in the history of humankind no claims to such events ever occurred, then materialism would have a stronger foundation, but it is the opposite that is the case. The diversity of religious experience is often used by opponents as an argument to discard all of religious experience as invalid. However, there are many possible explanations for this diversification. One is that they reflect finite human comprehension in response to the infinite and the divine. It is well known that words fail at this juncture of experience (Kelly and Kelly 2009). Another is that there is a degree of cultural interpretation that may shape either the telling of the experience or even its comprehension, neither of which affects the core validity of the experience itself. The experience has to be interpreted through some kind of filter and so forms of diversification are to be expected. Another response is that some may in fact be delusional and false and others correct. The Orthodox Church certainly recognizes that many spiritual phenomena may be real (that is not mere fantasy or neurologically based) but nonetheless delusional in the sense that the source from which the experience derives is a false one. The point is that the diversification by itself does not negate the truth value of the experience any more than competing theories in science or in any other endeavor, nullify the validity of the topic in question.

The Orthodox Christian recognizes that the actions of the Holy Spirit can reach outside the Church (the Holy Spirit blows where it wills) while also remaining cognizant of the dangers of religious experience, things of concern to materialists as well, such as fraud, sensory illusions, fantasy, psychological and neurological causes, in addition to which we would add delusion at the spiritual level.

The Limitations of Knowledge

The description, whether or not taken alone as a full description, of the human (and all creatures) within modern science is that of a creature situated by chance in a vast and indifferent cosmos. This encloses us within a narrow confined space of possibilities from which we cannot escape because fundamental reality is inescapable. If there is nothing but the material universe, there is nowhere else to go. Nowhere are the limits of human knowledge better espoused than the model of the cosmos and the human given to us by the materialist. Whatever it is we are aware of can be no more than a species-specific interpretation of the cosmos as it comes to us within a very clearly defined and restricted ability to perceive and to know. The human brain is no more or less than the result of an adaptation to a particular biosphere. There is nothing in this that can support a claim for universal knowledge, but only the knowledge that is species specific.

For many in modern societies, Western science has become not just the primary tool of inquiry but the only form of rational or true knowledge. It becomes a philosophy of life. However, it is evident that the use of science in regard to the question of God, and of anything that might be transcendent and supernatural, is restricted to finding evidence concomitant with its methodology, which is to say that anything transcendent to the natural sciences they are denied *a priori* because a question asked within materialism will be answered within it. The only channel of knowledge available within a closed system is human and human reason. There can be no claim of exhaustive experience or knowledge. The human as creature can only claim to have derived from experience what they are capable of deriving.
in the first place and given our very real limitations, this is not be enough to make
any universal claims about ultimate reality. On the other hand, because we arose
from and are immersed in the matrix of matter, arguably we can say true and
definitive things about our condition as creature.

It is precisely naturalism, that tells us our corporeality is from nature, and that
we have not one shred of substantive uniqueness (in the fullest sense of the word
and in context of the human as creature) compared to any other animal (a point not
in any essential conflict with the Christian theology), and that we are but another
adaptation on one planet lost in space. The human brain is a mammalian one,
with species-specific changes typical of other mammals. As a biological organ
it is not something totally unique in the created world. Even human behavior is
not singularly unique, but can be studied as something along a continuum, and
even when it can be distinguished from other animal categories, it must always
be considered in light of the neurobiology that reduces it down to the tissue of a
recognizable primate brain.

The more that brains deviate between organisms, the less they share perceptually
of the world. Bats, whales, mice, ants, monkeys live on the same planet but do not
experience it in a like manner. Add to this the cognitive functions of the largest
and most sophisticated brained animals and the difference is greater still. If our
brains were constructed differently, our perceptions and knowledge of the things
“out there” would be different as well.¹

Scientific knowledge can be interpreted as reflecting reality and truth in a
universal (though still restricted sense), or it can be something that describes
experience rather than the universals behind the experience. In accord with the
latter it may be argued that the history of science demonstrates that scientific
knowledge is both historical and correctable. Many of the brightest thinkers and
scientists of the last few centuries have argued against the notion that science
exposes ultimate reality, and have been content to accept that it is something less
than this. In order to claim that science describes ultimate reality, one must know
what that is, and lacking that, it is not possible to make any such claim. Science
understood in this fashion is not an alternative to revelation.

The philosopher of science Steven Goldman (2006: 147) in his lecture series
on the nature of scientific knowledge asks:

What is a scientific theory for? Is the purpose of a theory explanation, prediction,
and control of experience or revelation of reality? Is a theory an abstract;
idealized “picture” of reality or a description of how some cluster of related
phenomena behave and interact with other phenomena? What difference does it
make if we answer one way or another? Fourier and others show that a theory
can give us prediction and control without telling us about realities “behind”

¹ There is the very real possibility that the physical world may not be as limited
as accepted by mainstream science, and that would make the cosmos more complex and
arguably more dynamic than science currently allows for.

experience. But then as now, the dominant view of scientific knowledge, both
within the science community and among the general public, was that scientific
theories are in some sense “pictures” of reality, that they do reveal what is “out
there,” and that explanation and understanding are normal goals of science. But
non-Euclidean geometries reveal that explanation and understanding cannot
be solely a matter of logic, which raises odd-sounding questions: how does an
explanation explain? What does it mean to understand something?

It is beyond argument that the picture of reality presented by science has varie-
greatly at different points in historical time and there is no way to know will
certainty what it will be in the future. This is described by the eminent philosopher
Mary Hesse (in Goldman 2006: 1984):

... we need always to keep in mind that the theories we currently believe to
be true are just as falsifiable as the theories we look back on as having been falsified. And, one might add, the theories we currently hold to be true are as
likely to be falsified in the next 100 years as the theories that we look back on as
having been falsified in the last 100 years.

This history cannot easily be shrugged off. What is often overlooked is that
for each previous model there were good experimental and scientific data (as
understood at the time) to support the dominant paradigms held by the scientific
community at large (note that without the consensus of the scientific community
the theory cannot exist as a legitimate scientific model, regardless of its truth value).
For people of a given era the image of reality is construed according to the science
of the day and would be argued as the correct way to understand the object in
question. This does not detract from the fact that while models may be incorrect
or incomplete they are still capable of producing usable information and data.
Models in science can be incorrect as pictures of ultimate reality but nonetheless
have practical applications in the world.

Bishop Lazar Puhalo (2005) argues a similar point, that knowledge in both
science and Orthodoxy are models of reality more than reality itself, and the
conflict occurs at that level since reality being one could not be in discord.

None of this is meant to demean scientific knowledge, which remains the
primordial method for information about the natural world (but subject to distortion
when interpreted beyond its limits), but to place it in context. Except for the most
ardent scientific fundamentalist, it is safe to suggest that most scientists who have
studied history and philosophy of science recognize that there are epistemological
difficulties associated with claims about knowledge in science and problems that
arise when scientists venture into metaphysics.

From an Orthodox perspective it would appear that a science of nature in
isolation is never an adequate description of the Creation, no matter how factual.
Our senses represent hardware limitations of the brain, not open conduits to
reality. Even though nature seems capable of taking radical steps such as the

Limitations of Scientific Knowledge and Orthodox Religious Experience
rise of the organic from the inorganic and the derivation of consciousness from nonconsciousness, it is always along the basic substrates of physical matter. Within materialism consciousness is understood as an emergent property that belongs to and is localized solely within the tissue of the brain, a theory that has been refuted by human experience time and again.

Reductionism in natural science is a tool to aid in the extraction of information from things, but reductive science alone cannot provide an understanding of life. Even the materialist must derive meaning from things that are not inherent within the facts of the science.

Accepting the validity of the above statements how then can we claim knowledge beyond our limitations and how can we expect to overcome this? This is where religious–spiritual experience, claiming transcendence, offers the possibility of reaching beyond that which we are. It is only revelation and the sharing of communion with a god that is both transcendent (and thus not locked within the matrix) and immanent (therefore knowable at some level), that offers a way outside of our local objectivity. The next question must be on what basis can we claim sufficient evidence in regards to the experience of something outside the matrix?

Religious Experience

Religious experience presents at once a problem, a challenge, and an opportunity. It is a problem because it falls into the category of anecdotal evidence, which is typically dismissed as an unreliable source of information. What do we do with such events? What distinguishes a valid experience from the false? If one starts from the assumption of atheism and philosophical materialism, then of course all of this must be denied, which then eliminates the possibility for dialogue. The problem is how to establish criteria that are considered sufficiently plausible for someone who is on the outside? How do we communicate the experiences of the Church when the sources are different than those used by science?

It is a challenge because it is relatively ubiquitous and has proven to have far-reaching and undeniable effects. Religious-spiritual phenomena (to include paranormal phenomena, which may have nothing to do with them but nonetheless extend the limits of current scientific reductionism) are part of every culture and time period up to the present day. They occur throughout the timeline of human existence and are not bounded by age, gender, class, education, or intelligence. An unwillingness to consider knowledge obtained outside the metaphysics of naturalism omits vast areas of the human condition and the religion-science dialogue becomes divorced from the phenomenological experience of the participants. It truly becomes an academic exercise in the worst sense of the word.

Religious and spiritual experiences include many phenomena which are intersubjective and many which fall within the realm of falsifiability. Beginning with the New Testament, many of the reported events that were witnessed by multiple people and the same may be said for the many activities associated with saints and elders within Orthodoxy throughout the ages and into the present day. The point is important because psychological and biological research into the brain and religion is founded on the assumption of local action thereby making intersubjective and veridical experiences especially important.

Neuroscience has helped us elucidate brain function at the level of materiality, but the danger is the extension of this information beyond that which it is really capable of explaining (Kelly and Kelly 2009; Newberg et al. 2002; Tart 2009). Some forms of neurotheology (the use of neuroscience to study religious experience) tend to study religious experiences that are highly particular and that occur in a in a controlled situation that has little or nothing to do with the experience of Grace as witnessed in elders and saints. Neither do these studies get to an intersubjective component but tend to remain within the subjective elements of religious experience. There is no external verification that can be witnessed as is common for religious experiences that are associated with many of the elders or saints. Let it not be forgotten that the Apostles bore witness to what they had seen and touched; they did not set out first to formulate a rational set of arguments. The experience of the God-man was the basis of their belief even when it was difficult at times to comprehend. Science too, being a human endeavor, encounters the world as experience from which it later derives a relationship or understanding in the form of a hypothesis or theory.

Religious experience is an opportunity to expand horizons and to encourage humility in the dialogue regarding the ultimate questions of life. Dialogue requires that each side bring to the table that which it really is, and that which makes it what it is. Science brings its empirical data, its methodology, and its models, whereas Christianity brings its theology and its experience. Theology divorced from the experience of Christ and God threatens to become only academic. For those committed to materialism in the dialogue with Orthodox Christianity and science, there remain at least two arguments for the inclusion of religious experience. One is that it is foundational to the ancient faith so that at some point anyone who calls themself Orthodox Christian must acknowledge this. If there is no experience behind Christianity, if there is no empirical reality to its claims, then on what basis and at what point can we claim it as true? This is not meant to deny faith (a word that contains depth and nuances beyond the ability of this chapter to address) but to affirm that at some level, faith must be based on reality. It may also be a surprise to some, but, despite our modern culture, religious experience continues unabated. A recent Pew Foundation study found that nearly half of the American public (49 percent) said they had a mystical or religious experience (Pew Forum on Religion and Public Life 2009).

The Religious Experience Research Center (2011: 1) provides the following:

Repeated national polls indicate that between a third and a half of the adult populations in Britain and the United States claim to have been “aware of or
influenced by a presence or a power, whether they call it God or not, which is different from their everyday selves.” Parallel studies in the United States and Australia (e.g., by the National Opinion Research Center at the University of Chicago, the Survey Research Center of the University of California at Berkeley, and Gallup International) have produced similarly high figures. The center has now completed a number of in-depth studies in Britain, in which random samples of particular social groups (e.g., adult members of the population of an industrial city, a sample of postgraduate students, and a sample of nurses in two large hospitals) have been interviewed personally and at length about their experiences. In all these groups the positive response rate has been over 60 percent. (http://www.trinitysaintdavid.ac.uk/en/loc/librariesandcentres/alisterhardyreligiosexperienceresearchcentre/)

The definitions of what constitutes religious experience in many of these instances may be emotional or no more than “subjective insights,” yet it cannot be denied that there are a large number of religious-spiritual experience and phenomena reported within our society by people who are not only well educated, but who have no particular world view they are trying to promote (Henikoff 2010). If we expand our world beyond that of Western European civilization, it is apparent that many people do not see such experiences as abnormal or even rare. For many cultures it is an established fact of existence as the following phrase from a modern Native America attests to: “There is nothing more natural than the Miraculous.” Furthermore, for many cultures the spiritual life seems to be far more central and important than it is for modern technological societies, which raises a set of interesting questions that are worthy of future exploration.3

The overt and a priori dismissal of all of these accounts on the basis that they do not meet scientific criteria amounts to a broad denial of the human condition and the elevation of theory over experience (Arden and Wall 1998; Kalweit 2000; Teas 2008, 2010). Moderate science considers such things to be extrascientific and outside its purview; however, even here a case can be made that this is not true for selected phenomena such as extrasensory perception for which solid statistical evidence may abound (Carter 2007; Radin 2009; Storm and Josephson 2004). On the other hand, scientism does not even allow for their possibility and there is not only a total denial, but also a militant attempt to silence the claims and the data along with those who make them (Carter 2007; Josephson 2004).

I will briefly consider some of the main objections regarding religious experience from a broad sense and then, below, look more specifically from an Orthodox perspective with the understanding that this can only be general overview and introduction. One of the more common complaints leveled against religious experience (and religion in general) is that there are so many claims from seemingly diverse sources and so many varied interpretations that how are we to know any are true, or more specifically, how then can any of them be correct? First, it is necessary to distinguish between the experiencing of the event and its interpretation. The former may be valid as an experience whereas the interpretation may be flawed for a host of reasons. There must be a distinction between the veracity of the event and our inability to explain it, which is a different sort of problem. For the purposes of undermining a rigid materialism, it suffices that the event occurred and that it is valid. In the dialogue with science it is enough to establish the veracity and ubiquity of such claims, which must at least be taken into consideration when making metaphysical claims about the nature of the cosmos, humanity, or existence.

Secondly, the mere fact that there are different interpretations of an event is not the basis on which to dismiss them all. How many people with strong political convictions suspend them because there are opposing interpretations of the same facts they use to support their own position? The assassination of John F. Kennedy resulted in a large number of conflicting theories, testimonies, and the use of forensic science but questions and doubts remain for many people. It is doubtful that on this basis anyone would assume that all of them are wrong or that the event never occurred. There is somewhere a correct account and to determine this may require investigation, but the sheer number of claims alone is not cause to dismiss all of them out of hand. Even within science there have been differing opinions among scientists as to the interpretation of the same facts and data. Joseph Priestley knew as much science as Lavoisier, but never accepted the oxygen theory of combustion. The presence of conflicting interpretations of events does not normally cause most people to become agnostic. The normal course of action is to investigate and determine for oneself and this is no different for religious experience and claims.

Another objection about religious experience concerns the dangers associated with human testimony. This is not data that can be reproduced and is not under our control. This is an understandable objection and not to be lightly dismissed. However, if we rule out human testimony as always unreliable and false, we also lose the ability to discern human testimony, which may be argued to be a fundamental tool for social life, and we lose the training necessary to see the difference between a pure heart and a deceptive one.

Human testimony is linked to the credibility of the person(s) involved and it requires a certain faith on our part. It requires formulating knowledge and asking the right questions. Daily life is based on direct human testimony, sometimes even

3 It can be argued that many so-called primitive cultures have more in common with the pathos of Orthodox Christianity than the attitudes of the modern industrial society that derive from the children of the Enlightenment. This sentiment is raised by Charles Eastman, the first Native American to graduate from medical school (Dartmouth) at the end of the nineteenth century. He states that: “Many of my hearers have admitted that morality and spirituality are found to thrive better under the simple conditions that in a highly organized society, and that the virtues are more readily cultivated where the struggle for existence is a struggle with the forces of nature and not with ones fellow man” (Eastman 2003).
from strangers. We listen to the ones we can trust based on past experience. It is a place for faith, but faith that is well placed and considered in the context of many factors. There is no requirement that we accept all testimony, and no one ever does. There is no reason to accept at face value the claims of a known liar, someone who is on drugs or in a psychiatric state of delusion, or who has certain things to gain by fraudulent claims. Human testimony is in some ways an art, certainly flawed and subject to many pitfalls, which is one of the reasons for the need for reproducible data, but there are too many instances in the reality of life where hard reproducible data simply cannot be acquired.

In Orthodox Christianity there has been a culmination of claims made by disparate individuals and under diverse conditions and times, that have been repeated over and again and this fact forms a basis for intersubjective and reproducible knowledge (Romanides 2008).

Within Orthodox Christianity there are many intersubjective events: attested examples of clairvoyance, medical healings, correct predictions concerning things within nature or events unfolding in the life of a person or nation, and others things too numerous to mention. Many of these events contain claims that could be falsified at the time. For example, many prophecies concerning the future have been demonstrated as false simply by the fact that we are alive past the time in question. Another example is when an elder makes a claim that water will be found in a precise location at a precise depth, which is a claim that can be tested for its veracity (Ioannidis 1997). This does not make it scientific, but it does provide a foundation for faith that goes beyond mere belief or wishful thinking.

Religious Experience and Orthodoxy

Within Orthodoxy there is an acknowledgment of religious experience, as well as caution and criticism. The reservations tend to focus around the dangers of false or demonic experiences that detract from the true ones, the propensity to seek spiritual hedonism and phenomena for their own sake rather than the substance of the faith, and there is concern that it should not be the foundation on which the faith is based because there are many forms of religious experience found outside of Orthodoxy.

However, the argument for the purposes of this chapter is that we live in a society in which there is a need to recognize the reality of substantive and legitimate experiences of God. This is imperative because of the culture of disbelief and materialism that define society. Materialism has affected theology, philosophy, and the uses and interpretations of science. The importance of religious-spiritual experience and of the Orthodox experience of God is a verification of the faith. By demonstrating to many people in his resurrected body the apostles were told that they too would do as Jesus did, and do even greater things, and in turn also manifested miracles.

The concern about miracles has to do with what is in the heart. The danger always exists that there are those who see spiritual events as something related to magic and power and there exists such a things as spiritual hedonism, the seeking of self-satisfaction from spiritual phenomena or experiences. There is no doubt that a distortion can arise in presenting these events as mere phenomena in the battle against materialism, when in Christianity there is no greater miracle than love of one’s enemies, of one’s torturers, of a person who can act as a vessel of the Holy Spirit (Gavrilia 1999; Farasiti 2009; Florensky 1908; Kalliatos 2009; Miller 1991; Middleton 2003; Moffett 2009; Rose and Herman 1987; Sophrony 1991; Zacharias 2006; Zander 1975). This must always be at the forefront and the phenomena must always be relegated to within the context of its purpose.

But this concern, though valid and serious, can be taken too far and we can end up omitting all things supernatural from life. To remove all things supernatural from the Gospels and from the faith is to make it a purely human religion, the Christianity of a Feuerbach and the modern theologians who begin with the assumption of materialism. This is the culture in which the Gospel is situated, and if I accept materialism there will be no way that I can see Jesus as God, only as a “good” man or social reformer. The materialist or atheist desires the removal of all such experiences and the relegation of faith to the purely speculative.

Ignorance of religious experience creates another problem that works against Orthodoxy. A society that is ignorant concerning things spiritual can be expected to tend toward several directions; one is disbelief and insensitivity to anything spiritual, while another is its opposite, the propensity to believe in anything once it has been experienced. Many in our day cannot accept the world of scientific materialism and agnosticism and they become vulnerable, seeking some sign. This is a culture that has little guidance or discernment in matters spiritual because it has walked away from that which makes the society naïve in regards to spiritual realities. To remain silent about the veracity of religious experience in a world such as ours is to condone and confirm for many that Christianity is really just mere science.

See Church of the Flying Spaghetti Monster, at http://www.venganza.org/.
faith without substance, or that religious experience consists mostly of appeals to emotional states and fantasy. It is also to foster indiscriminate spiritual experience, one that occurs without context or understanding.

Faith is crucial to Orthodoxy and the emphasis made in this chapter concerning religious experience is not about replacing faith with experience. These experiences are always to be placed within the context of the totality of the Church and under guidance of experienced bearers of the faith. It is to be done with sobriety and humility.

Elder Sophrony (1988: 175), one of the great elders of modern Orthodoxy, provides a specific marker for judging the validity of such an experience:

Nevertheless, the manifestations in strength of Light so far transcends our fallen nature that no believer in Christ must trust himself without confirmation either from the Scriptures or the works of the Holy Fathers. And moreover, even the Scriptures are not enough for a conclusive judgment, since almost everyone interprets them variously. It is absolutely necessary to have confirmation from someone of the same faith as ours who has been found worthy of Divine visitation before us. Therefore we need these three factors: 1) the New Testament; 2) the writings of the holy ascetics of our Church; and 3) a 'live' witness …

In a book that reveals the wonders and love of Elder Paisios, there is an account that is very telling in the context of the discernment of spiritual phenomena.

Once, when I was speaking with the elder about the lights that one sees during meditation, he told me, “We don’t want to see those kinds of lights, so we turn away from them. When I was at the hermitage of Saint Epistimi in the Sinai desert, I would leave my cave at night and go to pray at a neighboring peak, from which I could see the monastery. I would hold a lighter in my hand that I would light every so often so that I could see where I was walking on the rocks. One night, when I had walked a few steps from the cave, there appeared a light as bright as a spotlight that illumined the whole region as though it were day. I realized that it was from the evil one and said to myself, ‘I don’t want to see that kind of light’, and I returned to back to the cave.” (Farasiotis 2008: 260)

A profound knowledge of the spiritual goes beyond mere phenomenon and allows it to be understood rather than just experienced. An analogy in science would be the distinction between the data or facts and the interpretation of them within a model. Fossilized bones are facts, but they are not evolution. Evolution gives the hard data meaning and interpretation without which we could be swimming in fossils and have no comprehension of what they represent.

It is not a matter of religious experience over faith or theology. It is a question of harmony in which these things all play a part. Western society has tended to move toward a secular humanism that ridicules and renders impossible a substantive experience of God. This is our Berlin Wall and it must be torn down before we can even speak the same language. How can we tell such a world about the wonders and grace of Orthodox elders and saints? The first incident they encounter will cause them to laugh it off as so much ridiculous nonsense, the wiles of an overactive imagination on the part of those reporting the testimony. It is as if testimony by its very nature cannot possibly convey truth. Taken too far it becomes a form misanthropy in which no one trusts in the ability of the other to convey true information unless the information can be verified independently of that person, or unless it appeals to their reason. Any claim to reality that falls outside the reasoning of that person is immediately falsified not by evidence, but by the inability of the person to move outside their enclosure.

A spiritual son of Elder Paisios describes what it was like to have been participated in the experience of things normally experienced only by elders and saints:

I knew then that these are not matters to be judged by the intellect, which can hardly comprehend them. Instead, they are the province of a divine knowledge born in the heart, which is much more certain and profound than what usually passes for knowledge. Truly, it is amazing that, although unworthy, I was accounted worthy to experience what until then I had only read about in the Lives of the Saints – which had seemed so simplistic! … Such experiences have an immeasurable existential depth, and they overwhelm the soul, filling it with the gladness and ineffable joy of expiring God’s infinite bounty. (Farasiotis 2008)

In his book, Death of the Soul, the philosopher William Barrett (1987) describes a scene where he is out walking with some friends. When they stop to engage with a particularly beautiful sunset, they forget for just one moment about their materialism and enjoy the poetic majesty of the sight as if it were expressive of something more. But then, “reality” sets in and they are unable to continue since it comes back to them that all this is factually nothing more than refractions of light off the atmosphere. We know this because of science. The rest is simply emotion; it is the limbic system on overdrive. The moment is destroyed as quickly as it arose, a triumph of distorted human reason and misplaced science.

In a context like this, how do we explain a wonder-worker? A weeping icon must be the product of a clever priest, despite evidence to the contrary (Papadeas 2000). If we disregard supernatural experiences, we have to eviscerate great portions of the lives of saints. Imagine the lives of Saint Seraphim, Elders Porphyrios and Paisios, to name but a few, without reference to their grace-given abilities? For this reason, I argue that we have more in common with many Native American elders than the children of the Enlightenment. The Lakota elder recognizes the reality of the spiritual domain; they understand humility in the presence of the Great Spirit. They comprehend the notion of the sacred and a wonder-worker is someone they have knowledge of. This a very different position than confronting the overly skeptical and spiritually deadened mind of the modern materialist.
There is no doubt that the topic of religious experience or events is a delicate one. There is the danger of trivializing the grandeur of the Holy Spirit with insignificant emotional experiences. There is the danger of accepting as real what is fraudulent or delusional. There are the issues of reproducibility and testability, and therefore religious experience cannot be divorced from faith. Neurobiology can provide insight into subjective experiences and help eliminate that which is borne of the human mind versus that which is truly external (something a true grace-filled elder might already recognize). Science can work with us on this question so long as it does not try to assimilate all things into its methodology.

The insight provided by true religious experience offers a glimpse into a broader explanation of life that simply cannot be attained in any other fashion. In the end, there is no real conflict between a method of knowledge about the created world and the revelation of the transcendent that made that world. However, a fuller understanding of the created cosmos requires both the knowledge of the creation as object, and the One that sustains it. If the cosmos is nothing but the cosmos, then life is merely existence, and purpose and hope as such do not exist beyond the individual mind. On the other hand, the experience of the Triune God within and beyond the cosmos offers us the existential hope of life in its fullness. There is no reason why humanity cannot be awed by the cosmos as revealed to us by the exact sciences, and also by the wonderful insight of God as revealed in his saints. The experience of the elders and saints brings meaning, hope, and understanding to the events of ordinary life.
THE SACRED GIFT OF LIFE

Orthodox Christianity and Bioethics

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The Orthodox service of Holy Matrimony includes a petition that God will grant to the newly united couple “the fruit of the womb as is expedient for them...[and] the enjoyment of the blessing of children.” That enjoyment and that blessing have been supplied in full measure by our sons Paul and Michael, and to them I gratefully dedicate this book.

—J. B., 15 July 1998
Feast of St. Vladimir

"The glory of God is a living person and the life of the person is the vision of God."

—St. Irenaeus

"Abba Lot went to see Abba Joseph and said to him, “Abba, as far as I can I say my little office, I fast a little, I pray and meditate, I live in peace and as far as I can, I purify my thoughts. What else can I do?” Then the old man stood up and stretched his hands towards heaven. His fingers became like ten lamps of fire and he said to him, “If you will, you can become all flame!”"

—Joseph of Panephysis

"Ascend, brothers, ascend eagerly, and be resolved in your hearts to ascend and hear Him who says: Come and let us go up to the mountain of the Lord and to the house of our God, who makes our feet like hinds' feet and sets us on high places, that we may be victorious with His song."

—St. John Climacus

**The Sacredness and Sanctity of Human Life**

Orthodox Christianity affirms that life is a gift, freely bestowed by the God of love. Human life, therefore, is to be received and welcomed...
with an attitude of joy and thanksgiving. It is to be cherished, preserved and protected as the most sublime expression of God’s creative activity. God has brought us “from non-being into being” for more than mere biological existence. He has chosen us for Life, of which the ultimate end is participation in the eternal glory of the Risen Christ, “in the inheritance of the saints in light” (Col 1:12; Eph 1:18).

In the language of the Eastern Church Fathers, this transcendent destiny or telos of human existence is expressed as theosis or “deification.” To the patristic mind, God in his innermost being remains forever transcendent, beyond all we can know or experience. An unbridgeable gulf separates the creature from the Creator, human nature from divine nature. The Orthodox teaching on theosis nevertheless affirms that our primal vocation or calling is to participate in divine life itself, to ascend to the house of our God, where we shall enjoy eternal communion with the three Persons of the Holy Trinity. How does Orthodox teaching resolve this tension between the absolute transcendence of God and his accessibility in the life of faith? We can answer the question, briefly and schematically, in the following way.

From the inner mystery of his absolute “otherness,” the total inaccessibility of his divine nature or being, God reaches out to the created world and to his human creatures, to save, restore and heal all that is sinful and corrupt. By means of what St. Irenaeus called his “two hands”—the Son and the Spirit—God the Father assumes and embraces human life, filling it with his attributes or “energies” of love, power, justice, goodness and beauty. Thereby he opens the way for our ascent into the realm of his holiness, where those who live and die in Christ join with the saints of all ages, to offer their worship of praise and thanksgiving before the divine glory and majesty. Human life, therefore, finds its ultimate fulfillment beyond death, in the boundless communion of “righteousness, peace and joy in the Holy Spirit” that constitutes the Kingdom of God (Rom 14:17).

Yet the apostle Paul, like the evangelist John and other New Testament authors, speaks of the Kingdom as a reality that is presently accessible to us: the Kingdom is “among” us, “in our midst” or even “within” the depths of our being (this is perhaps the meaning of enotos in Lk 17:21). Although its fullness can only be known after our physical death, our present life within the Church offers us a very real foretaste of the ineffable joy to come. “Right-

ousness, peace and joy” are qualities St. Paul believes should characterize the ecclesial community on earth as well as life within the eternal “communion of saints.” In the Gospel of John, Jesus speaks to those who are tempted by apostasy: tempted to reject their commitment to him and to lapse back into Judaism. He addresses them in the present tense, in the midst of their immediate, present-day experience: “Truly, truly I say to you, he who hears my word and believes him who sent me has eternal life and does not come into judgment, but has passed from death to life” (Jn 5:24). From this perspective the Kingdom of God is not merely the object of our future hope. It is a present reality, inaugurated by baptism and nourished by communion in the Body and Blood of the glorified Lord. It is a “sacramental” reality that radically transforms our understanding of the origin and the ultimate destiny of human existence. Life is now experienced as an ongoing pilgrimage marked by inner struggle. It becomes at its heart an askesis or spiritual warfare between, on the one hand, sickness, sin and death, and on the other, wholeness, sanctity, and eternal blessedness. It is this struggle, and its ultimate victory, that constitute the “life in Christ.”

Created by God as the most sublime expression of his divine love, we are called to enjoy everlasting communion with him in the fellowship of those who reflect through all eternity his radiant sanctity. Yet like those saints who have gone on before us—the myriad of martyrs, “confessors” and other holy people who have “fought the good fight” and emerged victorious—we can only attain to divine sanctity through the exercise of faithful stewardship, offering “ourselves and each other and all our life to Christ our God.” Admonishing members of the church in Corinth who were tempted to give in to the lure of fornication, the apostle Paul asks rhetorically, “Do you not know that your body is a temple of the Holy Spirit within you, which you have from God?” Then he makes the startling assertion: “You are not your own; you were bought with a price. Therefore glorify God in your body!” (1 Cor 6:19-20). Christian stewardship demands that we “render unto God that which is God’s.” As the parable of the talents makes clear, stewardship of this kind involves not mere caretaking, but the bearing of fruit: rendering to God what is his, with interest, for the glory of God and the salvation of his world.

Created in the divine image and called to assume the divine “likeness” by becoming “perfect” as our heavenly Father is perfect, Christian believ-
ers assume, as an inescapable aspect of their life and calling, an arduous, ascetic struggle against demonic powers of sin, death and corruption. Bearing the cross of Christ daily, they embark on an inward pilgrimage that leads, through continual repentance, from death to life and from “glory to glory,” to attain at the end everlasting communion with God. This is their God-given vocation, just as it is their unique source of ultimate meaning and personal value.

It is this sublime vocation that confers upon human existence its sacredness or sanctity. It alone endows human life with eternal value, from conception, through physical death, to resurrected existence in the Kingdom of God. Accordingly, any reflection on the moral issues that shape and influence human life must presuppose an anthropological perspective, faithful to the Church’s Tradition, which acknowledges and honors that sanctity.

To speak of the sanctity or sacredness of human life is also to speak of “personhood.” One is truly a person only insofar as one reflects the “being-in-communion” of the three Persons of the Holy Trinity. This is a much misunderstood concept in present-day America, where the “person” has been thoroughly confused with the “individual.” Individual characteristics distinguish us from one another, whereas authentic personhood unites us in a bond of communion with each other and with God. We can truly claim to be persons only insofar as we embody and communicate to others the beauty, truth and love that unite the three Persons—Father, Son and Spirit—in an eternal tri-unity. The Trinitarian God is thus the model, as well as the source and ultimate end, of all that is meaningful and personal value.

It is as personal beings that we bear the ineradicable image of God; in fact, that image determines our personhood. Yet we are fulfilled as persons, and thus actualize within ourselves authentic sanctity, through the arduous work of ongoing repentance and ascetic struggle that leads to personal growth in the divine likeness. The “sacredness” of life, in other words, is intrinsic to our very nature; yet it is “actualized,” made concrete and effective in daily existence, through our ceaseless effort to affirm and preserve an authentic “sanctity” or holiness of life. Acquisition of sanctity, therefore, requires our active participation, a “synergy” or cooperation with divine grace that involves “putting off the old Adam” and “putting on the new.” St. Paul expresses the dynamic quality of this ongoing inner conversion in these terms: “Put off your old nature which belongs to your former manner of life and is corrupt through deceitful lusts, and be renewed in the spirit of your minds, and put on the new nature, created after the likeness of God (ton kata theon) in true righteousness and holiness” (Eph 4:22-24, RSV).

“Sacredness” and “sanctity” are often used synonymously to speak of the divine origin and purpose of human existence. In light of what we have just stressed, however, it might be preferable to speak of our life as “sacred” by virtue of its created nature that embodies and gives expression to the divine “image.” The life of every person is “sacred,” insofar as it is created by God with the purpose of participating in his own holiness, and possesses the capacity to reflect the presence and glory of God from its depths. (However much that capacity may be diminished by sin and willful rejection of God, Orthodox anthropology affirms that the divine image can be obscured but never eradicated; there is no “total depravity,” however morally depraved a given individual may in fact be.) “Sanctity,” on the other hand, would refer to the personal or “hypostatic” qualities that one attains through ascetic struggle against temptation and sin, as well as through the acquisition of virtue. Sacredness would thus be considered as a function of “nature” and sanctity, as a function of “person.”

Christian existence is nevertheless paradoxical: although our personal struggle, our “spiritual warfare,” is indispensable and unavoidable in the life of faith, its fruits depend entirely on the grace of God. Orthodoxy insists that a “synergy” between God and his human creatures is essential to the work of sanctification, of attaining “sanctity.” Still, sanctity remains a gift, wholly unmerited and wholly unattainable by our own efforts. While the quest for sanctity requires a profound sense of responsibility on our part, the fruit of that quest is produced by God alone. As “it is no longer I who live, but Christ who lives in me” (Gal 2:20), so it is not I who achieve holiness, but rather the “Spirit of holiness” (Rom 1:4) who dwells in me and who alone works out my salvation.

Endowed with “sacredness” from its conception, human life thus finds its ultimate sense, its deeply “spiritual” meaning, in the quest for “sanctity” or holiness. This distinction between sacredness and sanctity is useful, and it conforms to Orthodox anthropology. Modern ethical discourse nevertheless tends to confuse the terms. This is especially evident in the impassioned discussions between those who represent either a “sanctity of life” or a “quality of life” perspective in assessing moral issues.
There has been a tendency in recent years to oppose these two perspectives, setting “sanctity” and “quality” over against each other in an irresolvable tension. Proponents of the “sanctity of life” principle, according to a popular caricature, will want to preserve biological existence at all cost, irrespective of the degree of suffering endured by the person concerned. “Quality of life” proponents, according to the same caricature, strive above all to avoid debilitating pain and suffering. Therefore they favor procedures such as “abortion on demand” and “physician-assisted suicide,” to assure control over the “quality” of life experienced by a pregnant woman or a terminally ill patient. In reality, the former position represents a philosophical view known as “vitalism.” This is a form of bio-idolatry that by its very nature violates the “sanctity” of life, since God-given life is ultimately fulfilled beyond the limits of biological existence. And insofar as the radical “quality of life” position places the avoidance of mental and physical pain above every other value, it deprives human life of its innate God-given value, purpose and destiny.

We shall return to this issue later on in our discussion of euthanasia and the “quality of life” debate that has received so much attention from ethicists during the last decade. For the present we should stress only this point. Rather than set the “sanctity of life” and the “quality of life” in opposition to each other, we need to see the two as complementary. Christian experience knows that pain and suffering are potentially redemptive. While certain levels of physical or emotional anguish can appear to be “dehumanizing,” even those who suffer intractable pain are in the hands of God and can experience his loving care and mercy. It is precisely these gifts of divine love and mercy that assure the true quality of human life in any condition or circumstance. Similarly, it is the free gift of God’s own holiness that suffuses human life with authentic sanctity. If both the sanctity and the quality of human life are seen to derive from divine grace, then the opposition reflected in the current debate is simply false. The true “quality” of personal existence is defined by its attainment of “sanctity”; and authentic “sanctity” derives only from a particular “quality” of life, conferred by knowledge of and participation in the loving mercy of an infinitely compassionate God.

This complementarity between the quality of life and the sanctity of life is possible because human life by its very nature is “sacred.” Its origin, purpose and ultimate end are given and determined by God alone. Once again, “sacredness” and “sanctity” need to be distinguished, the former referring to the essential goodness and infinite value of human life created in the divine image, and the latter to the arduous yet blessed struggle of the human person to attain and reflect the divine likeness.

Facing Moral Dilemmas

These introductory remarks are intended to provide us with a framework for considering some of the most difficult ethical questions that we as Christian people have to face today. It has often been pointed out that “Christian ethics” is a Western category. “Eastern” Orthodoxy, on the other hand, traditionally focuses on “moral theology,” which is basically traditional ascetic theology: exposition of the interior struggle toward sanctification through the grace and transfiguring power of the indwelling Holy Spirit. The new discipline of Orthodox Christian ethics has come into being to help us as pastors and lay people to deal effectively and faithfully, in the light of authentic “living Tradition,” with moral dilemmas raised in modern technological societies. Its aim is above all to develop criteria that will enable us to make good, right, just and appropriate moral choices: choices that conform to the will and purpose of God for ourselves and for the world in which we live.

Today’s world is one that poses radically new and extraordinarily difficult ethical dilemmas for all of us. This is particularly true in those areas where modern technology has created problems and possibilities that were never envisioned or addressed by either Scripture or patristic tradition. A few examples will suffice to illustrate the problem.

1. Prodigious developments in the area of biomedical technology have raised new questions concerning such matters as procreation and the meaning of “parenting,” terminal life-support and euthanasia, together with the burning issue of physician-assisted suicide.

Introduction into this country of the French manufactured RU-486 pill is opening the way to do-it-yourself abortions, and other combinations of available chemicals will soon permit a woman to abort an embryo or fetus in the privacy of her own bathroom. Extra-uterine conception has become routine, and its consequences in the realm of sexuality are dramatic. If the pill separated sex from procreation, in vitro fertilization
(IVF) has separated procreation from sex. As a result, the covenantal, unitive value of conjugal relations, as a means of participating in God’s own creative activity, has been largely obscured. Marriage is no longer perceived as an eternal bond of mutual faithfulness, responsibility and devotion. Prenuptial contracts, live-in experimentation, and quickie divorce are becoming increasingly the norm. We should hardly be surprised, then, at the exponential growth in erset homosexual “marriages,” teen-pregnancies with single-parenting, and prime-time sexual exploitation.

Then again, respirators, dialysis machines and other routine instruments of modern medicine pose awesome questions regarding the allocation of limited resources and the selection of those who will receive and those who will be denied treatment. Medical advances such as antibiotics, ventilators and vital organ transplants have made it possible to sustain biological existence almost indefinitely, even when the patient is in a deep coma or “persistent vegetative state” (PVS), conditions that in former generations would have allowed the terminally ill to pass quietly into the hands of God. (Only the oldest of us remember when pneumonia was welcomed as “the dying man’s friend.”) Each of these areas involves us in ethical dilemmas: “hard choices” made necessary by advances in biomedicine. Consequently, it is incumbent upon us as members of the Body of Christ to reflect together with medical professionals and theologians, to determine proper uses and limitations of modern medical technology.

2. A second area of grave ethical concern is that of genetic engineering, and particularly the “human genome initiative.” The ability to identify and restructure genetic material has created the possibility to manipulate life, both human and otherwise, at its most fundamental level. One frightening consequence of these developments is the inevitable reaction of insurance companies, which will refuse to pay for the support of a child that could have been determined in utero to be “genetically defective” and therefore subject to legal abortion.

Another potential danger concerns genetic manipulation in the interests of “eugenics,” which seeks genetic improvement of the human species. Negative or therapeutic eugenics promises to prevent or cure diseases that up to now were either severely debilitating or lethal. Positive or “innovational” eugenics, which would enhance positive traits and capacities, proved disastrous in the hands of the Nazis and bodes little better for our own day. Some are asking: If we can create new life forms in agriculture and lower animals, why shouldn’t we improve the human stock by increasing intelligence, physical strength, and the like? The dilemma, of course, lies in deciding precisely which characteristics will be deemed appropriate to what the eminent Protestant ethicist Paul Ramsey so aptly described as “fabricated man.” In the modern world, where competition is a dominant force in motivating human behavior and one’s survival often depends on “one-upmanship” while protecting oneself from physical threat and emotional stress, the criteria for determining which “qualities” should be enhanced in the human species are not likely to be determined by reference to the Ten Commandments or the Sermon on the Mount.

3. The Church is faced with equally grave problems created by the popular media and the computer-based explosion of information. The so-called “information superhighway” offers a remarkable potential for good, making possible interactive education, jobs done at home rather than at a distant workplace, and access to global interconnected resources. But that same superhighway can lead directly to the undermining of social and spiritual values: for example, TV mind-control, which means conformity to the lowest common denominator; or the power of the media concentrated in too few hands, leading to increasingly “managed” news; or the airing of grievances over the Internet, in violation of the most elementary rights of privacy; or the growing interface between universities, the military and business, resulting in a “military-industrial-academic complex” which is highly detrimental to academic and personal freedom.

A consequence of no little significance of this information explosion is that it focuses all of our attention and resources on technology as such, as we see so dramatically today in our secondary schools and universities. Together with “computer centeredness” goes a corresponding decrease in appreciation for philosophy, art and literature. To write a program today is vastly more important, and lucrative, than to write a poem. This is a tragic state of affairs that has seriously diminished our capacity for creativity and has led to a severe spiritual crisis, both individual and collective. Consequently, it needs to be treated as a “bioethical” issue of the first importance.

4. Modern psychology has also led to developments which must be judged both good and evil. On the one hand, it has provided us with new and important insight into specific behaviors traditionally attributed to
“the will acting in freedom.” For example, we now recognize that alcohol­ism is a disease rather than the product of a “weak will”; that chronic anger is often an expression of suppressed rage resulting from childhood abuse; and that certain forms of criminality, and many cases of suicide, result from imbalances in the brain’s neurotransmitters. In addition, insights provided by the study of psychology have led to the production of drug therapies that have significantly improved the quality of life for people who suffer from what in former generations were wholly debilitating mental diseases.

The negative consequences of our fascination with modern psychology are basically spiritual. By stressing the neuro-chemical correlates of various antisocial behaviors—from alcoholism, through child abuse, to suicide—psychological explanations of our behavior can very well lead to sheer relativism and to the rejection of personal responsibility. The primary question provoked by much modern psychology is the one raised many years ago by Dr. Karl Menninger: “Whatever became of sin?” If Orthodox Christians are to overcome their traditional suspicion of the science of psychology, it cannot be at the expense of minimizing our awareness of the power of sin and the importance of responsibility in our personal and social affairs.

**Biomedical Ethics as a Theological Discipline**

These are just some of the contemporary issues that have led theologians and philosophers, as well as members of the medical and legal professions, to create the field of “bioethics.” The term itself is unfortunate, since it is so easily distinguished and divorced in the popular mind from considerations developed in the traditional discipline of moral theology: considerations grounded on the premise that human life is indeed a sacred gift, whose meaning and end can only be described by the vocabulary of asceticism, sanctification, illumination, perfection and deification.¹

In the chapters that follow we focus on a number of specific issues in human life, from conception to death. One of our primary concerns is with the discipline of medical ethics and its attempts to address problems that have arisen with recent advances in biomedical technology. Before we turn to those issues, however, it is necessary to indicate why, from an Orthodox point of view, medical ethics needs to be understood and developed as a theological discipline.

Generally speaking, “ethics” studies human behavior. It is normally regarded as a descriptive science that attempts to discern and analyze the underlying principles and values that govern human conduct. “Moral theology,” on the other hand, is usually considered to be prescriptive: it proposes the “oughts” that shape the moral life in response to God’s commandments and purposes as they are revealed in Scripture and other sources of Holy Tradition. To speak of specifically “Christian” ethics, however, complicates the matter, since it suggests that the purpose of the field is not only to analyze our behavior but to propose a cure for our moral illness, our sin. In common usage, then, Christian ethics and Christian moral theology are virtual equivalents, since the act of making ethical judgments involves by its very nature a striving toward sanctity or holiness.

This is true as well with regard to the relatively new discipline of medical or “biomedical” ethics. The expression could refer simply to the way physicians and other health care specialists treat patients. As such it would either be purely descriptive (analyzing the values, motives and intentions of the medical team); or, if it ventures into the realm of prescription (how the team should behave and why), its moral directives would be governed by the ethicist’s own philosophical outlook. “Christian medical ethics,” on the other hand, if it is in any sense “orthodox,” presupposes a value system grounded in certain truths, or rather in “the Truth” that has revealed itself and continues to reveal itself within the Church, meaning the all-embracing reality of God’s presence and purpose within creation.

Orthodox ethics, and particularly medical ethics or bioethics that deals specifically with issues of life and death, is based on at least the following presuppositions:

1) God is absolutely sovereign over every aspect of human existence, from conception to the grave and beyond. This conviction is well expressed in a popular morning prayer, attributed variously to St.Philaret of Moscow (d. 1687) or to spiritual fathers of the Optin Monastery: “Teach me to treat all that comes to me throughout the day with peace of

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¹ For a highly perceptive analysis of “bioethics in the ruins,” resulting from the “content-less moral vision” of so many of its current practitioners, see the introduction of H. Tristram Engelhardt’s *The Foundation of Bioethics*, 2nd ed. (New York: Oxford University Press, 1996), pp. 3-31. This is a valuable contribution by a leading medical ethicist whose entry into the Orthodox Church led to a thoroughgoing revision of the first edition of this work. It is one of those rare books whose endnotes are as informative as the text.
soul and with firm conviction that thy will governs all... In unforeseen events, let me not forget that all are sent by thee.” The divine imperative to “Choose life!” is fulfilled by loving the Lord, obeying his voice and cleaving to him (Dt 30:19); that is, by offering ourselves in total surrender to his sovereign authority and purpose. That authority is precisely what requires Orthodox Christians to reject “abortion on demand,” active euthanasia, and any procedure that means taking life (and death) into our own hands.

2) The Holy Trinity—characterized by “community and otherness,” by essential unity and personal distinctiveness—should serve as the model or icon of every human relationship. Bound together by our shared humanity in the communion of the ecclesial Body, yet serving one another with differing spiritual gifts, we are called to “responsibility”: to respond to one another with a self-giving love that reflects the boundless love of the three Persons of the Godhead, shared among themselves and “poured into our hearts by the Holy Spirit” (Rom 5:5).

3) Growth in the moral life is only possible insofar as we experience the “eschatological tension” of eternal life present in our midst. “The hour is coming and now is,” when the sole meaning and value of human existence is to “worship the Father in Spirit and truth” (Jn 4:23-24). Christian ethics is essentially “teleological”—in the profoundly biblical sense—with its focus on realizing in the here and now the beauty, truth and perfection of life in the Kingdom of God.

What do these three principles or presuppositions imply with regard to medical ethics? Given the climate in which we live today, the following points stand out.

Health and wholeness have ultimate meaning only within the perspective of God’s eternal purpose, the divine economy to be fulfilled at “the second and glorious coming” of Jesus Christ. Medical care, therefore, should serve not only the proximate goal of restoring or improving bodily health; it should strive to provide optimal conditions for the patient’s spiritual growth at every stage in the life cycle. This means curing disease; but it also means, particularly in terminal cases, easing pain and distress by any appropriate means in order to allow the patient, through prayer, confession and communion, to surrender him/herself into the hands of God. “Medical heroics” result all too often from the prideful attempt on the part of caregivers to avoid “failure,” defined as “losing” the patient to death. Such hubris is responsible for a great deal of unnecessary suffering on the part of patients and their families, and it represents idolatry of the worst sort insofar as the medical team assumes the role of God.

Then again, matters of “informed consent” and “patient’s rights” need to be evaluated in the light of the Gospel’s teaching on freedom and responsibility. Some Christian ethicists today are suggesting that our unity in the Body of Christ implies a mutual commitment that in certain cases transcends the need for informed consent and transforms the self-centered notion of personal “rights” into the self-giving gesture of care offered to others in love. While this raises the specter of the “slippery slope” towards paternalism in a stark and perhaps dangerous way, thus potentially jeopardizing patient autonomy and the very principle of informed consent, the theological vision behind the suggestion is profoundly “evangelical.” It recognizes that from the point of view of health care, ultimate meaning and value in life lie not in the mere preservation of biological existence, but in the total surrender of self to the loving sovereignty of God. And it grounds personal relationships—between doctor and patient as between the medical team and the patient’s family—in the ultimate relationship of love, trust and mutual devotion shared by the three Persons of the Holy Trinity.

Modern medical technology has performed wonders for which many of us will be forever grateful. But like any human invention, that technology and its application must be subject to constant reevaluation and judgment in the light of Holy Tradition. To paraphrase a well-worn maxim, “ethics is too important to be left to the ethicists.” At its core, Christian ethics is a function of the worshipping, serving Church. This means that the work of doing ethics is a communal, ecclesial work for which each and every one of us is responsible. Just as each Christian is called to be a theologian by offering self and the world to God in prayer, each is called to be an ethicist, a “moral theologian” in the proper sense. Informing ourselves of the issues, discussing them in family, parish and on the job, and taking a stand, both public and personal, that reflects our understanding of the Gospel and of God’s imperative in our life, we can faithfully and usefully serve the many dedicated health care professionals who live to serve us, while providing them with the guidance and discernment they seek. Thereby “medical ethics” can be
restored to its proper place as a theological discipline that serves the glory of Christ and the spiritual health of the members of his Body.²

Before we consider specific biomedical issues, it should prove useful to spell out in greater detail the theological presuppositions that govern our making of moral decisions. With this in mind, chapter one develops several of those Orthodox dogmatic teachings, noted in this introduction, that bear especially on issues of life and death. Its purpose is to offer the reader a particular perspective, a vision of God's presence and purpose in creation and human existence, that provides the rationale for the specific moral judgments reached in the following chapters. Above all, it aims to ground in Holy Tradition the conviction that human life is indeed a sacred gift: one to be received with profound gratitude and offered back to the Author of Life as a "sacrifice of praise."

² Edward N. Andersen, M.D., raises in a perceptive and provocative way the very question, "Is There an 'Orthodox Medical Ethic'?", Epiphany Journal 12/3 (spring 1992), 13-17. He answers the question with a qualified negative, pointing out quite rightly that the Church has never proposed "an overarching system of medical ethics." In a few deft strokes he then offers opinions on a variety of bioethical issues including abortion, reproductive technologies, contraception, organ transplants, sexuality, and euthanasia. In so doing, he is obeying an intuition common to those Orthodox who are interested in ethical issues and feel called to express their views to others: to interpret, insofar as possible, the theological (ascetic, mystical, liturgical) tradition of the Church, in an effort to guide the moral conscience of the faithful. As he well recognizes, such guidance (including that offered in this book) needs to be constantly submitted to the "mind of the Church," beginning with the judgment of our bishops and qualified theologians. If there is indeed "an Orthodox medical ethic," its content can only be provided by Holy Scripture, together with the sacramental and liturgical experience of the believing community: provided, that is, by God himself. Consequently, although it may reach some of the same conclusions as found in a system of religious or secular "ethics," the ethics of Orthodox Christianity is grounded in a very different presupposition. In Dr. Andersen's words, "the answers to the medical ethical problems that each Orthodox Christian may encounter in his lifetime will best be answered in the courses of his own spiritual labors."

The Theological Foundation of Orthodox Christian Ethics

"Everything subsists by the will of the Father, comes into being through the action of the Son, and reaches its perfection through the action of the Holy Spirit... The number three therefore comes to mind: the Lord who commands, the Word who creates, the Breath who confirms. And what can it mean to confirm, if not to make perfect in holiness?"

—St. Basil the Great

"[The] divine beauty is reflected in and through all the various things that the Creator has formed, but it shines out preeminently from God's living icon, the human person."

—Bp. Kallistos Ware

The Moral Life: “Freedom in the Spirit”

God is the alpha and the omega of human life, the creator, redeemer and ultimate fulfillment of every personal existence. Every man and woman is created according to God's own "image" and "likeness" (Gen 1:26-27). Everyone, without exception, possesses the capacity for virtue, holiness, and ultimately theosis or "deification": a full and eternal participation in the divine energies or attributes. This is why Christian tradition stresses so emphatically that human life is sacred. This sacredness, once again, originates with God and is accorded purely as an expression of his love. As such, it is wholly derivative. It is a gift: the gift of God's own life and holiness, bestowed upon us...
encountered not only through Scripture, but also through liturgical celebration and sacramental grace.

There, in the corporate experience of the Body of Christ, “deification” is the fruit of a ceaseless inner quest that begins in the present age and, in the lives of the saints, achieves its fullness in the Kingdom of God. The driving force behind that pilgrimage is “longing” for God, the ardent desire to “know” God and to dwell forever in joyful communion with him. An Orthodox prayer focuses that longing on the person of the divine Son: “You, O Christ, are the true desire and the ineffable joy of those who love you, and all creation sings your praise forever!” The longing (érôs) that motivates the pilgrimage toward deification is ultimately longing for participation in the life of the Holy Trinity. That longing, more intense than any other, enables us to accept the tortuous pathway of ascetic labor that leads from purification, through sanctification, and on to transfiguring illumination. Thereby it also serves as the primary motivation behind the Christian moral life. Ethical behavior is never an end in itself. Its only real and final justification is found in the arduous yet blessed pilgrimage that leads toward eternal communion with the God of love.

The moral life, then, is grounded in the unshakable “hope of glory,” which St. Paul describes as “Christ in you” (Col 1:27). It is life assumed as a sacred gift, lived out in the freedom of the Spirit and destined for an eternal sharing in the glory of the exalted Christ: “Where the Spirit of the Lord is, there is freedom. And we all... beholding the face of the Lord, are being changed into his likeness from glory to glory” (2 Cor 3:17-18). From this perspective, the pathway of Christian morality is nothing other and nothing less than the pathway to deification.

The Making of Moral Decisions

To this point we have considered some of the basic elements of Orthodox dogmatic theology that undergird the process of moral decision making. Now we have to turn to the question of how such decisions are actually made. What is the process by which we arrive at moral judgments? How do we make decisions concerning what is good, right, just and fitting behavior in any given concrete situation?

Orthodox patristic teaching approaches the matter of moral decision making by emphasizing the role of conscience and the virtue of diakrîsis (discernment). Conscience is an innate faculty or capacity for making moral judgments. Orthodox moral theologians will distinguish between a “preceding” conscience and a “succeeding” or “judging” conscience. The preceding conscience is either persuasive or dissuasive.12 As persuasive, it leads us to perform certain actions that are judged by the faculty of “discernment” to be “good,” which by definition means in accordance with the will of God. As dissuasive, the preceding conscience leads us to reject or abstain from those actions, behaviors and attitudes perceived by diakrîsis to be evil, wrong, unjust or inappropriate. What we call the “preceding” conscience, therefore, is a faculty that exercises discernment prior to the carrying out of any specific moral act and serves to direct our behavior toward accomplishing or refraining from that act. The “succeeding” conscience, on the other hand, follows upon the act and, also by the exercise of discernment, judges that act to have been good or evil, right or wrong, in conformity with God’s will or opposed to it.

As the God-given faculty by which we make moral judgments, both prior to and following our actions, the conscience is inherently good. When we speak of having a “bad conscience,” we are not passing a value judgment upon the faculty itself. We are speaking rather of what is more appropriately called a “guilty” conscience. By this we mean that the judging conscience has deemed a committed action or pattern of behavior to be basically wrong or evil, and that judgment brings about a sense of pain and anguish perceived as either guilt or shame.

Guilt and shame, we should note, have been popularly distinguished in the following way: I feel guilt when I make a mistake; I feel shame when I am the mistake. Shame, in other words, is an intensified feeling of guilt transferred from the action as committed, to myself and my own sense of personal worth or value. Put another way, we can say that we feel guilt when we have broken specific rules which we accepted as normative guides of appropriate conduct; whereas shame is guilt heightened and internalized to the point that I condemn myself, rather than my action, as being bad or evil.

11 First prayer of thanksgiving after Holy Communion.

12 For a fine discussion of the “preceding conscience” and the process of decision making in general, see Stanley Harakas, Toward Transfigured Life (Minneapolis, MN: Light & Life Publishing, 1983), ch. 9.
In the Christian moral life, guilt plays a very positive role in helping us discern whether or not we have been obedient to God's will as expressed through the divine commandments. Shame, on the other hand, can be both positive and negative. If I commit some action which I know violates the will of God as expressed through the commandments, and I have done this intentionally of my own free will, then shame is an appropriate response: my action reflects upon my character and calls into question my faithfulness as a "child of God." All too often, however, shame can result from an unhealthy transference of my value judgments from the act I have committed to myself as a person. In this case, it is not so much the act that is perceived as wrong, as it is myself that I perceive as evil, wicked and basically worthless in the eyes of God, others and myself.

This distinction is an important one in the realm of pastoral care. Priests who hear confessions often fail to perceive that the penitent is unable to admit and to surrender guilt because it has been transformed into shame. We can repent of our guilty actions and attitudes. A very different kind of healing process is usually required for us to rid ourselves of "false guilt" or shame, particularly when it results from our internalizing and making our own the negative judgments others have made about us.

The conscience, then, is inherently good because it reflects the divine image in which we are created. It may be considered a function of our nature, which itself is good, even though, as "fallen," it is subject to the corrupting influence of sin. The conscience, nevertheless, is either developed or undeveloped, that is, it reflects the divine image with greater or lesser degrees of faithfulness and fullness.

Used in a moral sense, the term "conscience" emerged in Greek philosophy during the first century before Christ. The noun theos is derived from a verb form meaning to have common knowledge or "to know with" someone. This became associated with the idea of bearing witness

with, for or about someone, and particularly the self. In Hebrew thought there is no true equivalent of the Greek concept of conscience. This is because the Hebrew mind was not introspective and did not dwell upon the inner mechanism by which we render judgments, particularly concerning our own behavior. Nevertheless, the psalms and the prophets bear eloquent witness to the heightened sense of guilt and the strong awareness of sin characteristic of the Hebrew people.

The oldest witness in Judaism to the formal concept of "conscience" appears in a work of Hellenistic Greek origin, the Wisdom of Solomon (17:11): "For wickedness is a cowardly thing, condemned by its own testimony; distressed by conscience, it has always exaggerated the difficulties" (RSV). In this context the conscience appears as a moral voice that signals disobedience with regard to the Mosaic Law. Wickedness pronounces its own condemnation by virtue of the conscience. Significant, the conscience functions here both as preceding the act and as judging and condemning it once it is committed. Conscience not only declares enacted wickedness to be "cowardly" and "condemned." It also serves as a bulwark against the performance of further wicked deeds.

This same double emphasis occurs in the New Testament. In his letter to the Romans, St. Paul, speaking about the natural law perceived by the Gentiles, declares: "They show that what the law requires is written on their hearts, while their conscience also bears witness and their conflicting thoughts accuse or perhaps excuse them on that day when, according to my gospel, God judges the secrets of men by Christ Jesus" (Rom 2:15-16). This notoriously difficult passage suggests that the conscience is indeed an innate faculty that permits even the Gentiles to know the "natural" law or the will of God, and that same faculty also passes judgment on those acts and attitudes that contravene the divine law. The Gentiles, like the Jews, bear responsibility for their moral actions because they, too, are guided in their behavior by the innate God-given capacity to discern good from evil, right from wrong. As St. Paul’s anguished reflection in Romans 7 makes clear, however, conscience does not automatically determine our behavior. Even those who are baptized into the Body of Christ, whose lives are filled with the grace and power of the Holy Spirit, experience an on-going conflict between good and evil, right and wrong, between obedience to the will of God and enslavement to one’s own will. Conscience

nonetheless remains as an inner voice of discernment that judges our behavior, and little by little it guides us toward a fuller acquisition of virtues: moral qualities that lead us to reflect in our day to day actions and motives the compassion, love and mercy of God.

A further illustration is provided by chapters 8-10 of 1 Corinthians. Here conscience functions in such a way as to discern between those who are "weak" and those who are "strong" in the matter of eating meat that has been sacrificed to idols. Conscience guides the strong toward edifying behavior that serves to upbuild the Church as community. And it does so both by directing behavior away from scandalous actions and by condemning such actions once they have been performed.

Finally, St. Paul also speaks of an aspect of conscience that confirms his judgment and feelings regarding the destiny of his "kinsmen by race" (Rom 9:1ff). Here he affirms that his conscience witnesses and confirms to him (and to others) that the anguish and sorrow he feels over the rejection of Christ by his fellow Jews is authentic and unfeigned. Particularly significant in this passage is the fact that the apostle's conscience bears its witness in the Holy Spirit, and the truth of that witness is grounded in the person of Christ. As one interpreter has expressed it, conscience is "quickened by the Spirit" and "enlightened by Christ." 14

Moral discourse of the medieval Western Church (St. Thomas Aquinas and others) refers to conscience as that faculty of the mind by which one makes moral judgments. It is the capacity by which one recognizes the duty to perform acts deemed moral or in conformity with the divine will. This capacity is exercised in light of what Aquinas refers to as synedēsis, meaning "the first principles of moral action." Those principles must be inculcated through a process of education. Although conscience is God-given, it can nevertheless err. One can "in good conscience" perform acts that are morally reprehensible, including everything from child abuse through excessive punishment, to the crime of "ethnic cleansing." The conscience, therefore, must be educated, and this education is acquired in large measure through immersing ourselves in the ascetic tradition of the Church: its life of prayer, sacramental and liturgical celebration, Scripture study, and the like. The education of our conscience also depends upon our acquiring wisdom from those who are more advanced than we are in faith, love and knowledge of God. In our day there is a tragic lack of spiritual elders (such as the 19th cent. Russian startsi) whose own lives and experiences have brought them to a height of wisdom that is essential for the perfection of the conscience. For the most part, we have to rely upon the written tradition of the Church: the Scriptures, the liturgy, and hagiography or lives of the saints.

In this respect we have a great deal to learn from the writings of St. Maximus the Confessor, who declares:

Do not treat the conscience with contempt, for it always advises you to do what is best. It sets before you the will of God and the angels; it frees you from the secret defilements of the heart; and when you depart this life, it grants you the gift of intimacy with God.15

St. Maximus depicts conscience as an intimate friend, one who advises us "to do what is best," reveals to us the will of God, and protects and liberates us from the corrupting influence of our own reasonings and our own feelings or "passions." More strikingly still, Maximus depicts the conscience as an advocate, which defends and vindicates us before divine judgment. At the same time, it lays the foundation for our eternal communion with God, insofar as it guides us to become "perfect" as our heavenly Father is perfect.

Elsewhere Maximus speaks of the education of our conscience as accomplished by the acquisition of virtues.

He who has succeeded in attaining the virtues and is enriched with spiritual knowledge sees things clearly in their true nature. Consequently, he both acts and speaks with regard to all things in a manner which is fitting, and he is never deluded. For according to whether we use things rightly or wrongly we become either good or bad.16

This remarkably optimistic assessment of the role of virtues in human life is clearly based on St. Maximus' personal experience. It conforms totally to the fundamental Christian conviction that the conscience is educated and the person becomes "good" precisely by performing good actions. Virtue is acquired through the exercise of virtuous deeds. Al-

16 Ibid, 63, no. 92.
though the conscience is inherently good, and in a sinless world would lead spontaneously and inevitably to righteous acts, in our fallen world conscience—and with it the supreme virtue of discernment—must be acquired through formative experience.

This, however, raises the question as to just how we exercise the discernment that leads to virtuous action. In his discussion on the matter, Fr. Stanley Harakas enumerates several elements that go into the process of making moral decisions. He lays important stress on the resources provided by the Church in the form of Scripture, canons, hierarchical teaching authority, and the liturgy. These provide “laws” or “rules” that serve to reveal God’s will and to shape our responses to that will. The deontological language will appear rigid to many in this present day of acute egocentrism, with its self-serving relativism and relentless quest for instant gratification. Nevertheless, his point is well taken. America is a society devoid of an Orthodox ethos. Patterns of behavior tend to be shaped less by religious conviction than by economic forces. Consumerism and competition, considered vices by biblical and patristic tradition, have been elevated to virtues in modern Western culture. As a result, Christian people often find themselves adrift, unable to distinguish between genuine values that reflect God’s will and those that derive from social custom or convenience (“Don’t we really need a new car?”; “Shouldn’t old Aunt Harriet be taken off the respirator?”; “Isn’t it better for a child to be raised by a same-sex couple than to live in an orphanage?”). Answers to questions like these can only be formulated appropriately if the moral reflection that leads to them is grounded in the mind of the Church, the living Tradition that offers clear and authoritative guidelines for Christian behavior.

Yet as Fr. Harakas notes, “rules” can contradict one another, and traditional guidelines may not be adequate to help us make particular decisions, especially in the critical situations dealt with by the field of bioethics. Other criteria are needed. Therefore he considers as well the consequences of our actions (their good or evil results), together with our intentions, motives, and means. Acknowledging the danger of a “contextual” ethic, he nevertheless gives appropriate consideration to the situation in which particular decisions must be made. We shall have occasion further on to stress how important such a consideration is, when we attempt to translate abstract moral principles into specific responses to critical moments in human experience. This does not mean that we substitute relativism for principle. It means that we recognize that the application of moral absolutes must be made by giving full consideration to the specific context or situation at hand. Placing a teen-aged accident victim on life-support, for example, would presumably be morally required; but the same cannot be said for an anencephalic newborn.

Yet while consideration must be given to the context or situation in which any moral decision is made, this does not mean that we fall into the kind of “situation ethic,” popularized several decades ago by Joseph Fletcher, that still governs a great deal of moral reflection today. In a “situation ethic,” the criteria for moral judgments are supplied by the situation itself. “Moral absolutes” simply do not exist. In its extreme form, this is an ethic of sheer relativism, which makes decisions on the basis of purely subjective criteria such as the “quality” of the life in question. Later on we shall return to the relation between “quality of life” and “sanctity of life” judgments, an issue raised briefly in our introduction. For the moment, it is enough to say that moral absolutes of the kind provided by Holy Tradition can and must be translated and applied in ways appropriate to any given situation. In addition to the elements of Tradition mentioned above, are there any other resources provided to us within Christian life that can help us in making critical decisions, both for ourselves and for others in our care?

We are in fact making ethical judgments and acting upon them at virtually every waking moment of our life. The questions, “Do I raid the refrigerator?” or “Do I report to the police the gunshots I just heard coming from next door?” are both moral questions, albeit of differing urgency. They concern not only my behavior, but the consequences of that behavior for my own spiritual well-being and that of others. In most cases, a moment’s quick reflection—practically an instinctual reflex—leads me to act according to what I feel is best or most appropriate. When conflicts arise between what I want and what I know to be rather in accordance with God’s will, then my “preceding” conscience comes into play. Whether I

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17 Toward Transfigured Life, ch. 9.
18 Apart from the many biblical passages that call for an attitude of stewardship over worldly goods, acknowledging that all is given by God and is to be offered back to God, the homilies of St. John Chrysostom focus repeatedly on the Christian’s responsibility to live with a minimum of material goods and to share any excess with the poor. See esp. the collection St. John Chrysostom On Wealth and Poverty, (New York: St. Vladimir’s Seminary Press, 1984).
opt for the former course or the latter, however, depends on the degree to which I have allowed the moral teachings of the Church to shape my own values and the behavioral responses I make based on those values. Again, this is usually a reasonably clear-cut process. Either I obey the dictates of my conscience, or I do not and lapse, knowingly and intentionally, into sin or disobedience to the divine commandments.

Many of the bioethical issues we are dealing with, however, either admit of no specific resolution that covers all cases, or else they have not been given sufficient consideration by theologians and others in authority within the Church to provide the clear and definitive answers we are looking for. Even the most sincere attempts to analyze an issue in terms of the Church’s rules, the motives and means of our actions, and the potential consequences, often leave us with a feeling of helpless frustration. A decision, perhaps a critical life or death decision, must be made; and we lack the resources to decide in a way that “feels right” or clearly conforms to what we know to be God’s will. Often, in fact, God’s will is not at all clear, and the temptation can be simply to throw up our hands in despair.

Orthodox moral theologians (including Fr. Harakas) would point out that the reasoning process behind this frustration can only lead to a dead-end. Whether the decisions we make involve trivial matters in the course of a day’s activities, or a life-or-death judgment with little or no time to reflect and seek the advice of others, those decisions can be faithful to the divine purpose only insofar as they are essentially ecclesial decisions, made on the basis of a conscience that conforms to the mind of the Church.

This means as well that the critical decisions we may be called upon to make are in fact made within the community of the Church. This is the community of the living and the dead, the “saints” of all ages, who dwell with us in the universal Body of Christ. On the one hand, we turn to them for counsel, through personal dialogue or through the writings they have left behind. (How many of us today have gained fresh and blessed insight from the retrieved notes of persons like Nicholas Motovilov, or Fr. Alexander Eltchaninov, or St. Silouan of Mount Athos?) On the other hand, we ask for the prayer of the saints, their intercession on our behalf, that we might be guided appropriately in our ethical reflection. We ask that we might be led, by the inspirational grace and power of the Holy Spirit, to actions that in fact do correspond to the will of God for ourselves and for all others involved.

This is to say that we never make ethical decisions alone. Our moral judgments, and the actions consequent upon them, are always made within the living Body of the Church. Through our baptism we are incorporated into one another, we become “members one of another” (Rom 12:5). The decisions I make affect and influence the Body as a whole. Just as my own sinfulness impacts upon the entire Church community, as it does on my family and circle of friends, so my ethical decisions and their consequences involve and affect, for good or for ill, the entire “community of saints.” The positive aspect, indeed the marvelous promise of that truth, is that I can depend upon the Body as a whole to assist and guide me in critical decisions, through their love, concern, personal involvement (where appropriate), and above all, through their prayer.

Practically speaking, this means that all of us, whether clergy or laity, need to build up personal “support systems” of professional experts and close friends, who can provide us with counsel and advice as we make critical decisions. It means as well that we as the Church need to recognize and accept our responsibility toward one another, to provide the support, guidance and intercession that is required. When death threatens, or severe chronic illness plunges one of us into depression and hopelessness, or a couple in the parish is moving toward divorce, all too often we tend to ignore the problem, merely out of embarrassment or fear. We “don’t want to get involved.” It is the same self-protective attitude, translated into the parish setting, that makes us recoil on the streets of Manhattan when we see someone lying in a doorway or in the gutter. We simply don’t want to get involved... Little wonder, then, that Orthodox moral theologians have felt themselves obliged to develop an ethic founded on the imperative of self-giving and self-sacrificing love.

In the final analysis there is only one reason why Christian people accept the narrow way of the moral life. If we choose self-giving love over hedonism, God over Mammon, it is because we are fundamentally convinced—on the basis of our own experience as well as the witness of others—that God himself is love: that he is indeed the Author and End of our life, who alone endows it with meaning, purpose and value. As such, he is intimately involved in every crisis we encounter and every choice we make. Such crises and choices are part of our daily fare. They cannot be avoided, since to refuse to decide, and therefore to act, is a moral commit-
ment in itself. When it happens, as it often does, that we cannot discern God’s will in a given situation, then we need to remember that Satan—the Tempter—works most effectively through our confusion, frustration and despair. When we find ourselves obliged to make a decision that has serious consequences, yet the elements needed to discern God’s will and purpose seem to be lacking, then we need to step back and remind ourselves of what is really going on. We need to recover the intuition of the Church’s great ascetics, that such critical moments in our life are battlegrounds, arenas of the Spirit, in which the most important decision we can make is to surrender into the merciful hands of God both ourselves and the other persons involved.

All this suggests a paradoxical yet inescapable conclusion: whether we can know with certainty that any given moral decision conforms to God’s will and represents the “right choice” ultimately does not matter. What does matter is that in our often agonizing moral deliberations (concerning, for example, the proper care for a terminally ill parent or an appropriate response to an addict’s destructive behavior) we reject the prideful temptation to seize control ourselves, and instead “commend ourselves and each other, and all our life to Christ our God.” This does not mean that we renounce our freedom or abdicate our responsibility. It means that we render to God what is God’s, namely the whole of our life, which includes our motives and desires together with our choices and actions. And we do so with the unshakable conviction that in any situation where disinterested love governs our behavior, God can bring out of our errors and poor judgments whatever is needed to fulfill his purpose. The faith of the Church is that God’s will governs all things. The essence of the Christian moral life, therefore, consists in surrendering our own will to the will of God, with the fervent prayer that his will be done.

This total act of surrender is needed whether or not we feel confident that we share “the mind of Christ” and can conform our decisions and actions to it. It requires a profound act of faith and a large measure of humility to admit our own limits in making moral choices and to deliver over the decision-making process into the proper hands. It also requires both humility and trust to turn to others and beg them to accompany us in that process with their love and intercession. But this is precisely what is asked of us as members of a Body and members one of another. The first and last decision we need to make, then, is the decision to submit our moral deliberations to him who is the Head of that Body, with the single-minded concern that whatever action we may take in any specific situation will be to his glory and for the salvation of those he has entrusted to our care.

In the following chapters we turn our attention to specific ethical issues, many of which have arisen in the wake of recent developments in the area of biomedical technology. In order to provide a foundation for reflection on the morality of newly developed reproductive procedures, together with the matter of abortion, we begin with a consideration of the nature and meaning of human sexuality. Our concern is to offer a perspective on sexuality that is faithful both to Scripture and to patristic tradition, stressing in particular an aspect that is not only neglected but overtly rejected by prevailing attitudes: namely, that sexual activity has as its only good and appropriate context a consecrated marital union.

This will lead us to an evaluation of the recent debate on “the beginning of human life.” Our conclusions concerning this question will significantly shape our attitude toward procedures such as abortion, in vitro fertilization, and genetic engineering involving human gametes. The question of the beginning of human life, however, concerns as well the ultimate meaning of personal existence, suffering and death. Consequently, the way we answer the question, “when does human life begin?,” will also condition our attitude toward end-of-life issues such as pain management, advance directives and, in general, the care and treatment of patients who are terminally ill.
If there is ambivalence on the part of many Christians toward abortion, it is usually because of what are referred to as the “hard cases.” These are instances where the circumstances of a particular case seem to call for Kierkegaard’s “teleological suspension of the ethical,” referred to in Orthodox terms as oikonomia or “economy.” Certain situations, it is argued, not only justify abortion but make it ethically mandatory. The usual examples cited are 1) conditions such as ectopic pregnancy, eclampsia, or uterine cancer that directly threaten the life of the mother; 2) severe psychological stress experienced by the mother during the pregnancy that threatens her well-being; 3) pregnancy that results from rape or incest; and 4) a diagnosis, provided by amniocentesis or chorionic villus sampling (CVS),²³ that the child is genetically “defective” and will be born with serious physical or mental handicaps. In such cases, the reasoning goes, it is morally acceptable to terminate the pregnancy in the interests of a higher good. The moral injunction against killing the fetus (i.e., the ethical principle) is “suspended” in favor of the mother’s (“teleological”) right to life and personal well-being, which would otherwise be jeopardized if the abortion were not performed. Once again, the mother’s legally sanctioned “right” to life, liberty and the pursuit of happiness takes precedence over the child’s “right” to life at all.

Valerie Protopapas, a leading figure in the “Orthodox Christians for Life” movement, has written forcefully and eloquently against this appeal to “hard cases.”²⁴ Her stance has been criticized as overly rigid, representing simply the opposite extreme to the pro-choice position: absolute protection of the woman’s rights is replaced by absolute protection accorded to the fetus. Nevertheless, the conclusions she draws—which are well worth studying in parish and other circles—are thoroughly consistent with the Orthodox view of the innate sacredness of human life.²⁵

In discussing this issue, it is important to keep in mind the old law school maxim: “hard cases make bad law.” This is as true in the area of ethics as it is in jurisprudence. Particularly in the abortion debate, pro-choice advocates have used the exceptional to establish the general: public policy that sanctions late-term abortions has been shaped in large measure by appeals made to the relatively few “hard cases” that seize the public imagination.

Reviewing such cases in light of the “best interests” of the woman’s health, David Reardon draws the following conclusion: “these cases are the worst conditions under which to have an abortion... The more difficult the circumstances prompting abortion, the more likely it is that the woman will suffer severe post-abortion sequelae.”²⁶ That is, the likelihood that the mother will experience some degree of trauma increases significantly when an abortion is performed to terminate a pregnancy that threatens her life or mental stability, or to eliminate a genetically defective child.

We need to make an important distinction, however, among these various situations. The first instance, in which the woman’s life is seriously endangered, represents a special case insofar as the woman has no real choice in the matter. (It should be noted as well that these cases, which are the only ones that can be considered truly “therapeutic,” account statistically for fewer than one percent of the nearly 1.4 million abortions performed in the United States each year.) In cases of ectopic pregnancy, life-threatening eclampsia or uterine cancer, the only choice is to work to save the woman’s life or else lose both her and the child she is carrying. Even in those exceptional cases where a late-term child might be saved if the woman’s life is sacrificed, Orthodox tradition has held that priority should go to preserving the mother. This is not because her life has more intrinsic worth than that of her child, but because she has already established relationships and responsibilities with others who de-

²³ Chorionic villus sampling or “chorion biopsy” can be performed during the eighth week of pregnancy, whereas amniocentesis is usually unreliable before the fifteenth week. Marc Lappe, “The New Technologies of Genetic Screening,” The Hastings Center Report 14/5 (1984), 18-21, notes that there is an increased risk of spontaneous abortion with CVS. For articles detailing the procedure and its usefulness for detecting in utero a variety of chromosome abnormalities, see the journal Prenatal Diagnosis, published by the UCSD Medical Center, San Diego.

²⁴ Abortion, Oikonomia, and the ‘Hard Cases,’ The Christian Activist, vol. 5 (1995); see also her article “Common Pro-Abortion Clichés and the Pro-Life Response,” reprinted in the Orthodox Church in America Resource Handbook (vol. 2/2, 1991) but originally circulated as a handout by “Orthodox Christians for Life” (available at P.O. Box 805, Melville, NY 11747; tel.: 516-271-4408).

²⁵ Another useful resource for parish study groups is the “Orthodox Christian Study Guide on Abortion,” prepared by Fr. Ed Pehanich, published in Rachel’s Children (“Journal of Orthodox Christians for Life”), edited by John and Valerie Protopapas, P.O. Box 805, Melville, NY 11747), vol. 10, no. 3 (1997).

²⁶ Reardon, Aborted Women., 163, emphasis his.
pend upon her. The same, of course, is not true with the unborn child.27 The choice to preserve the woman’s life is justified on grounds of the principle of “double effect.” The direct intention is not to kill the child, nor even to terminate the pregnancy. It is to save the life of the mother. The fact that the therapeutic procedure ends the life of the growing child is a tragic and regrettable, albeit necessary and inevitable consequence.

As we point out in the appendix on “Orthodoxy and Abortion,” however, a mother who willingly offers her own life in favor of the child growing within her exercises an authentic martyrdom out of love for another (cf. John 15:13). Nevertheless, that sacrifice can only be properly made by taking into consideration the needs and desires of other members of her family. Their dependence on her and the strength of their relationship with her is as great as that of her unborn child. In the great majority of cases, then, the tragic choice imposed upon her will lead her to preserve her own life rather than abandon those who relate to her in terms of emotion, memory, shared responsibility, and love.

With regard to the other three cases—rape, incest and genetic anomalies—the pregnant woman does have a choice. And except where mental instability caused by sexual violence tempts her to commit suicide, her life is not in jeopardy. Severe psychological stress accompanying a pregnancy can arise for various reasons: potential economic burden, the fear of “too many children,” or pressure from the spouse. It can also be due to simple vanity: not wanting to bear the burden of a pregnancy because it might jeopardize the woman’s career or mar her physical appearance. None of these reasons justifies taking the life of the child. Even there where the woman (often a teen-aged girl) is ostracized and rejected by her family, her psychological distress does not warrant destroying the life that is growing within her. In fact it has been amply demonstrated that aborting a child un-der such conditions tends to increase rather than decrease the woman’s urge to commit suicide.28 Aborting the child tends to compound the guilt incurred by the pregnancy rather than alleviate it. And the bottom line remains the point that a moral solution to a regrettable situation (the unwanted pregnancy) cannot involve the taking of an innocent human life.

All of this, to be sure, is predicated on the conclusion we drew in the last chapter. The entity growing in the womb is not simply a bit of invasive tissue which the pregnant woman can dispose of as she sees fit. It is a living individual, a human being, a person—not merely “en devenir” or in the process of becoming such, but in its own right—because of its genetic uniqueness, but especially because, as Scripture makes abundantly clear, God considers it to be a unique personal being, a child of God and the object of God’s infinite love.

Personhood, once again, is determined and bestowed by God alone. That personhood may be considered the “being in communion,” with God and others, that is constituted by “the divine image” in which every human being is created. As such, it is characterized by a transcendent aspect that remains indelible, however much the person may succumb to the powers of sin and corruption. No human action or authority can deprive the child of that personal quality, however inconvenient that child may be to the mother or however “defective” he or she may be relative to social and medical standards of what is normal. As we shall note further on, the unborn child in this respect is like the patient who is irreversibly locked into a deep coma or persistent vegetative state. If Orthodox Christianity rejects the option of abortion (with the single exception noted above), it is for the same reason that it rejects euthanasia and the removal of vital organs from such persons: they remain in the fullest sense persons in the sight of God.29

27 Priority given to the life of the mother is something of a universal principle. Speaking to the issue from a Muslim perspective, Osman Bakar states: “As to why the saving of the mother’s life is to be given priority over that of the child, an Islamic jurist explains: ‘For the mother is the origin of the fetus; moreover she is established in life with duties and responsibilities, and she is also a pillar of the family. It would not be possible to sacrifice her life for the life of a fetus which has not acquired a personality and which has no responsibilities or obligations to fulfill.’” “Islam and Bioethics,” in Orthodox Christians and Muslims (Brookline, MA: Holy Cross Orthodox Press, 1986), 163. A number of Bakar’s proposals reflect elements of Islamic teaching that are strikingly similar to Orthodox themes, especially those found in the writings of St. Maximus the Confessor.

28 See, for example, Reardon, Aborted Women, 167.

29 Writing about the reasons for Orthodox Christian opposition to abortion, Fr. John Garvey remarks: “Every life is valued by God. This includes the life of the unborn child, as well as the criminal, the enemy, the political oppressor, and the most annoying person we know. Although we fail in the task every day, we are called on, by our baptism into the death and resurrection of Christ, to reflect God’s love for everyone who lives. Our model of love is not a sentimental pastel-colored greeting card, but Christ crucified. There are situations in which birth-giving is at least profoundly inconvenient, and others in which it may be absolutely terrifying. We should see something infinitely more terrifying, however, in a heart that is willing to kill life at its start, at its most vulnerable moment of being.” “Orthodox Christians and Abortion,” in the
What are the implications of this position for the twin issues of rape and incest? With regard to rape, we should recall in the first place that, mercifully, very few women who are subject to this vicious kind of violence become pregnant. Impediments to pregnancy may include the woman’s infertility at the time of the attack (contraceptives, time of the menstrual cycle), lack of penetration, or sexual dysfunction on the part of the man. In any event, a woman who has been sexually attacked should immediately take precautions to avoid becoming pregnant. If she presents herself to a hospital emergency room within twenty-four hours of the attack, certain protocols (flushing the reproductive tract, hormonal treatment, etc.) can virtually guarantee that fertilization will not occur. It is true, however, that many of the most common post-rape protocols involve use of abortifacient drugs such as Ovral. Although touted as a contraceptive, Ovral’s primary effect is to “render the endometrium hostile to a possible fertilized egg,” that is, to provoke a miscarriage. Therefore it is important that treatment be initiated at the earliest possible moment after the rape has occurred, to ensure, as far as possible, that an embryo is not formed.

The greatest obstacle to overcome in such cases is usually the shame or guilt experienced by the rape victim. After the incident she often feels dirty, exposed and vulnerable. The social stigma associated with rape is largely due to the unspoken feeling of many people that the woman is at least partly responsible: it is assumed—in total contradiction to the evidence—that she, consciously or unconsciously, provoked the attack. If the victim herself shared such feelings about rape before she was attacked, it will be especially difficult for her to take the steps necessary to obtain appropriate medical treatment.

This is a difficult and sensitive aspect of rape cases that needs to be given full consideration by those who attempt to help the victim, including family members and the clergy. It implies that rape is not a private matter, but rather involves the human community as a whole: family, church and the larger society. Accordingly, it is important that parents speak with their daughters at an early age, to explain various precautions to take to avoid such violence, and what to do in the event the violence occurs. More importantly, both families and the parish need to provide assurance that any woman who is so victimized will be materially, physically and emotionally supported and cared for in every way possible, to ensure her well-being and the well-being of the child she may be carrying.

The best way to help a woman through the trauma of rape, especially when it has resulted in pregnancy, is to surround her with unfailing love, understanding and concern. This includes accompanying her throughout the nine months and beyond, to provide appropriate care both for her and for her child. In cases where the woman feels she cannot keep the child, then that accompaniment will include supporting and aiding her through the birth as well as through the entire adoption process. As for pastoral care, it will include frequent visitations, arranging for material and other means of support, and referrals to those who can provide professional services where they are needed, in the areas of social work, medical follow-up, and where appropriate, psychological counseling. But here especially, the pastor’s primary responsibility will be to serve as a living witness to the Gospel of Love, and to work in every appropriate way toward creating conditions for her healing, within her family, among her friends, and within the fellowship of the Church.

A frequent form of sexual violence that receives little publicity is marital rape. Studies have shown that among sample groups more than ten percent of the married women surveyed had at one time or another, and on occasion repeatedly, been raped by their husbands. Most of them had been subjected to physical abuse as well. Until the late 1970s marital rape in the United States was not viewed as a crime. The courts simply accepted the husband’s claim that he held “conjugal rights” over his wife. As one acquitted rapist put it: “You’re my wife, you do what I

Orthodox Church in America’s Resource Handbook (vol. 2/2, 1991). What distinguishes the Orthodox position from the prevailing attitude in contemporary society is precisely the conviction that “every life is valued by God,” however inconvenient, intrusive, burdensome or worthless it may appear to human eyes.


31 The Orthodox Church in America has established the Orthodox Christian Adoption Referral Service, presently under the direction of Mrs. Arlene Kallaur. Inquiries regarding any aspect of adoption may be addressed directly to her at the OCA Chancery (516-922-0550) or by e-mail (aran@oca.org). The O.C.A.R.S. was created primarily to serve Orthodox women who have unwanted pregnancies. To date, only a very few women in these circumstances have availed themselves of it, and the organization has been primarily concerned to facilitate the adoption of children from Russia and other East European countries. The Lavra Mambre, an Orthodox monastery in Guatemala, is also offering children for adoption.
Once abused women began to speak out publicly, political pressure from various quarters led most states to adopt statutes against marital rape. This kind of violence is especially difficult to detect, since it involves the most intimate aspect of a marriage relationship. But because sexual coercion is so frequent and potentially so devastating, it is important that the priest be attuned to cries of distress or cries for help, coming either from the husband or the wife. The sin of marital rape results from a pathology, but the violence it produces needs to be stopped before any real healing can occur. If the priest or other concerned person finds it impossible to deal adequately with the situation (very few of our clergy have been trained to handle domestic violence of any kind), they can always contact a rape victim hot line or other crisis intervention center in their neighborhood. Phone numbers can be found in the Yellow Pages.

Although some Orthodox Christians, including bishops, hold that “the Church should keep out of the bedroom,” this attitude merely encourages violence and abuse where a sexual pathology exists. If a priest became aware of a situation of marital rape or some related form of sexual misconduct within a family setting, and then refused to intervene appropriately, he would betray his vocation as a pastor to Christ's flock—and open himself and the diocese to the very real possibility of a lawsuit.

The situation known as date rape represents a special case. If the woman has been drinking or engaging in sexual play, she bears at least some responsibility for creating the conditions that might lead to what she would consider unwanted intercourse. That, to be sure, in no way excuses the actions of the man who forces himself on her. It simply means that every woman needs to keep in mind the fact that certain conditions and actions will render her especially vulnerable to sexual pressure. The only dependable means to avoid the slippery slope that leads to unwanted sex is for both the man and the woman to accept the discipline of chastity. Date rape, of course, could be avoided altogether if the woman only dated men who shared her conviction that genital sexuality is not an option outside the context of marriage. On the other hand, the woman who has sex with one or more partners, yet decides with her present date that she does not want that degree of intimacy with him, is living in a state of moral ambiguity that can easily provoke abuse. It may sound crude to express it this way, but many men, married as well as single, are sexual predators. Their antennae are fine-tuned to pick up the message that the woman they are dating or are “in a relationship with” is sexually promiscuous. If she rebuffs their advances, their puzzlement and frustration can easily lead to pressure and even violence. In a word, virginity is its own best defense.

Closely associated with rape is the tragedy of incest. Statistically, the majority of pregnancies that occur as a result of intercourse between closely related persons are not technically cases of incest, since they result from a girl being impregnated by her step-father. In these cases there is no blood relationship, and the risk of genetic complications is no greater than with pregnancies within marriage. Nevertheless, the emotional impact is every bit as destructive as in instances of true incest. These latter cases (between father and daughter, for example, or brother and sister) can be devastating to the young victim. If all but a very few primitive societies have considered incest taboo, it is as much because of the damage it does to the child and to family relationships as because of the increased possibility of genetic defects. In any case, the guilt and shame that surround incest are at least as strong as in instances of rape.

Complicating the issue of pregnancy due to incest is the fact that incestuous relationships tend to go on for long periods of time before the young woman conceives. Once she finds herself pregnant, her reaction is often one of ambivalence toward the new life growing within her. A surprisingly large number of pregnant incest victims want to keep their babies, rather than abort them or put them up for adoption. The psychological reasons for rejecting the option of abortion are complex, usually having to do with her conscious or unconscious desire to stop the abuse. The perpetrator almost always imposes a strict rule of silence on their relationship (“Let’s not say anything to Mommy,” “This is something special that only you and I can share,” “You breathe a word of this, and I’ll kill you.”). Although the media have made much of recent cases where teen-aged mothers have aborted babies which neither their families nor their friends knew they were carrying, an incest victim will often use the physical evidence of the pregnancy as a way of exposing the abuse she was afraid to talk about.

A major question remains to be addressed: Is it morally permissible to perform an abortion on a woman whose pregnancy results from incest? To reply in the negative seems unduly cruel and unjust. As in cases of rape, we want to ask: How can we expect a woman—especially an adolescent—to carry to term the product of sexual violence that will be a daily reminder of her victimization? This nevertheless raises a loaded question, one that obscures the real moral concern which is the existence of the new being—the new person—who is growing in the woman’s womb. Once again, we can only reply that no solution can be considered moral and acceptable if it destroys human life, whatever its stage of growth. Yet this does not diminish the fact that a thirteen-year-old girl who becomes pregnant by her father lives a tragedy that requires extraordinary strength and personal courage—not only on her part, but on the part of all those who feel themselves called to minister to her and to the child she has conceived.

There are two points that need to be made in this regard. First, it has been amply demonstrated that abortion is detrimental rather than helpful to the woman who is an incest victim. To quote Reardon’s insightful observation, “just as with rape, there is no psychiatric evidence, nor even any theory which argues that abortion of an incestuous pregnancy is therapeutic for the victim—it is only more convenient for everyone else.”

The second and more important point concerns the lives involved. To abort the “evidence” of the incest would mean capitulating to the devastating “rule of silence” imposed by the perpetrator. The incestuous family requires healing. In order for that to occur, the act must be made known in appropriate circles: within the family, to the priest or pastor, to the family physician, and perhaps to a select number of close family friends who can aid in the healing process—and, if the perpetrator refuses to stop and to seek help, to the police or other civil authorities. The perpetrator must acknowledge that he is caught up in what is likely to be a severe form of sexual addiction, and agree to enter into regular therapy with an appropriately trained person, in order to be freed from this most destructive of passions. Then the same kind of intensive support and accompaniment as in cases of rape must be provided to the incest victim, to free her from the burden of shame and guilt, to enable her to carry the child to term and to care for it appropriately (by keeping it or putting it up for adoption), and to surround her with tenderness, understanding and unqualified love. It is only in this way—and not by aborting her child—that real healing can occur.

Finally, there is the difficult matter of fetal life afflicted with serious genetic defects. Ordinarily such defects will provoke a spontaneous abortion—and women who carry mentally or physically handicapped children to term are often plagued by the question, “Why did my child slip through the net?” Sonograms, amniocentesis and CVS can reveal illnesses such as spina bifida, Down’s Syndrome (Trisomy 21), cystic fibrosis, Tay Sachs disease, or the terrible and incurable Lesch-Nyhan syndrome, in which the victim suffers uncontrollable urges toward self-mutilation. While it would be unconscionable to destroy by abortion or infanticide a Down’s Syndrome child, and while spina bifida can often be at least partially corrected by surgery so that those afflicted with it can lead fruitful and creative lives, the decision to give birth to a child afflicted with a totally debilitating and painful disease (such as Lesch-Nyhan syndrome) is impossible to make without a crushing sense of moral ambivalence. Although the parents might be able to accept the stress and financial burden of intensive care provided for their child, what in fact serves the child’s best interests? Is it preferable for the child to be born into the world, to suffer a very brief yet painful existence until death mercifully takes him after a few days or at most a few months, or to be spared that experience (during which he can have no sense of relationship,

33 Reardon, Aborted Women, 199.
A great many medical professionals, including medical ethicists, would argue that anencephaly the condition itself does not reduce his or her humanity, or quality of personal being. Granted, there is no capacity for actualizing that quality by creating and sustaining human relationships. Nor is there a point at which the principle of the sanctity of life should yield to the compassionate concern to spare an infant the pain and futility associated with certain terminal diseases? That is, can an abortion ever affirm the sanctity of life position insofar as it provides a “compassionate” alternative to bringing into the world a child whose life will be painful, futile and short?

The same questions can be raised in the case of an anencephalic child, only here, presumably, the child is spared the anguish of intractable pain because major portions of the brain, including the “pain tracks,” are not developed. Anencephaly is a condition caused by incomplete development of the neural tube. It is characterized by an absence of the cerebral hemispheres, together with insufficient development of the hypothalamus and other features of the upper brain. While the brain stem may be functioning—thus insuring heart beat, blood pressure, body temperature and related autonomic responses—the condition is inevitably fatal: infants are either stillborn or die within a few days of birth. The ethical issues surrounding anencephaly, like those raised by genetic defects generally, include the option to abort, postnatal care of the child, and tissue/organ donation.

As with any genetically defective child, we can only affirm that in cases of anencephaly the condition itself does not reduce his or her humanity, or quality of personal being. Granted, there is no capacity for actualizing that quality by creating and sustaining human relationships. Nor is there any possibility that the child—in this life—can enjoy any sense of communion with God. Yet that child, in some indefinable yet real sense, remains a “person” because it is created in the divine image and, however defectionally, bears witness to that image by the sheer fact of its existence. We might ask if God can love a child who has no possibility of knowing or returning that love. The answer is offered by the loving gestures and words of virtually any mother who has just given birth to such a child and takes it in her arms. However deep her grief, this is still her child and the object of her maternal compassion. Can it be otherwise with God?

Accordingly, there can be no more question of organ donation with anencephalics than with any other person who is still alive. Although some transplant specialists will find this reasoning unconvincing, the inherent sacredness of human life means that it is fundamentally immoral to remove vital organs from a living human being, including anencephalics. For organs to be viable, of course, they need to be living rather than dead. Hence medical teams and potential donors (or their surrogates) are often under pressure to declare and accept that death has occurred, even when the patient is manifestly alive. This is particularly true with anencephalics because of the peculiar nature of the case and the presumption that they experience no pain. The only reason to reject such infants as live organ donors is a spiritual one. Yet the final answer to all of these ethical questions must be spiritual—that is, theological—rather than medical, social or economic. In the sight of God, the anencephalic child remains a person of infinite dignity and worth, and that child must not be reduced to a reservoir of spare parts.

This is not to say, of course, that measures should not be taken to limit the risks of bearing a child afflicted with anencephaly, spina bifida or some other genetic anomaly. In 1995, the Centers for Disease Control (CDC) began pressing for full implementation of the 1992 Public Health Service recommendation that all women who might become pregnant consume 0.4 milligrams of folic acid daily to reduce the risks of neural tube defects. Several months later the Morbidity and Mortality Weekly Report included an article on folic acid that began: “Each year in the

37 A great many medical professionals, including medical ethicists, would argue that anencephalic infants may be morally aborted because they lack the “necessary condition for human personhood.” R. C. Cefalo states this position quite clearly: “With anencephaly a potential for cognitive function never exists. Therefore, it may be morally permissible to terminate the pregnancy if the fetus is afflicted with a condition that is incompatible with postnatal survival for more than a few weeks, and if it is characterized by the total or virtual absence of cognitive functions... Those who advise or chose [sic] to terminate pregnancy in which anencephaly has been clearly established cannot be said to be acting in a way that is morally wrong. Furthermore, the use of anencephalics after delivery, as a source of organs and tissues for transplantation is not a violation of personal dignity” (“Edges of Life: the Consequences of Prenatal Assessment, Diagnosis, and Treatment,” in K. Wm. Wilkes, S.J. et al. (eds.), Birth, Suffering, and Death: Catholic Perspectives at the Edges of Life, (Dordrecht/Boston/London: Kluwer Academic Publishers, 1992), 23, with ref. to Cefalo, R. C., and Engelhardt, H. T. Jr., “The Use of Fetal and Anencephalic Tissue for Transplantation,” The Journal of Medicine and Philosophy 14 (1989), 25-29. Further relevant bibliography in H. T. Engelhardt, The Foundations of Bioethics (2nd ed., NY: Oxford, 1996), 279, n. 24.

38 Vol. 44/38 (29 September, 1995), 716f. The MMWR is a weekly publication of the Massachusetts Medical Society “under the terms of a non-exclusive agreement with the Centers for Disease Control and Prevention.”
United States approximately 2500 infants are born with spina bifida and anencephaly, and an estimated 1500 fetuses affected by these birth defects are aborted. Recent studies indicate that the B vitamin folic acid can reduce the risk for spina bifida and anencephaly by at least 50% when consumed daily before conception and during early pregnancy. Subsequent research has confirmed these findings. A massive education program is needed, in churches as well as in schools and the media, to convey the message to as many prospective mothers as possible.

In chapter 5 we discuss the matter of care for those who are in the final stage of life. For the present, we can simply affirm that anencephalic infants should be treated like any other terminally ill patient. Since the level of their sensory capacity cannot be precisely determined, they should be provided with warmth, comfort and other appropriate care, then be allowed peacefully to die.

Given the complexity of these issues, some would urge Orthodox couples to refuse any and all prenatal diagnostic tests, since they only lead to the temptation to abort the fetus if it is found to be genetically defective. Unfortunately, this is not an adequate solution. Hospitals will soon be making such tests on a routine basis, without parental authorization. Then again, as advances are made in the field of genetic therapy, no couple would want to risk ignorance when specific knowledge of a given disease, obtained through genetic screening, might lead to a cure. The problem is that diagnosis so often outpaces the development of an effective remedy. While such illnesses are detectable in the womb, genetic surgery and related therapies are still in their infancy. This inevitably raises the question for the mother or the couple the agonizing question whether or not to opt for abortion, especially when they are aware that many such illnesses would have been resolved by miscarriage. (We should recall that the rate of "wastage"—spontaneous abortions of embryos prior to implantation—may be as much as seventy percent.)

The real danger with genetic screening is once again the slippery slope. Many critics have referred to it as a "search and destroy mission," aimed at eliminating inconvenient and burdensome lives. The relentless quest for individual "happiness" and personal convenience endemic to American culture long ago pressured the noble art of medicine to devote much of its talent to cosmetic surgery and the dispensing of a drug-induced "peace of mind." In such an environment, screening with the aim of aborting fetuses bearing serious genetic defects quickly degenerated into screening to eliminate children with lesser defects, such as dwarfism or even the "wrong" sex. Is there any reason to expect that more widespread use of amniocentesis, CVS and similar tests—despite the very real dangers they pose to the health of both mother and child—will be governed by moral principles that will keep genetic screening from becoming the chief weapon of the "new eugenics"? The key question that needs to be asked is the one posed by George Will and others: "Do we really want a world in which there are no Down's Syndrome children?" Or a world in which every black man is seven feet tall and all white men can jump? Have we become so blind—so hung up on physical accomplishment in a sports-saturated, competitive culture—that we cannot see the beauty and personal value that radiates from "handicapped" persons who have struggled courageously with their condition and, in moral if not physical terms, have emerged victorious? Are we at the point where our only reaction to these living icons is to abort them? Increasingly, distressingly, it seems so.

This atmosphere imposes a special burden on Orthodox clergy who attempt to preach about the intrinsic sacredness of human life and the dead-end solution to an unwanted pregnancy which is abortion. The experience of Orthodox pastors is that all too often our lay people make a decision to abort before they consult with the priest, since they assume that he will counsel against abortion on principle, regardless of the circumstances of their particular case. As our priests so often put it, "It's easier to obtain forgiveness than permission."

This said, however, it is important to stress the point that authentic Christianity means personal freedom—freedom in the Spirit—that places the responsibility for any decision to terminate a pregnancy primarily upon the mother. As much as the child she carries, she is a person in her own right, and must work out her salvation and bear her burdens before God in total dependence on his grace and forgiving mercy. This is why pastors, ethicists and others in the Church can counsel but not command, urge but not impose. Those of us who are males can hardly imagine the loneliness and anguish many women go through who arrive at the tragic decision to abort. Each one, after all, is a mother from her child's conception, not just from its birth. As the title to Reardon's book implies, that death-dealing decision makes of
For a moving account aimed at "understanding the needs of women in unplanned pregnancies," see Frederica Mathewes-Green, *Real Choices: Offering Practical, Life-Affirming Alternatives to Abortion*, (Sisters, OR: Multnomah Books, 1994).

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While we may inveigh with irony and even anger against the masses of "convenience" abortions that occur each year, the "hard cases" remain precisely that: hard, difficult, gut-wrenching and heart-breaking moments in a woman's life that she never wanted and never sought out, whatever the circumstances surrounding the pregnancy. Rather than glib criticism or outright condemnation, she needs—and deserves—our understanding, our love and our effective support.

A fine statement affirming that need appeared in the November 1990 *Greek Orthodox Observer*. In an article entitled "A Pastoral Approach to Abortion," Rev. Dr. Athanasios Demos offered some thoughts on pastoral care toward "aborted women" that bear repeating.

In the cases where abortions have actually occurred, I have found that circumstances and situations: being unmarried, away from home and afraid to turn to anyone, being frightened with the idea of rejection by one's friends and family, being threatened or frightened by a spouse, or psychologically unable to cope with this new and added responsibility, plus a myriad of other reasons, contributed to the decision to abort the fetus.

... [The real] issue is to allow women to know that the Church is always there to help them in their time of need, to comfort them, guide them, and help them through any crisis. Our Church condemns the sin but not the sinner. Our Church is the Church par excellence of God’s holy forgiveness.

So why not focus on providing programs in our parishes to educate everyone about the sanctity of life...to provide the means by which a woman can come for help without fear of judgment or condemnation?

We can find good homes for these yet unborn children. We can offer counseling and guidance, comfort and understanding, to those women who think in desperation that they can find only one way to turn. Incidentally...we cannot forget the responsibility of the man. He is just as responsible as the woman. His compassion and understanding are crucial in offering support to her in her hour of need.

So let's not focus on the tragedy of what has happened, rather let us focus on how we can prevent abortions... Our focus should be on education and support which hopefully will lead to prevention. And if an abortion does take place, then to focus on compassion and comfort which lead to forgiveness.

In a culture as morally confused and hedonistic as ours, Orthodox Christians must continue to speak and act—peacefully but firmly—against the legalized destruction of unborn lives. To those who argue that “we cannot legislate morality,” we need to point out that *every* law, to some degree or other, in effect legislates morality since it serves to shape human conduct. Our silence and inactivity will be taken as nothing other than tacit approval of immoral laws and practices that flaunt common decency and threaten social stability.

On the other hand, our refusal to distinguish between the sin and the sinner violates a basic principle of Jesus' own teaching and behavior. It is important to recall that the woman caught in adultery (John 8) would have been stoned to death if Jesus had not intervened. But he not only preserved her from a death sentence mandated by the Mosaic Law (Lev 20:10; Dt 22:22). Speaking in the name of the God of Moses, he also assured her that he himself did not condemn her. Once she had heard that assurance, she was prepared to hear the command, “Go, and do not sin again.” Judgment and condemnation can no more undo an abortion than they can an act of adultery. What is needed is healing, based on deep and lasting repentance. Genuine healing will occur, however, only where the person—in this case, the woman who has made the tragic and usually desperate decision to abort her child—is welcomed by the Church with forgiveness, love, respect, and unfailing pastoral concern.

**Assisted Reproductive Technologies**

There is no little irony in the fact that while millions of fetuses are aborted each year throughout the world, millions of dollars are being spent to de-
With its scriptural and patristic moral perspective, Orthodoxy has a unique witness to offer in this necessarily ecumenical endeavor. For too long we have avoided making that witness by pretending to give priority to "spirituality" or by condemning such involvement as "activism." The Church, however, is called to speak: to proclaim the will and the purpose of God as he seeks to lead the creation into his Kingdom. The question is, do we have the courage and the conviction to make that voice heard?
Our purpose in this chapter is to address the issue of appropriate care for those who are facing imminent death. This includes both terminally ill adult patients and handicapped newborn infants, so-called “defective neonates.” To determine what kinds and levels of care are morally appropriate in such cases, we need to look first of all at the Orthodox Christian approach to sickness and death, and to the relation between “sanctity/sacredness of life” and “quality of life” approaches that influence end-of-life judgments. This will lead to a consideration of the meaning and importance of physical and
mental suffering in human experience, particularly as it concerns the terminally ill. Finally, we will take up the question of protocols or guidelines in the treatment or non-treatment of the dying patient, together with the ethical significance of “active” and “passive” forms of euthanasia.

The Hippocratic Oath declares, “I will use treatment to help the sick according to my ability and judgment, but never with a view to injury and wrong-doing.” Out of this vow have grown the dual principles of (1) beneficence: the commitment to further the vital interests of the patient, and (2) nonmaleficence: the commitment to avoid harm to the patient through either intentional action or neglect. These two principles, together with the Oath itself and the sixth commandment of the Hebrew Decalogue, provide a philosophical safeguard against active euthanasia or “mercy killing,” even in cases where the patient is in a persistent vegetative state or is enduring intractable pain. They reflect the view, normative for the Judeo-Christian tradition, that the principle of the sanctity or sacredness of life takes precedence over concern for the quality of life.

Until very recently, this normative religious perspective seemed straightforward and unquestionable. If God is the author of life, he is equally Lord over death and the dying process. With the development of life-support technology (dialysis, chemotherapy, respirators, etc., including the possibility of transplanting vital organs such as the liver and the heart), however, new moral issues arise that in an earlier age were either undreamed of or seemed settled once and for all.

It is now possible to maintain biological existence artificially for prolonged periods of time, even when there is no hope for a cure. This fact obliges us to reopen the question between the “sanctity” or “sacredness” of life and the “quality” of life. And it raises as well ancillary issues such as the allocation of limited resources and the potential financial burden upon the patient and his or her family. As a result, three lines of ethical reasoning have emerged. The first, mentioned earlier, is “vitalism,” which holds that biological life should be sustained at all costs and by any means available. While this sounds like a noble defense of the “sanctity of life” principle, it is in fact a form of biological idolatry, which places the abstract value of sustained physical existence ahead of the personal needs and ultimate destiny of the patient.

The second line of reflection, supporting various forms of “euthanasia,” argues that terminally ill patients should be allowed to choose the time and the way by which they will die. It thus promotes what it terms “death with dignity.” As recent ethical debate has shown, however, the slogan “death with dignity” can be used to justify a multitude of attitudes and practices that have little regard for the patient’s ultimate physical or spiritual welfare. And insofar as it encourages any form of active euthanasia, it unwittingly fosters the ultimate “death with indignity” by promoting homicide or suicide.

The third view is much more in keeping with a Christian perspective. It maintains that at some point in the dying process, nontreatment (the withholding or withdrawing of life-support systems) may be morally appropriate, thereby allowing the patient to die a “natural” death.

Yet even this last line of reasoning raises a host of vexing questions. Does the choice of which is termed “selective nontreatment,” popularly referred to as “pulling the plug,” merely “allow nature to take its course”? Or does it amount to an illicit form of euthanasia? In other words, is selective nontreatment—usually labeled “passive euthanasia”—ever morally justified, given the fact that its purpose is to hasten the patient’s death, even from natural causes? And what of the differences between various forms of nontreatment: is a form of euthanasia that qualifies as homicide if not murder? Questions of this kind usually arise in regard to patients who are in the late stages of potentially fatal diseases such as cancer. They apply equally, however, to those newborn infants who, because of genetic anomalies, severe fetal alcohol/drug syndrome, birth trauma, or some other reason are classified as terminally ill “defective neonates.” In all such terminal cases, the basic question to be resolved is this: what are the limits to which medi-

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2 See the articles by P. Ramsey, R. S. Morison, and L. R. Kas in On Moral Medicine. Theological Perspectives in Medical Ethics, ed. Lammers & Verhey (Grand Rapids: Eerdmans, 1987), 185-211.
cal technology should be employed to sustain biological existence? In looking for an answer, we may begin by noting specific cases that have recently focused national attention on the problem of euthanasia.

On 23 October, 1991, Michigan pathologist Dr. Jack Kevorkian made national headlines by providing the means by which two women ended their lives. Previously he had engaged in "physician-assisted suicide" (PAS) in the case of Alzheimer's patient Janet Adkins. These persons were chronically ill but would not have been diagnosed as "terminal," that is, according to the generally accepted definition of the expression, as having less than six months to live. Their deaths represented clear-cut examples of suicide, with the aim of ending what they considered to be the unbearable burden of their illness. In the meantime, while the nation hesitates to engage in a serious debate over the issue, allowing the courts to deal with it on a state-by-state basis, Kevorkian has "assisted" another fifty or so persons to put themselves to death.

In an effort to sanction yet provide legal controls over medical intervention in such activity, right-to-die groups presented "Initiative 119" to the voters of Washington State on 5 November, 1991. Although the Initiative was narrowly defeated, its proponents and like-minded groups have continued relentlessly to press for its most important and ominous provision: the legalization of physician-assisted suicide.

The Initiative contained three basic provisions. First, with reference to Washington's "Natural Death Act" that allows for Living Wills, it would have expanded the list of life-support technologies that a patient may refuse, to allowed physician-assisted suicide by terminally ill patients on the basis of religious and medical bodies, was the third provision. This would have allowed physician-assisted suicide by terminally ill patients on the basis of their written request, together with certification by at least two medical doctors that the patient had less than six months to live. 3

Euthanasia or right-to-die proponents continued to press their case over the next three years. In November of 1994, Oregon voters, by the narrow margin of 51%-49%, made their state the first and only jurisdiction in the world to legalize physician-assisted suicide. 4 Now that Measure 16 is no longer tied up in the courts, terminally ill adult residents of the state are able legally to request a physician's prescription for drugs with which they can, through self-medication, end their own life. Provisions of the Measure require a 15-day waiting period, one written and two oral requests by the patient, and the opinion of a second physician to determine whether the patient is suffering from mental illness or depression. There is no legal obligation for the patient to notify next of kin.

Coming in the wake of the Washington Initiative and a similar proposal narrowly rejected by California voters, Oregon's Measure 16 represents a monumental victory for proponents of the right-to-die movement. As the first of what will undoubtedly be many such victories, it raises a multitude of complex ethical questions concerning medical care at the end of life. Those we want to consider here include the relation between a "sanctity/sacredness of life" and a "quality of life" ethic, together with appropriate treatment of the terminally ill, including those in an irreversible coma or PVS.

The "Sacredness of Life" and "Quality of Life" Debate

Two cases first reported in February 1994, attest to a significant shift in attitudes toward terminal life-support in the United States. In a Sarasota, Florida, case the court ordered a hospital to maintain life-support for a thirteen-year-old, brain-dead girl. While the medical staff sought legal permission to have her removed from what they regarded as futile treatment, the mother insisted that the hospital do everything to "keep her irreversible coma and persistent vegetative state or condition which will result in death within six months; Specify which life-sustaining procedures may be withdrawn; Permit adult persons with terminal conditions to request and receive aid-in-dying from their physicians, facilitating death." Quoted in A.R. Jonsen, "What is at Stake?" Commonweal Supplement on Euthanasia: Washington State Initiative 119, 9 August, 1991, 3.

4 Although in the Netherlands "aid-in-dying" has long been openly practiced by physicians, and has become the focus of an intense debate over the merits of physician-assisted suicide, the practice remains illegal. When doctors follow certain accepted guidelines, however, they are virtually exempt from prosecution.

3 The official summary of the Initiative ran as follows: "This initiative expands the right of adult persons with terminal conditions to have their wishes, expressed in a written directive, regarding life respected. It amends current law to: Expand the definition of terminal condition to include
daughter alive.” One medical ethicist familiar with the case stated: “The hospital has an obligation to take her off the ventilator. Now they are treating a corpse.”

A second case involved a decision by the U.S. Court of Appeals of Virginia ordering a hospital to continue treatment of “Baby K,” a female child born in a semi-anencephalic condition. Although the infant was totally and permanently devoid of sensory perception and relational capacity because most of her brain was missing, the mother insisted on continued life-support.

In each of these cases, the medical team held that life-support should be ended because they deemed the treatment to be futile. In earlier years, hospitals tended rather to insist that apparently futile treatment be continued even against the wishes of family, of health-care proxies or, in certain cases, of the patient herself, as in the celebrated case of Elizabeth Bouvia. To some extent this reluctance was motivated by the fear of litigation if the medical team did not do “everything possible” to sustain even minimal biological existence. Increasingly, however, the courts are accepting judgments of health-care specialists which call for the cessation of treatment based on the patient’s “quality of life.” To some, this is long overdue acceptance of an element essential to making any medical judgment. To others, it represents the fast track down the slippery slope. To others, it represents the fast track down the slippery slope.

Christian ethicists, including those who insist on the fundamental sanctity or sacredness of human life, find themselves obliged by virtue of modern biomedical technology to make moral judgments that take into consideration the “quality” of life in question. What remains unclear, however, is how various traditions use the expressions “sacredness” or “sanctity,” and “quality.” This lack of clarity has led to fruitless debates between (1) apparent “vitalists,” who hold that the mere fact of biological existence is a good in itself and should therefore be preserved at all cost, whatever the condition of the patient; and (2) apparent “relativists,” who argue that life has neither meaning nor worth if it lacks certain capacities or attributes necessary for maintaining self-consciousness and the ability to relate to others.

The sacredness of life position, usually but not necessarily identified with a particular religious tradition, is generally based on the following pair of convictions. First, human life by its very nature is “sacred,” that is, it is intrinsically good and always deserves respect and protection. Its worth is not contingent on any particular condition or attribute which might characterize it. Second, all human lives are of equal value, at whatever stage of their development from conception to death. This implies that all human lives have the same “right” to life.

Debate concerning the “sacredness of life” (SL) and “quality of life” (QL) approaches has been hampered by a tendency on the part of some proponents of a SL ethic to criticize the QL position as inherently and inevitably in conflict with SL principles. Leonard Weber, for example, first notes that the SL approach defends the two propositions just mentioned concerning the sacredness and the equality of human lives. Then he adds, “The quality of life ethic finds neither of these two propositions acceptable.” To the contrary, however, a great many representatives of the QL ethic would accept these propositions, provided they are not absolutized into a vitalist position. As Weber points out, QL considerations include the “value” of the life in question.

8 The latter pole is usually referred to as the “sanctity of life.” Use of the expression “sacredness” throughout this chapter is based on our discussion in the Introduction. There we distinguished between the inherent “sacredness” of human life (a function of human nature, a given in human existence) and its “sanctity” (a hypostatic or personal function, attained through ascetic discipline and acquisition of Christian virtues).
9 In Roman Catholic parlance, physical life so viewed is a bonum bonum, as contrasted with a bonum utile, a useful but not ultimately valuable property or condition.
11 “Who Shall Live?,” 111.
question, both to the patient and to others. The term “quality,” however, has been defined in ways both broad and narrow, and no consensus has been reached as to the selection and application of QL criteria in specific cases. To some, the QL approach implies the following: 1) the value of human lives is unequal and depends on individual conditions or capacities; 2) human life is to be understood as a possession rather than as a gift, therefore it is governed by the principle of autonomy rather than that of stewardship; and 3) the ultimate “meaning” of human life resides in the self rather than in God or some other transcendent principle. Understood in these terms, a QL ethic would tend to offer unqualified support to abortion on demand, to physician-assisted suicide, and in fact to any procedure that serves one’s personal comfort, gratification or sense of purpose.

Where a QL perspective holds that human lives are of unequal worth because of certain conditions or the lack of certain values and capacities (as in cases of mental retardation or ill health), then it is indeed incompatible with the sacredness of life position. As James Wolter has pointed out, however, “quality” must not be “defined by reference to an attribute or property of physical life.” For this reason he prefers to speak rather of “the quality of the relationship which exists between the medical condition of the patient, on the one hand, and the patient’s ability to pursue life’s goals and purposes (purposefulness) understood as the values that transcend physical life, on the other.”

The quality of life position founders whenever it focuses on the quality of an attribute or condition, rather than on the quality of a relationship. That relationship, as Wolter rightly insists, can only be between the actual condition of the patient and his or her capacity for pursuing life’s transcendent goals. A similar point is made by John Paris: “What within the Christian tradition is the significance of life? It is that life is destined for God. Its ultimate goal is the restoration of the kingdom. Thus, it is eternal life and not life itself which is the ultimate.”

Human life in its aspect of biological existence cannot be considered an absolute good that must be preserved for its own sake. Its ultimate value

and meaning lie outside itself, beyond the limits of earthly existence. This is the truth that any genuinely Christian “quality of life” stance is based upon. It avoids the bio-idolatry of both vitalism and relativism, while recognizing that the true sanctity of human life resides in the person rather than in the sheer fact of physical existence. From this perspective, then, there is no conflict between sacredness of life and quality of life approaches. The two are necessarily complementary, since the former points to the ultimate source and meaning of human existence, while the latter, properly understood, charts the pathway that leads from earthly life to life in the Kingdom of God.

Ethicists of all moral and religious traditions recognize that medical decisions today inevitably involve quality of life considerations. Very few would be inclined toward “heroics” simply to maintain minimal physiological functioning in a clearly hopeless case—as with anencephaly or higher-brain (cerebral or hemispheric) death—simply because the technology exists to do so. That such a case is indeed hopeless, however, is a quality of life judgment: it weighs the relationship between the patient’s condition and the treatment options, and concludes that attempts to sustain biological existence would be unnecessarily burdensome or simply futile. Judgments made in light of “futility” or the “burden-benefit calculus” are necessarily based on evaluations of the “quality” of the patient’s life. Such quality, however, must always be determined in light of the patient’s own personal interests and well-being, and not on grounds of the burden imposed on other parties, the family, for example, or on the medical-care system with its economic considerations and limited resources.

Debate over “sacredness” or “sanctity” versus “quality” has usually turned on questions of patient autonomy and beneficence, i.e., the “rights” of individuals to exercise control in their treatment, and the “duty” on the part of care givers to avoid harm (as expressed in the “nonmaleficence” clause of the Hippocratic Oath), while offering the patient appropriate treatment and/or care. Orthodox Christianity, on the other hand, begins with the af-

12 “The Meaning and Validity of Quality of Life Judgments in Contemporary Roman Catholic Medical Ethics,” in Wolter and Shannon, Quality of Life, 80-82.
15 Some would distinguish between “treatment” and “care” by maintaining that the former may be discontinued under appropriate circumstances but that care must never be denied. A critique of the resource paper, “Nutrition and Hydration: Moral and Pastoral Reflections,” published by the

firmation that human persons are created in the image of God (Gen 1:26-27) and are called to exercise obedient and loving dominion or "stewardship" over the created order. "What are human beings that you are mindful of them, mortals that you care for them? Yet you have made them a little lower than God, and crowned them with glory and honor. You have given them dominion over the works of your hands..." [Ps 8:4-5, NRSV]

Human life by its very nature is sacred insofar as it bears and manifests the image and purpose of its Creator. As we stressed earlier, it is precisely that image and purpose that determine our "personhood." Yet we must also affirm that this essential, personal quality is in some measure independent of the capacity to convey the love of God in a direct and active way. Even an embryo or a patient in deep coma retains the quality of personhood. This is not because of any capacity for interpersonal relationships or self-consciousness; in these cases such a capacity manifestly does not exist. Rather, it is because the individual bears the image of God from conception to death and into eternal life. As we shall see, however, this does not mean that in terminal cases life-sustaining treatment may never be withheld or withdrawn, or that the relationship between burdens and benefits cannot be taken into account in the making of health-care decisions. Considerations of "sacredness" and "quality" remain intertwined.

From a Christian perspective, then, the question of the "quality" of a human life can only be approached theologically. Rather than see a SL ethic as opposed to a QL ethic and therefore irreconcilable with it, we need to ground quality of life considerations in the more basic perspective of the sacredness of the human person. This requires that we address the question of suffering in human experience and its relation to the primal Christian vocation of stewardship.

Committee for Prolife Activities of the National Conference of Catholic Bishops on 2 April 1992, points out, however, that these are relative concepts: one person’s treatment option is another person’s ethically mandatory expression of "care." Consequently, the true measure for moral decision making is not "treatment vs. care" but the relationship between benefits and burdens, and the significance of that relationship for the patient. See Issues, A Critical Examination of Contemporary Ethical Issues in Health Care, vol. 7, no. 3 (May/June, 1992), 8.

**Illness and the Mystery of Suffering**

A familiar caricature of the quality of life ethic depicts it as focusing nearly exclusively on the pain and suffering experienced by a terminally ill patient. If the level of distress rises to the point that it interferes significantly with personal relationships or demands an exorbitant expenditure of energy just to cope, then, it is argued, appropriate measures may be taken to relieve that suffering, including heavy sedation or, in "hopeless" cases, active euthanasia. Viewed in this light, suffering is perceived as an enemy to be defeated or avoided by any means possible.

On the other hand, where quality of life considerations focus on the relationship itself between the patient’s medical condition and his or her ability to pursue ultimate goals (rather than simply on the value or quality of relationships with others), then suffering assumes a very different aspect. If it is experienced within the limits of human tolerance, suffering can be decidedly beneficial, both for its direct effect on the patient and for its ability to foster communion with God and others.

Orthodox theologians approach the problem of suffering from a perspective rather different from that of St. Augustine or the Western scholastics. Eastern Church tradition views pain and suffering as evil consequences of the Fall, unintended by God but allowed as a kind of spiritual pedagogy. Generally speaking, suffering is not considered to be punishment for sin inflicted by a God of wrath, nor is it explained simply as a function of theodicy. Nor does Orthodox tradition understand suffering to be a condition or essential prerequisite, a necessary "price to pay," for our redemption and salvation. To recall the apostle Paul’s assertion to the Corinthians, "You have been bought with a price!" That is, our redemption from the slavery of sin and death is accomplished entirely by Christ’s own suffering and death. As the Suffering Servant foreshadowed in Isaiah 53, Christ bore his passion for us, on our behalf. Although we can share in his sufferings through acts of “martyrdom” or witness, such “works” are never understood to be the condition for our liberation from the consequences of sin and death.

And yet Orthodoxy also knows that human suffering can unquestionably possess what is called redemptive value. How, then, are we to explain the apparent contradiction which holds God to be the unique.
Author of human life and redemption, yet views our active participation in the redemptive process to be indispensable? This leads us once again to the question of “synergy” and our response to God’s work on our behalf. Perhaps we can best indicate the role of synergy as it involves suffering, particularly at the end stage of life, in the following way.

Created in the “image” of God, human persons are called to grow toward the divine “likeness,” to assume the very qualities or virtues of divine life itself. This process of growth toward theosis or deification is nevertheless the result of God’s own initiative, the free gift of his unbounded love. The sanctifying, deifying grace that effects the transfiguration of human existence consists of divine energies, “energies” or attributes of God, infused into the personal life of the believer through the action of the Holy Spirit.

Divine initiative, however, must be complemented by human initiative. Theosis, accordingly, is the result of the human will working with the divine will in the process of synergy, or cooperation between God and his human creatures. Its purpose is to lead the human person back to the primal state of perfection mythically depicted in the creation story of Genesis 2-3. This “primal state” is prelapsarian, untainted by sin and consequent death.

This implies that death is an anomaly within the created order. It is an unwilled and unintended intrusion into earthly affairs that must be overcome if human life is to attain its true potential and its true goal. While the death of the physical organism may be considered either a blessing to bring an end to man’s alienation from God, or as a natural and necessary part of the life cycle, it remains from the point of view of Orthodox theology and experience a spiritual enemy that is as much a consequence of human sin as it is a consequence of it. Insofar as the dread of death provokes rebellion, aggression and alienation from God and other persons, it leads to a multitude of sinful behaviors, all of which are “attempts to fill voids” of meaninglessness and threatened annihilation. The dread of death, in other words, is a primary motivator of our behavior. Consequently, death itself can hardly be considered as morally neutral.

God has chosen us not for death, but for life, whose telos or ultimate goal is eternal communion with the Persons of the Holy Trinity. From a Christian perspective, this means that our true death and rebirth occur at our baptism: the moment we are plunged into the regenerating “waters of the Jordan” and, in the name of the Holy Trinity, are raised up and united to the communion of saints, both living and dead, who constitute the Body of the glorified Lord. Therefore it might be argued that because of the Cross of Christ, physical death no longer threatens us. It has lost its sting. The “last enemy” has been transformed into a welcome passage, a glorious Pascha, leading to everlasting life and joy.

As true as this may be, however, the “last enemy” continues to hold sway over us in the form of the dying process. Anticipation of prolonged and meaningless suffering, far more than the event of death itself, is the chief cause of anxiety and despair for the terminally ill.

This perspective on death and the dying process has profoundly shaped the Orthodox understanding of suffering, as it has the question of care for those who are facing imminent death. It provides the insight that enables us to perceive and accept suffering, both mental and physical, as truly “redemptive.”

The spiritual exploits of the desert fathers and other Christian ascetics testify eloquently to the reality of “redemptive suffering.” Certain forms of physical and mental suffering, distinct from but often associated with pain, can further spiritual growth in numerous ways. In the first place, they make undeniable the reality of our own sin, frailty and susceptibility to temptation. Unlike Job, our patience is limited, and suffering presents us with the constant temptation to “curse God and die.” Yet insofar as we can accept and embrace our inability to save ourselves, or even to endure certain intensities of pain and emotional distress, we can, like Job, obey the God-given impulse to throw ourselves on the divine mercy as our only source of hope and strength. Then again, by forcing us to choose constantly between God and despair, suffering can attain the quality of an ascetic discipline, overcoming the destructive passions of both flesh and spirit.

These aspects are common to all forms of suffering, whatever our life circumstances may be. In the case of persons who are afflicted with dis-

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16 See our discussion of Orthodox anthroplogy in chapter 1.
17 See the article by Leon Kass, “Averting One’s Eyes, or Facing the Music—On Dignity and Death,” in On Moral Medicine, pp. 200-211, esp. 206 on “Death as Natural.”
18 In addition to our discussion in chapter 1 above, see the articles by D. Weaver, published in SVTQ vols. 27/3 (1983) and 29/2-3 (1985) under the title “The Exegesis of Romans 5:12 Among the Greek Fathers and Its Implications for the Doctrine of Original Sin: the Fifth to the Twelfth Centuries”; and John Meyendorff, Byzantine Theology (New York: Fordham University Press, 1974), 143-146.
ease, and especially the terminally ill, mental and physical suffering (again, as distinct from but closely related to the matter of pain) can be experienced as "redemptive," as actually promoting spiritual growth, in the following specific ways.

1. Suffering can make us aware of our total dependence on the inexhaustible love and mercy of God. Like no other experience known to us, it focuses our attention on our weakness and vulnerability, and on God as the unique source of mercy, grace and ultimate healing.

2. As a corollary, suffering can bring a heightened self-consciousness and, with it, an awareness of our personal limitations. More than perhaps any other experience, pain and suffering signal the fact that we are not in control. This is a profoundly humbling experience, one that can lead either to despair or to previously unknown heights of faith and hope.

3. Suffering can also have the effect of purging and purifying the passions, that is, the desires and deceptions that corrupt our relationship with God, with others, and with ourselves. At the same time, it draws our attention to the present moment, forces us to reorder our priorities, and invites us to seek above all "the one thing needful" (Luke 10:42).

4. Suffering also brings awareness of our mortality. In Christian monastic tradition, the monk rises to pray with the admonition, "Remember death!" There is nothing morbid about the memory of death. Rather, it is a joyful expression of hope, based on the conviction that by his death, Christ has once and for all destroyed the power of death.

5. Suffering can also foster ecclesial communal ties with others on whom we depend. In return, their own spiritual growth can be enhanced by the experience of sharing another's pain through their prayer and gestures of care.

6. Finally, suffering offers the possibility to share in the life and saving mission of the crucified and risen Lord. For the dying patient, this means to take up one's cross and to follow Christ to his own passion and death. To endure one's suffering for the sake of Christ, in the certainty that one will rise with him into the fullness of life, is also to offer to others the most eloquent and effective witness or martyria possible.

It is this last aspect that prompts some theologians to affirm that the suffering which accompanies the dying process should be experienced to the fullest extent that one can tolerate. This is extreme. It runs the risk of absolutizing suffering by seeking it for its own sake. There is no point to suffering—it possesses no redemptive value whatsoever—as a phenomenon unto itself. Only when pain and anguish are surrendered into the loving and merciful hands of God can they have ultimate meaning and value. Otherwise they all too easily lead either to despair or to a perverse form of pride, a kind of spiritual masochism or self-idolatry. We need to keep in mind the vicarious nature of Christ's suffering. He voluntarily offered his life for us, on our behalf, to accomplish what we could not do for ourselves. This said, however, it remains true that where physical pain and mental anguish are borne with courage and the desire to assimilate them to the Lord's passion, they are unquestionably vested with "redemptive value."

Not all suffering, however, is redemptive. Beyond a certain point, severe physical pain or protracted mental anguish can break down the will and thwart the best intentions of the heart. Many have experienced it as simply "dehumanizing," depriving them of hope and leaving them focused on nothing but their own misery. Such suffering can be produced by factors exterior to us and beyond our control: torture, excessive physical pain due to an illness, or mental anguish brought on by external threats. Newborn infants afflicted with genetic disorders such as myelomeningocele or Lesch-Nyhan syndrome (hyperuricemia, which causes uncontrollable urges toward self-mutilation), adults suffering from amyotrophic lateral sclerosis (ALS: "Lou Gehrig's Disease") or pancreatic cancer, and third-degree burn victims of any age, can be so consumed with physical distress and excruciating pain that life itself becomes a permanent, unrelieved burden. In such cases, the ability of the patient to pursue life goals or to perceive transcendent meaning often vanishes.

Researchers have become particularly aware in recent years that other forms of suffering can be equally degrading and apparently devoid of redemptive quality. Our individual susceptibility to mental anguish is as important a factor as our threshold of pain in determining how we will react to various intensities of suffering. Not everyone is a St. Ignatius, prepared psychologically and spiritually to brave a martyr's death in the arena. Pain thresholds are relative, but both genetic and environmental factors seem to play a role in their development. Victims of child abuse,
for example, or persons who have experienced severe loss or abandonment, can be so deeply wounded that the very fear of increased suffering—perceived as further punishment—can provoke uncontrollable dread and hopelessness. Then there are the elderly infirm who suffer both from their physical ailment and from the loss of a beloved spouse. Their grief is deep and at times unbearable. Too often they feel abandoned not only by the deceased, but by family, friends, and the parish community. For Sartre, hell may have been “other people.” For the aged who are desperately sick and desperately lonely, hell is their own pain and their own solitude. With no realistic hope that their physical condition will improve, they tend to spiral downward into depression and finally despair. Once their condition becomes serious enough, they often see “physician-assisted suicide” as their only ray of hope, their only way out.

The most serious and dangerous temptation of those faced with mental or physical suffering is that they perceive their affliction to be absurd and devoid of ultimate meaning. To the Eastern Church Fathers, however, convinced as they were that God is at the origin of all human life and experience, suffering is perceived as a function of God’s plan of salvation. To their mind, suffering always has redemptive potential. Yet to affirm this, we need to be clear that God does not inflict suffering as vengeful retribution or vindictive punishment for our sin. Although he uses pain and misfortune as part of a “divine pedagogy,” we cannot simply assume that God “wills” tragedy in human experience. In the ninth chapter of St. John’s Gospel, Jesus affirms unequivocally that suffering and guilt are by no means necessarily connected. God alone tragedy, yes. But that does not mean that one suffers in direct proportion to one’s sinfulness. In the morning prayer of the Optimo Fathers referred to earlier, we beseech God to “teach me to treat all that comes to me throughout the day...with firm conviction that thy will governs all... In unforeseen events, let me not forget that all are sent by thee.” Yet it is unthinkable that the God of mercy and compassion should will—in the sense of want or desire—torture, terrorist bombings, or the tragedy of death itself. If we affirm that “nothing occurs apart from the will of God,” then we must likewise insist upon a fundamental distinction between what God wills and what he desires, intends or permits; that is, between his “accepting will” and his “intentional will.” God does not desire that his creatures, however rebellious they may be, should be victims of dehumanizing suffering. Yet in the unfathomable mystery of the divine economy, he may indeed “will” such experiences.

It is this awareness that leads the Church Fathers to seek an explanation of the origin of evil and suffering in man’s rebellion against the divine will, in his relentless quest for self-destructive “pleasure” rather than for authentic joy.20 St. Maximus the Confessor, for example, attributes suffering to the Fall and declares that its purpose is to cleanse the soul from “the filth of sensual pleasure” and to “detach it from material things.” This, he adds, “is why God in his justice allows the devil to afflict men with torments.”21 As the prologue to the Book of Job indicates, even if God wills that affliction come upon men, the actual agent by which that affliction occurs is not God himself, but Satan, the Adversary and Tempter.

The consensus among the Fathers, then, is that suffering originates with the divine will and that it has, potentially, the capacity to purify human persons from sinful passions and restore them to communion with God. The fifth century ascetic Mark the Hermite expresses this truth in the following concise way: “The mercy of God is hidden in sufferings not of our choice; and if we accept such sufferings patiently, they bring us to repentance and deliver us from everlasting punishment.”22 “Let all involuntary suffering teach you to remember God,” he adds, “and you will not lack occasion for repentance.”

19 Philokalia’s early fifth century Lausiac History expresses this distinction in the following way: “Two causes are responsible for every event: either the will of God, or His permission. Everything that takes place in conformity with virtue occurs by the will of God, whereas everything that produces damage and danger as a result of unhappiness or weakness, occurs by God’s permission” (47.5).
20 Hilary of Poitiers (f. 367) makes a basic distinction between suffering and pain, the former being a function of human nature, the latter a secondary—“we might say,” accidental—aspect of human experience. Therefore he can hold that Christ in his incarnate body “felt the force of suffering, but without its pain.” “He had a body to suffer,” Hilary continues, “but he did not have a nature [weak as ours from sin] which could feel pain.” (de Frunitate X.28, NPNF vol. 9, 187E). Hilary has often been accused of holding a docetic or monophysite Christology. His purpose, however, is to affirm that physical pain—as distinguished from suffering—is a consequence of sin, therefore of fallen human nature. The implication is that Christ perfected that nature by uniting it to his “unique” (i.e., divine) nature. Thus he could truly suffer, and thereby accomplish our redemption, but without feeling pain. Similar reflection led to the belief, expressed in aspects of the Church’s liturgical tradition, that the Theotokos or Mother of God experienced no pain when she gave birth to her Son.
21 St. Maximus the Confessor, Philokalia vol. 2, 178, no. 64.
22 Philokalia vol. 1, 136, no. 139.
23 Philokalia vol. 1, 114, no. 57. Compare 1 Pet 4:1, “whoever has suffered in the flesh has ceased from sin...”
Christian stewardship obliges us to accept personal suffering and to seek spiritual healing through it. Even though our "outer nature" may be "wasting away," as the suffering apostle knew, "our inner nature is being renewed every day" (2 Cor 4:16). Within the limits of tolerance, certain levels of pain and hardship can serve as spiritual blessings which promote inner peace and strength, the strength that emerges in the midst of our weakness (2 Cor 12:9-10). As St. Paul further declares, "It has been granted to you that for the sake of Christ you should not only believe in him but also suffer for his sake" (Phil 1:29). Here the apostle is referring specifically to persecution. Nevertheless, as in the following well-known passage from his letter to the Romans, his aim is to stress to his readers the redemptive, sanctifying value of suffering courageously endured.

We rejoice in our sufferings, knowing that suffering produces endurance, and endurance produces character, and character produces hope, and hope does not disappoint us, because God’s love has been poured into our hearts through the Holy Spirit which has been given to us. (Rom 5:3-5)

It is precisely that quality and abundance of divine love that enable the sufferer, according to Christ’s own admonition, to "endure to the end" (Mt 10:22; Mk 13:13).

Over thirty years ago an American monk, who himself has known considerable physical suffering, translated a small book by Archimandrite Seraphim Papakostas, entitled For the Hours of Pain. It contains a lesson that bears repeating:

If Christ had to march to glory, through sufferings, is it strange that we his followers must do the same? If the absolutely sinless and holy One, upon whom affliction and pain had no claim, passed through every measure of affliction and pain for our sake, is it strange that all those who are being sanctified through Him need to be cleansed and purified in the crucible?

Learn this, then, dear Christian. If man had not sinned, if we weren’t sinners, we would certainly march to divine glory without afflictions and sufferings. Now, however, there is another way to this glory, but through suffering and pain. The leader of our salvation Himself, marched on that road.24

When tragedy strikes, bringing in its wake inconsolable pain and distress, our most natural response is to question God’s purpose and the depths of our own faith. The age-old question, “why do bad things happen to good people?,” seems unanswerable. Theologians respond by speaking of “theodicy.” The suffering layman, on the other hand, wants to know how to reconcile his belief in the omnipotence of God with the biblical claim that “God is love.” If God is all-powerful, and if he is indeed a loving God, how can he permit me to know such affliction? And particularly if the intensity of my suffering is such that I can no longer pray, because my mind and body are totally focused on what I experience as unbearable. If I can direct my thoughts toward God at all, it seems, it is only with frustration, anger and rebellion.

Whatever the immediate cause and nature of our suffering, we need to bear in mind two things. On the one hand, suffering is always communal, that is, ecclesial. It involves the whole Body of Christ, since we are “members of one another” (Rom 12:5). This means that the redemptive value inherent in our suffering can also contribute to the salvation of other persons in addition to ourselves. Just as our sinfulness leaves its mark on the entire Body, our suffering—insofar as it is accepted in faith and offered to God in love—can transform others within that Body. How this occurs is a mystery that no one in this life will ever fathom. That it occurs, however, is a matter of ecclesial experience. Even there where suffering seems to be meaningless and unbearable, the very act of surrendering it to God, in faith and in love, enables the one who suffers to participate directly and intimately in Christ’s own crucifixion. The angels at the Tomb identified the risen Lord as “the Crucified One” (ho estaurómenos, Mk 16:6; Mt 28:5); and the French Catholic philosopher Pascal echoed this message when he declared, “Christ is in agony until the end of the world.” The Risen Lord remains forever the Crucified One. Those who are united to him, then, are united as well to his once-for-all crucifixion, whose meaning and power endure throughout the ages. Although Christ’s passion and death have fully accomplished the world’s redemption, our personal affliction—offered as a sacrifice of praise and thanksgiving for the gift of life he has bestowed upon us—can become the means by which we are united with him and with all those who courageously and faithfully bear their own affliction. Suffering, therefore, can become an effective means for creating a deep and intimate communion with Christ and with the afflicted members of his Body.

Yet a second point needs to be made as well. Our suffering not only enables us to participate in the passion and crucifixion of Christ. It also

provides a primary means for Christ to participate in the reality of our own “sickness unto death.” Despite what may appear to be an element of the absurd—an utter lack of meaning and purpose—in our affliction, the biblical and patristic witness is unequivocal: God accompanies us in our suffering. He is not only aware of it; he shares it to the full, he drinks its bitter cup to the dregs. Thereby he transforms our meaningless anguish into a truly redemptive experience.

This is true, even where the person is incapable of sensing that redemptive quality because of the intensity of mental or physical pain, or because they have entered into a coma or persistent vegetative state. In this case, it is the responsibility and the privilege of the Church—the family and parish community—to “assume” the person, through their prayer and love. Thereby they do what the person cannot do for him or herself, namely offer their suffering and their very life to the grace and mercy of God. This is the gesture that most faithfully responds to the petition of our litanies: “Let us commend ourselves and each other, and all our life to Christ our God.”

In cases where the afflicted person is incapable of experiencing his or her own suffering as redemptive, there nevertheless remains what can be termed “vicarious redemptive suffering,” accomplished through the presence and sanctifying power of the Crucified One, as well as through the presence, intercession and love of others who share the afflicted person’s burden. This complementarity, this synergy of love and mercy between Christ and other persons, can thereby transform human suffering from a cruel mockery of our fraility and a judgment on our sinfulness, into a vehicle for our sanctification and a promise of eternal blessedness to come. He who endures to the end—by bearing his own affliction with courage and hope, or by allowing others to bear it for him in prayer and love—that person “shall be saved” (Mk 13:13).

When viewed in this perspective, in the radiant light of Christ’s own sacrificial passion and death, it is clear that virtually all suffering is potentially redemptive. The corporate prayer and solidarity of members of Christ’s Body can make of even the most “meaningless” tragedy a witness to the Cross and to the truth that Life has triumphed over death.

"A Blessed Pascha": Approaching the End of Life

Euthanasia and the Care of the Terminally Ill

What do reflections of this kind imply with regard to life-support for the terminally ill? Can “quality of life” considerations ever justify “active euthanasia,” whether in the form of direct medical intervention or of physician-assisted suicide?

The Meaning of “a Good Death.”

The Park Ridge Center publication, Choosing Death, includes several statements by Orthodox ethicists on the matter of active euthanasia, the intentional medical termination of a human life. They reflect a consensus that has emerged in recent years and can be summarized as follows. 1) Human life, created by God and bearing the divine image, is sacred by its very nature and must always be respected and protected as such. 2) The principle of stewardship demands that the moment of death, like that of conception, remain in the hands of God; he alone is sovereign over life, death and the dying process. There is “a time to live and a time to die,” and that time must remain God’s determination. 3) Every effort must be made to restore the patient to an optimal state of health; the patient’s life, however, retains its irreducible value and worth, even when full health cannot be restored. 4) In cases of terminal illness (where the dying process is irreversible and death is imminent), it is nevertheless permissible to withhold or withdraw life-support that represents nothing more than a burden to the patient. Particularly in cases of brain-death, it is immoral—and not merely “useless”—to maintain the patient on life-support systems. 5) On the other hand, there can be no justification for

25 Ron Hamel, ed., Choosing Death. Active Euthanasia. Religion and the Public Debate (Philadelphia: Trinity Press, 1991), 90-95. Without careful reading the passage could give the impression that “Eastern,” “Greek” and “Russian” views represent distinct denominations. Orthodox Christians of any ethnic origin, however, speak out of a common tradition that is informed by common liturgical celebration, creedal confessions and sacramental experience.

26 In the words of Fr. Stanley Harakas, who is widely recognized as the “dean” of Orthodox ethicists in the United States today: “when over-arching evidence supports a prognosis that the patient is terminally ill, the practitioner, the individual patient, the family and all others associated with the situation are not morally obligated, and ought not to feel obligated, to expend energy, time and resources in a misdirected effort to fend off death.” (Choosing Death, 92). Note that “resources” is included in this burden-benefit assessment. See further his statement in Living the Faith. The Praxis of Eastern Orthodox Ethics (Minneapolis: Light & Life Publishing, 1992), 129: “The medical use of drugs, surgical operations, and even artificial organs are legitimately used when there is a reasonable expectation that they will aid the return in due time to normal or close to normal functioning of the whole organic system. Their use is therapeutic. However,
the active taking of (innocent) human life, even in cases of terminal illness accompanied by severe suffering.27 Active euthanasia, including physician-assisted suicide, is therefore forbidden by an Orthodox ethic, whether or not the patient expresses the desire to die, that is, whether or not there is informed consent.28

The rationale behind these conclusions is essentially theological. Fr. Stanley Harakas declares, “The only ‘good death’ for the Orthodox Christian is the peaceful acceptance of the end of his or her earthly life with faith and trust in God and the promise of the Resurrection.”29 A litany from Orthodox liturgical services includes a petition that asks for “a Christian ending to our life, painless, blameless and peaceful.” And the prayers offered for one who is dying request “the peaceful separation of soul and body.” A “good death,” then, is one that preserves a maximum of consciousness with a minimum of suffering, together with the peaceful surrender of one’s life into the merciful hands of God.

Traditional Orthodox piety expresses the desire to be spared from “a sudden death.” To most Americans today, such a request is incomprehensible: “Let it be swift, clean, and if possible, in my sleep...” A genuinely Christian attitude, on the other hand, recognizes the need to prepare for death: to allow time for the dying patient to seek reconciliation and fellowship with family members and friends, time to seek reconciliation with God through confession, and time for a final communion in the life-giving Body and Blood of Christ. This need to prepare for the end of earthly existence is what explains the frequency of prayers in the Orthodox tradition that implore God, “Lord, spare me from an unexpected death!” To “die well,” then, requires time as much as it requires inner peace, appropriate care, and love.

What does this imply with respect to particular case situations and the establishment of protocols to provide appropriate medical care at the end of life?

Both Roman Catholic and Orthodox ethicists today generally accept as morally “licit” a decision to remove life-support systems in terminal cases, when such removal clearly represents the desire of the patient and continued usage would serve no demonstrable good (an evaluation made on the basis of “futility” and the “burden-benefit” ratio).30 This leaves us, however, with a problem of definition: what determines a “terminal illness,” and does suspending life-support constitute “euthanasia?”

A “terminally ill” patient is usually defined as one having a prognosis of less than six months to live. This is so broad that it would seem more appropriate to define the “terminally ill” patient as one who, according to professional medical opinion, is engaged in irreversible biological processes that will lead to imminent death.

Catholic and Orthodox ethicists are also in basic agreement that removing life-support under these conditions does not constitute “euthanasia” as that term is used today. The expression “euthanasia” originally meant simply “a good death.” In recent years, however, it has become so closely identified with the eugenics movement on the one hand, and with the Kevekian syndrome on the other, that it would perhaps be best to discard it altogether. With recent technological developments and our inability to draw a clear distinction between active therapeutic intervention into the dying process and merely “allowing nature to take its course” while providing pain management and other palliative care, it would be better to forego as well the terms “active” and “passive” euthanasia. Where “euthanasia” signifies “to put an end to a patient’s life by a specific act,” then neither Orthodox nor Roman Catholic traditions can sanction such an act.

Nearly twenty years ago Catholic ethicists published a document on “euthanasia” which held that the term is ambiguous, misleading, and should be avoided in reference to certain actions and decisions concerning end-of-life care. Although the Orthodox have not made a formal pronouncement about the term itself, the Roman Catholic position on the matter is thoroughly compatible with an Orthodox understanding of so-called “mercy killing.” The word “euthanasia,” they argue, should be used

1) neither to designate the actions involved in terminal care which aim at making the last phase of an illness less unbearable (dehydration, nursing care, massage, palliative medication, keeping the dying person company...);

2) nor to designate the decision to stop certain medical therapies which no longer seem to be required by the condition of the patient. (Traditional language would have expressed this as “the decision to give up extraordinary measures.”) It is thus not a matter of deciding to let the patient die but, rather, of using technical resources proportionately following a reasonable course suggested by prudence and good judgment;

3) nor to designate an action taken to relieve the suffering of the patient at the risk of perhaps shortening his life. This sort of action is part of a doctor’s calling; his vocation is not only that of curing diseases or prolonging life but—much more generally—also that of taking care of a sick person and relieving his suffering. 31

An important element in the “right to die” debate has recently surfaced in the medical literature, while being curiously neglected by the popular media. It concerns the recent Supreme Court ruling that rejects physician-assisted suicide (Washington v. Glucksberg, 117 S. Ct. 2258 [1997]). Writing in The New England Journal of Medicine, 32 Yale Law School professor Robert A. Burt points out that the Court’s decision to uphold New York and Washington statutes prohibiting assisted suicide “effectively required all states to ensure that their laws do not obstruct the provision of adequate palliative care, especially for the alleviation of pain and other physical symptoms of people facing death...By authoritatively pronouncing that terminal sedation intended for symptomatic relief is not assisted suicide, the Court has licensed an aggressive practice of palliative care.” 33

The Supreme Court, in other words, has upheld “a Constitutional right to palliative care,” while rejecting the active intervention of assisted suicide. 34 This is a significant development, in that it removes one of the major barriers to effective pain management, namely the attending physician’s fear of a law suit if he or she resorts to opioids that might shorten the life span of a terminally ill patient. 35 Palliative care in clearly terminal cases where metastasized cancer or other conditions cause intolerable and refractory pain and suffering may include even “terminal sedation,” where respect is paid to the principle of double effect. This, once again, is not “euthanasia.” It is a morally appropriate—indeed, imperative—treatment offered in those cases where the only alternative is to allow the patient to die in protracted anguish and misery.

Thus neither palliative care, nor withholding or withdrawing life-support in “futile” cases, nor administering adequate pain medication, even when it might slightly shorten the patient’s life (as with morphine and other opiates), constitutes “euthanasia.” Here once again the principle of “double effect” comes into play. The intention is not to kill the patient or to limit his or her life span. It is to provide the patient with comfort and other appropriate care, so that the dying process will lead, as much as possible, to “a painless, blameless and peaceful” end.

If the terminally ill patient has declared, either through a Living Will or via a health-care proxy, that he or she wants no “extraordinary” means used which would merely prolong the dying process, then we are morally obliged to respect that request. The same is true of a “DNR” (“Do Not Resuscitate”) order recorded on a patient’s chart. The principle of patient autonomy requires such respect from the care providers, the family, and any others who may be concerned, including the law courts. Otherwise we lapse into a form of “paternalism,” which presupposes that the medical team or some other party is more capable than the patient of making health-care decisions and of determining what is in the patient’s best interest.

Burt cites Justice Sandra Day O’Connor’s concurring opinion that adds: “I agree that the State’s interests in protecting those who are not truly competent or facing imminent death, or those whose decisions to hasten death would not truly be voluntary, are sufficiently weighty to justify a prohibition against physician-assisted suicide,” ibid., 1235.

Burt adds, “Armed with their patients’ constitutional right to adequate palliative care, physicians could protect themselves in judicial forums against state regulatory boards ignorant or dismissive of the evidence that high-dosage prescriptions of opioids for treating pain and other distressing symptoms are safe, effective, and appropriate,” ibid., 1236.

32 Vol. 337, no.17, 23 October, 1997, 1234-1236.
33 Ibid., 1234.
34 Ibid., 1235.
35 Ibid., 1236.
The traditional notion of “paternalism” tended to stress patients’ perceived needs rather than their rights. It was assumed that the medical team was in a better position than the patient to assess those needs and consequently to determine the most appropriate treatment. With the development of life-support technology, and the conflicting values of a pluralistic society, ethicists have proposed a “weak” or limited paternalism that respects the need for informed consent on the part of the patient, together with patient autonomy, while recognizing that in certain instances intervention might be needed to prevent the patient from self-harm (e.g., from committing suicide). Respect for personal freedom or autonomy needs to be balanced by concern for the patient’s roles and responsibilities within social, family and church communities. This concern justifies some limited forms of paternalism. Such paternalism, however, should be persuasive rather than coercive.

A “good death,” then, requires both physical care and spiritual nurture. It can be achieved on the one hand by guaranteeing to the patient both informed consent and autonomy, the freedom to make his or her own choices regarding end-of-life treatment, and on the other hand by providing loving accompaniment of the dying person through the presence of family and friends. Ultimately, it requires that the community of the Church exercise its priestly function by offering the dying person to God in prayer, through gestures of love, compassion and intercession on his or her behalf.

Pain Management.
Proper treatment of the terminally ill demands not only that they be able to give their informed consent and that their autonomy be respected. It also requires that they be given adequate pain medication. Techniques for pain management are so sophisticated today that few patients need to suffer unbearable pain and distress. When they do, it is usually because they are being given inadequate medical care. Yet a great deal remains to be done toward the research and development, as well as the appropriate administration, of pain-killing drugs. This is a crucial issue that has been largely neglected, even in medical schools. One of the great dangers

36 Note the remarks of Gregg A. Kasting, “The Nonnecessity of Euthanasia,” in Biomedical Ethics Reviews 1993 (Totowa, NJ: Humana Press, 1994), 24-45: “The argument that assisted death is unnecessary cannot be made on the claim that pain in terminal illness is amenable in full or in part to presently available analgesics and anesthetic techniques...[T]he empirical

with passage of legislation such as Oregon’s Measure 16 is that it will relieve medical researchers of what today is perhaps their primary obligation: to develop a wide variety of pain management techniques that are effective, inexpensive, and readily available.

Although in Canada and Western Europe morphine and other drugs can be given freely to alleviate chronic or acute pain, the same is far from universally true in the United States. Advances in pain management have been hampered in this country by laws that prohibit certain drugs from being used medicinally at all. The most obvious of these is heroin. Because of the widespread, devastating use of street drugs, we are reluctant to consider measures that have become routine in other countries: use of the heroin- or morphine-based “Brompton’s cocktail,” used so effectively in the St. Christopher hospices in England, for example, and other less potent drugs such as marijuana. (Developed for terminal illness therapy, the Brompton’s cocktail is an alcohol solution with morphine or heroin, plus codeine and an optional tranquilizer. Its value lies in the fact that tolerance to it does not develop. In addition, it has been observed that patients who self-medicate with the cocktail require lower dosages than other patients, apparently because they are “in control”: as their level of anxiety decreases, so does their level of perceived physical pain.)

It is entirely unreasonable to argue, as many people do, that drugs which are adequate for pain management may not be used in terminal cases because they are addictive. This is especially true if by “terminal” we mean patients already engaged in the dying process. In cases of increasingly debilitating terminal disease—for example, throat tumors, bone and colon cancer, advanced multiple sclerosis, AIDS—compassion and elementary respect for the dying person require that any and all available measures be used to relieve the pain that can lead to hopelessness and despair. We need to remember that the dread of death is in many cases dread of the dying process and its attendant physical suffering. Adequate pain management, therefore, should be given the highest priority, to relieve the

claim that all terminal pain is relievable is not supported by the medical literature” (41). In the same volume, David C. Thomasma, “The Ethics of Physician-Assisted Suicide,” 93-133, addresses the responsibility of medical specialists to intensify their efforts to provide adequate care to the terminally ill: to prescribe more adequate pain control, but also “to be more engaged with the dying patient as a person,” through the development of hospices and medical school programs that offer specific training in care for the dying.
patient’s anxiety and guarantee that his final days and hours be spent in a state of tranquil alertness, with a minimum of physical distress. 

PVS, Deep Coma and “Brain Death.”

To this point we have presumed that the dying patients are conscious, that they experience no more than a tolerable level of pain and distress, and that appropriate caregivers, including family and clergy, are present to minister to their needs. But what of those who are not conscious, who have slipped into a deep and, according to the best diagnosis, irreversible coma, or who exist in a persistent vegetative state?  

“Deep coma” is a state of profound unconsciousness characterized by complete unresponsiveness to external stimuli. In severe and prolonged cases, avoidance reflexes tend to disappear altogether. It is caused by an interruption—provoked by accident, illness or ingested poisons—in the interaction between the cognitive functions of the cerebral hemispheres and the arousal mechanisms of the reticular formation, a system of nerve cells and fibers, located primarily in the midbrain and upper brain stem. The condition is usually irreversible, as in the celebrated cases of Karen Ann Quinlan and Elaine Esposito. Quinlan was a permanently comatose patient who died in June, 1985, more than nine years after she was taken off a respirator. Esposito, who was comatose for more than thirty-seven years after receiving general anesthesia, died without ever regaining consciousness. The major ethical question raised by these two cases is the same. Did modern medical technology such as artificial feeding and hydration actually keep these women “alive”? Or did it merely prolong the process, begun with their respective accidents, that would inevitably lead to their death. Did life—

37 This line of reasoning holds as well with regard to the medical use of marijuana. Insofar as various illnesses, and particularly the nausea associated with chemotherapy, can be relieved by its use, it seems only reasonable to make it legally available under doctor’s prescription. Certainly, tight controls have to be maintained, and strict penalties have to be applied if a physician orders the substance without sufficient medical justification. On the other hand, it is unconscionable that many ordinary American citizens have to take to the streets in quest of a drug dealer who can provide them with the only medication that offers them effective relief.


41 The Merck Manual, 1335.
tion remains, though, as to how we define “brain death.” To some, it means death of the whole brain: the brain stem, the limbic system and the cerebral cortex. The brain stem regulates such functions as breathing and heart rate,42 while the limbic system (including the hypothalamus and pituitary gland) regulates eating, sleeping, balance and, in general, bodily homeostasis. The limbic system is also involved in various emotional responses such as the sex drive, the “fight-flight” mechanism, and overall self-protection. None of these functions, however, establishes distinctively human, or a fortiori personal, existence. The gift of human life depends rather on the cerebrum (left and right hemispheres) and its covering of nerve cells known as the cortex. The cortex enables us to make decisions, organize our lives, remember experiences, communicate with others, and perform various creative activities (art, music). It is here as well that our capacity for reflective activities resides: the ability to philosophize, to speculate, to wonder and to pray.

In cases where accident or disease have irreversibly destroyed higher brain or neocortical activity, we must conclude that the person in question is no longer alive. Bodily functions governed by the brain stem and limbic system do not constitute personal human existence: these are merely support systems for what makes us truly human, truly personal beings. Even if midbrain and brain stem functions (blood pressure and temperature, respiration) can be maintained by artificial means, the organism as a whole is no longer “alive” in any meaningful sense. In such cases, we can say that the biological mechanism is being sustained by technology that in effect replaces the human soul or life-force. If it can be determined, therefore, that the death of the brain as a whole has occurred, that the cortex does not and cannot function, then it is only reasonable to declare the patient dead.

It is this very determination, however, that has proven so difficult and has led many physicians and ethicists to insist that the patient be pronounced dead only in cases were there is death of the whole brain, meaning the brain stem as well as the cerebrum.43 In this regard, however, we need to hear the opinion of a leading Orthodox ethicist, H. Tristram Engelhardt. Concerning the criteria for death he states, “A human body that can only function biologically, without an inward mental life, does not sustain a moral agent...The death of a person marks the passing of an entity that can make promises and fashion strong moral claims. To underscore this point with regard to definitions of death: a body with whole-brain death, or with death of the whole brain except for the brain stem, does not support a mental life, much less the life of a person.”44 Personhood, in other words, requires the capacity for higher brain function. When that capacity is irretrievably lost, the “person” or “soul” is no longer present, and there is no longer human life in any meaningful sense. Attempts to sustain biological functioning in such cases are not simply futile. They are immoral. “The time to die” has come and gone, the soul has departed the body, and further “life-sustaining” treatment merely delays the “release” and “rest” requested by our prayers for the terminally ill.

Where does this leave us with regard to patients in deep coma or PVS? The literature on the subject is sharply divided. A growing consensus holds that food and water may be morally withheld or withdrawn from such persons precisely because they are only marginally “personal.” This kind of approach, however, comes dangerously close to the misdirected “quality of life” thinking that evaluates the person’s capacities and conditions, rather than the relationship between the effectiveness of treatment and the possibility for pursuing life goals.

A basic imperative, therefore, emerges from this debate: every appropriate diagnostic procedure and treatment protocol should be used to bring about recovery. From a Christian perspective, grounded in the principles of stewardship and the sacredness of life, this can be stated as the moral requirement to “choose life” (cf. Dt 30:19). In cases of PVS or deep coma, there must be a presumption of life and a bias towards life, as there must be in all cases where the patient is not demonstrably brain-dead. If it can be determined, however, that such a patient is indeed brain-dead—that cerebral and cortical functioning have been irretrievably lost—then it is medically accurate and morally appropriate to declare that the person has died. In

42 It appears that the cerebellum of the brain stem records some memories from learned responses. Most memories, however, are stored in the limbic system. The breakdown of this latter may be responsible for symptoms related to Alzheimer’s Disease.
43 For a sound defense of this view from a nonreligious perspective, see David Lamb, Death, Brain Death and Ethics (New York: State University Press, 1985).
Another major question, raised in a particularly sharp way by Washington’s Nutrition years ago I opposed very strongly the withdrawal of nutrition and hydration (nasal-gastric) tubes. Until a few them with these most basic necessities.

This conclusion is based in part on consideration of the futility of treatment. But it finds its ultimate justification in the sacredness of life principle itself. If the United States is plummeting down the slippery slope today, it is largely because we have so dramatically and tragically distorted the meaning of death. From a Christian perspective, however, death has “lost its sting.” By his own death, Christ has destroyed the power of death, transforming it into “Pascha,” a passover or passage from life in the flesh to eternal life in the loving presence of God the Father.

Death is swallowed up in victory. O death, where is thy victory? O death, where is thy sting? The sting of death is sin, and the power of sin is the law. But thanks be to God, who gives us the victory through our Lord Jesus Christ! (1 Cor. 15:54-57)

**Nutrition and Hydration for the Terminally Ill.**

Another major question, raised in a particularly sharp way by Washington’s Initiative 119 and Oregon’s Measure 16, concerns a form of terminal life-support that has long been considered “ordinary” rather than “extraordinary.” This is the matter of providing terminally ill patients with food and liquid through feeding and hydration (nasal-gastric) tubes. Until a few years ago I opposed very strongly the withdrawal of nutrition and hydration from dying patients, on grounds that food and water are necessary to sustain all life, and that our primary duty, especially to the terminally ill, is to provide them with these most basic necessities. Nonetheless, in recent years a

cases of higher brain death, once again—even when lower brain function can be artificially maintained—either the soul has already departed from the body, or life-support measures are hindering it in its struggle to do so. In either case, it is morally imperative that we “let the person go.”

Insofar as such a determination cannot be made with certainty in cases of PVS and deep coma, it would be morally wrong to remove the patient from life-support systems. Only when efforts to promote recovery have persistently failed, and there is clear evidence that neocortical function has been permanently lost, can withdrawal of food and hydration be considered morally acceptable.

Withholding food and water from a dying patient permits the shutdown of cellular activity throughout the body and normally allows the patient to slip quietly into a coma and die. It seems appropriate, then, that we add use of hydration, nasal-gastric and gastrointestinal tubes to number of scientific articles, published by both nurses and physicians, have led me to reconsider the question. Nurses have long noticed how frequently dying patients tear out naso-gastric tubes and I-V lines. Previously when this happened, the medical team assumed that the patient was suffering from acute mental or emotional stress. Therefore they quickly replaced the tubes and often strapped down the patient’s arms and hands to assure that the tubes would remain in place.

Recently, however, it has been determined that in terminal cases—where the patient is clearly, quickly and irreversibly approaching death—dehydration and the withholding of food has a definitely beneficial effect. Dehydration, in particular, allows for a rapid increase in the production of “keytones.” These are chemical substances in the brain that act as a natural analgesic. Similarly, dehydration and malnutrition in terminal ill patients causes “azotemia,” in which elevated waste nitrogen products in the blood act as a natural sedative, thereby decreasing the sensation of pain. In the words of one researcher,

“The technological imperative to have patients die in electrolyte balance and well-hydrated is a grave disservice. It serves only to ward off the sedative effect of the azotemia. The result not only increases pain perception, but also adds to the mental agony of the patient who is kept alert enough to appreciate the minute-by-minute hopelessness of his or her situation.”

Moreover, it has been shown that continued hydration also increases the level of pain and discomfort experienced by the terminally ill also by complicating various renal, pulmonary and gastrointestinal functions.

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45 In addition to this ancient Christian hymn, the apostle Paul offers a profound meditation on the meaning of death in his letter to the Romans, chs. 6-8.

46 For a similar opinion, see Gilbert Meilaender, “On Removing Food and Water: Against the Stream,” in Th. Shannon, Bioethics (3rd ed., 1987), pp. 219-222. To his mind, withholding or withdrawing food and hydration comes perilously close to “aiming to kill.” On the other hand, Jacquelyn Slomka, “What Do Apple Pie and Motherhood Have to Do With Feeding Tubes and Caring for the Patient?” in Archives of Internal Medicine, vol. 155 (26 June, 1995), 1258-1263, makes an important distinction between social and medical uses of food: “Nutrition and hydration should be viewed as food and drink, with primarily a social meaning. Artificial nutrition and hydration should be viewed as medical treatment, with primarily a physiological meaning” (1260).

47 F. R. Abrams, MD, “Withholding treatment when death is not imminent,” Geriatrics vol. 42 (5 May 1987), 77-84, at 84.

the list of extraordinary measures that can be morally refused by the terminally ill or their proxies.49

Numerous recent studies have supported this view, and it is confirmed by the experience of nurses who treat dying patients.50 As they make clear, however, allowing dehydration requires that the medical team pay close attention to the condition of the patient's mucous membranes. These can be carefully and continuously hydrated by means of ice chips or specially prepared glycerine swabs. Such care is routine in hospices, and can be assured at home as well, with little inconvenience to the caregivers.

Note, however, that careful monitoring of dying patients is essential, especially when they are comatose or otherwise unable to make known their level of distress. Some hydration of the body, for example, may have to be continued in order to ensure the proper circulation and absorption of morphine and other medications, and to avoid pain in the joints. And given the pressures toward euthanasia in our society today, we need to add what should be obvious: that any patient, terminally ill or not, should be provided with adequate food and water if they are conscious and request it, even if they had previously signed a Living Will that rejected any and all life-sustaining measures.

Such basic respect for patient autonomy is rapidly waning, not only in Holland (PAS without informed consent) but also in the United States. For example, the media focused some years ago on the case of a brain-damaged Michigan man whose wife received court-sanctioned permission to have his feeding tube removed, thereby guaranteeing that he would starve to death. He was neither comatose nor terminally ill, and he clearly expressed the desire to live. This case illustrates how important it is for all decisions to remove hydration and feeding tubes to be made under the strictest controls, in light of the patient's actual physical condition, and only in cases of imminent death where such a procedure can be shown to be of significant medical benefit to the patient.

The greatest hesitation in removing a nasal-gastric tube is due to the fear that the patient will suffer from starvation and dehydration. As researcher Jacquelyn Slomka has pointed out, however: “The assumption that dehydration and/or starvation causes a painful death is unfounded based on numerous case reports, data from hospice caregivers, and a recent empiric study. The developing consensus is that (a) food and fluids not desired by dying patients do not add to the comfort of these patients; (b) artificial nutrition and hydration in terminally ill patients may increase pain, edema, respiratory congestion (and the need for suctioning), nausea, and vomiting; and (c) discomfort associated with dehydration results from thirst, which can be controlled with frequent mouth care, oral ice chips, and sips of fluids.”51 A conscious patient can make such discomfort known. In comatose or PVS patients, however, it must be clearly determined that neurological damage has rendered the person brain-dead, i.e., that trauma or illness has permanently destroyed the cortex and cerebral hemispheres, before any consideration can be given to withdrawing nutrition and hydration.

Withholding or withdrawing hydration and feeding tubes, in other words, can be considered a moral option only when the patient is 1) according to the best medical judgment, irreversibly comatose—and he or she has expressed, through a Living Will or Durable Power of Attorney, a clear

49 See R. McCormick, "Nutrition-Hydration: The New Euthanasia?" in The Critical Calling: Reflections on Moral Dilemmas Since Vatican II (Washington, DC: Georgetown University Press, 1989), 369-388; and T. A. Shennon, J. J. Wolter, "The PVS Patient and the Forgoing/Withdrawing of Medical Nutrition and Hydration," in Theological Studies 49/4 (1988), 623-647. Compare the remarks of S. H. Wanzek and team, "The Physician's Responsibility Toward Hopelessly Ill Patients," The New England Journal of Medicine, vol. 310, no. 15 (12 April, 1984), 955-959, at 958: "Patients in a persistent vegetative state. In this state the neocortex is largely and irreversibly destroyed, although some brain-stem functions persist. When this neurologic condition has been established with a high degree of medical certainty and has been carefully documented, it is morally justifiable to withhold antibiotics and artificial nutrition and hydration, as well as other forms of life-sustaining treatment, allowing the patient to die. This obviously requires careful efforts to obtain knowledge of the patient's prior wishes and the understanding and agreement of the family." As we stressed in the previous section, the only justification for removing nutrition and hydration from a PVS patient is irreversible destruction of the neocortex or higher brain. Short of that determination, normal palliative care, including food and liquid, is ethically mandatory.


51 Art. cit., 1262; see her bibliographical references that offer medical support for this opinion.
and uncoerced desire to forgo such procedures; or 2) when the patient is conscious yet clearly in the last stages of the dying process, and requests repeatedly (or otherwise indicates the desire) that food and liquid be withheld. This latter case does not constitute active euthanasia or suicide. It merely accepts the reality of impending death and allows the disease (illness, bodily trauma or whatever) to take its natural course where medical care is unable to restore health.

Another point, alluded to earlier, needs to be made regarding “extraordinary” measures. Antibiotics are administered so routinely that they can hardly be considered anything but “ordinary.” Yet their use has deprived terminally ill patients of a relatively simple and painless death by pneumonia. This long respected “friend of the dying patient” no longer performs its vital function, and the terminally ill person is left to die by some other means: means that can only be treated by extraordinary procedures. Adequate pain management is obligatory. This does not mean, however, that antibiotics need be administered if they will merely extend the biological life span while increasing the pain and discomfort of the dying patient. Given this consideration, use of antibiotics in terminal care—together with any other procedure that merely prolongs the dying process—should be classed under the rubric of “extraordinary measures” that can be morally refused or withheld.

The research lying behind these protocols has very significant implications for the way we care for the terminally ill. It suggests that the appropriate place for the dying patient is not the cold, busy, technologically sophisticated environment of the hospital. It is, rather, in the home or in a hospice, where the patient can benefit from appropriate pain medication, personal care and, above all, the loving and prayerful presence of family and friends.

The question we need to discuss as Orthodox Christians, who are concerned with the sacredness of life from its beginning to its end, is this: *How can we as Christian people once again take control of the way we die?* This raises as well a number of corollary questions. How can we as the Church develop appropriate hospice programs that will guarantee for the terminally ill adequate pain management, together with an environment of peace, love and prayer? And what steps can we take to enable the terminally ill to die at home, again with appropriate medical care and with as much interaction with loved ones as possible? How, in other words, can we recover, for ourselves and for those facing the end of their earthly existence, the conviction that death is not “terminal,” but that it is to be embraced as a longed-for beginning, a dying and awakening into the joy of eternal life?

**Christian Diakonia and the Dying Patient**

There comes a point in end-of-life treatment where aggressive therapy should give way to pain management and a concern for the patient’s overall comfort. Here various hospice programs come into play, developed both through the churches and through various social agencies.

A three-tiered hospice system has been created in this country, operating out of hospitals, in private homes, and in resident facilities which are usually open only to the terminally ill. As with hospital and home-care programs, these in-house facilities have proven highly effective in offering the compassionate, personal care and medical attention that can most adequately ease the dying process and provide a truly “good death,” even to those who suffer potentially painful and debilitating illnesses. A sense of abandonment and loss of control over their lives is the gravest affliction experienced by most dying patients. The various forms of hospice care, if well administered, can relieve patients’ anxiety by providing trained personnel to accompany them in their final journey and offer the emotional and spiritual support they crave.

Orthodox hospice programs could provide an essential liturgical and sacramental setting, in which patient and priest together can seek healing through God’s forgiving grace, even as the body nears death. Services of this kind should be ranked as high priorities among the many pastoral tasks the church is called to assume. A monastic community can be an ideal setting in which to end one’s earthly existence. But most communities are not equipped to offer the degree of care and comfort dying persons need. A new form of philanthropic organization, even a new expression of Christian vocation, seems required today, if the church is to provide a genuine alternative to physician-assisted suicide. True “aid-in-dying” could be furnished by specially trained Christian lay persons or medical professionals who find themselves called to a vocation of service to the terminally ill.
There is a great deal of discussion within the Orthodox Church today about renewing the deaconate as a vocation of charitable diakonia. The suggestion has also been made that we create—or rather, rediscover and reactivate—the vocations of “deaconess,” “virgin,” and “widow.” What better way to utilize the extraordinary yet sadly neglected gifts and capacities of Orthodox women, than to offer them the officially recognized and blessed opportunity to minister directly to those who are dying? While an “order of Sisters of Mercy,” for example, would sound foreign to Orthodox ears, if it is carefully distinguished from the traditional monastic vocation and established as a pastoral ministry in its own right, such an order could provide the worthiest of services while enabling its members to undertake a genuinely Christian ministry “in the world.” And of course such a ministry need not be restricted to women, but could be open to anyone who wants to care for the sick and dying in a framework of nurture and prayer.

On a more modest level, our parishes could sponsor selected members of the community to be trained in hospice work, home-health-care, hospital visitation and the like. It is a well-known fact that as patients approach the terminal stage of life, doctors and other care providers tend to withdraw from them, leaving them with a desperate sense of abandonment. Care for the terminally ill is basically a spiritual task—one that relies on appropriate medication, but acknowledges and accepts the inability of most medical teams to minister pastorally, spiritually, to those who no longer respond to their attempts to heal. It is the Church’s task to provide the loving care and nurture required to reconcile dying patients with God, family and friends, and to journey with them to the threshold of life beyond death. For our parishioners to assume this vital aspect of the church’s ministry, however, they need a proper framework, with appropriate training and adequate funding. As difficult and utopian as this proposal might sound, experience has shown that a parish mobilized around an authentic diakonia can provide the material support that service requires. And service of this kind offers its own reward by rejuvenating parish life through a renewed and living experience with the gospel of love.

These few suggestions are proposed simply as initial steps, to counter the pressure now growing in American society for a “final solution” to the problem of the terminally ill. The church must reject active euthanasia.

But it can reasonably do so only by demonstrating through its actions and overall witness that there is indeed a better way.

With regard to Oregon’s Measure 16 and the inevitable sequels it will spawn, we must affirm that physician-assisted suicide, euphemistically referred to as “aid-in-dying,” is morally abhorrent and contrary to the will of God. To license doctors to kill would undermine the medical profession and the need for patients to trust implicitly that their physician is there to heal; it would sanction suicide as an acceptable “way out” in virtually any circumstances; and it would create a system of basic inequality between those who can afford full medical coverage and thus life-prolonging care, and those who can not. The real victims of legislation akin to Measure 16 will be the poor, the abandoned, the mentally ill, and generally the marginalized members of our society. If ever the slippery slope posed an intolerable risk to personal and social welfare, it does so in the case of physician-assisted suicide.

This being the case, we need to justify our rejection of the practice by offering feasible and positive alternatives for the care of dying persons. As with the crisis of abortion, we cannot reject the solution of expediency unless we are willing to assume spiritual and material responsibility for the persons involved.

Above all, through the preaching and teaching of the Church we must convey the conviction that there is a greater value than sustained physical existence in a terminal state. The life freely bestowed by God must one day be freely and willingly surrendered to him, in order that he remain Lord over both the living and the dead. Our task is to find ever more compassionate and pastorally sound ways to accompany the dying toward the final step—that they alone can take—of surrendering their life and eternal destiny into God’s open and loving hands.

Rather than dread death as the frustrating conclusion to our human aspirations and intentions, we must learn to embrace it as a truly “Blessed Pascha,” a painful but necessary step in a pilgrimage without end. The divine challenge to “choose life!” means that we preserve, protect, nurture, and cherish earthly life by any and all means, and in all circumstances and conditions. Yet it also means that when death does come, we receive it, in faith and hope, as a blessed transition to life beyond.
At the close of one of his Edifying Discourses, the Danish existentialist theologian Søren Kierkegaard spoke of life's final step in words that appropriately describe the ultimate leap of faith: "So we may understand that the same God who by his hand led us through the world, now withdraws it, and opens his embrace to receive the longing soul." For most people, the dying process involves at some point the sense that God has indeed withdrawn his hand, and the resulting sense of abandonment can lead them to spiritual shipwreck and despair. In such moments, suicide—especially if it is physician-assisted—can seem both a reasonable and compassionate "way out."

To preserve them from this final and most tragic temptation, we need to accompany dying persons with compassion, love, and unshakable hope. And by our words and gestures, we need to convey to them the ultimate truth about death: that God's own deepest longing is precisely to open his embrace and to receive his dying child in a place of eternal rest, where sickness, sorrow and suffering are no more, but only the joy of life everlasting.

52 "The Expectation of Faith," Edifying Discourses I (Swenson, tr.) (Minneapolis: Augsburg, 1943). 33

53 In this chapter I have only briefly mentioned the matter of Living Wills and other advance directives. In 1993 a task force drafted an excellent example of a Living Will adapted to the theological and pastoral perspective of the Orthodox Church. Entitled "A Living Will and a Christian Death," it represents the concerted reflection of an Orthodox anthropologist, medical doctors, and an Athonite monk. The final summary sections have been printed as a brochure, available through the St. John of Kronstadt Press Bookservice, Rt. 1, Box 205, Liberty, TN 37095; and inquiries may be addressed to M. L. Sill, Rt. 2 Box 2343, Wayne, WV 25570.

Summary: Bioethics and the Sacred Gift of Life

"It is impossible to live without life, and there is no life except by participation in God. This participation consists in beholding God and rejoicing in His goodness."

—St. Irenaeus

"Adam lost the earthly paradise and sought it weeping. But the Lord through His love on the cross gave Adam another paradise, fairer than the old—a paradise in heaven where shines the Light of the Holy Trinity. What shall we render unto the Lord for His love to us?"

—St. Silouan

The field of "bioethics" arose in response to modern technology: the prodigious development in recent years of various medical tools and procedures aimed at creating and sustaining the bios, that is, human life considered especially in its physical or biological aspect. This new science, dating from the end of the 1960s, focuses particularly on the main areas: 1) the beginning of human life (including methods of artificial procreation, abortion, and in utero surgery); 2) various means for preserving and sustaining life (including dialysis machines and ventilators, drug and gene therapies, and vital organ transplants); and 3) the end of life (including pain management for terminally ill patients, withdrawing or withholding of food and hydration, and euthanasia). Other related areas of concern include patient autonomy, distributive justice in a world of limited resources, and informed consent. In countries such as the United States,
where health care is considered to be a service for those who can pay rather than a right guaranteed equally to all citizens, there are the additional issues of health delivery systems, including so-called “managed care” and the financing of “catastrophic illness.” When health care is subjected to the laws of the market place, injustices are inevitable. These, too, are increasingly the focus of attention of specialists in the area of bioethics.

The primary question that concerns Christian ethicists or moral theologians today is evident: Which moral and spiritual values do we need to respect and protect in the wake of these recent technological developments and social pressures, given the fact that neither Scripture nor patristic tradition deals explicitly with them? That question is especially difficult to answer in a pluralistic world, where in the minds of our contemporaries all values are relativized and basic or “absolute” principles no longer exist. Ours is a world in which human life is often considered—and treated—as a mere product that we can create on demand and eliminate for reasons of convenience, as with elective abortions and euthanasia without informed consent.

If we are to remain faithful to the Orthodox vision, the only possible reply to the question concerning moral and spiritual values to be protected in this technological age must be thoroughly grounded in biblical and patristic anthropology: the vision of the human person, created in the Image of God and called to grow toward actualization of the divine likeness. In Pauline language, we are called to a life of authentic “freedom”: a freedom lived in God and for God, by the indwelling presence and sanctifying power of the Holy Spirit.

Accordingly, bioethics is a science which by its very nature is theological. The ultimate meaning of human existence is to be found in the quest for theosis or deification: eternal communion with the Three Persons of the Holy Trinity. It is this communion that determines our relationships with other persons as well as with God himself. As a theological discipline, bioethics reflects on the intrinsic values of human life, as it does on the means by which biomedical technology can properly serve life’s ultimate end: our participation as human persons in the personal life of the triune God. From this perspective, bioethics is conceived as a function of the discipline of Christian moral theology. Its primary concern is to discern and to actualize, within the Church and the world at large, the conditions necessary for the individual Christian to realize and fulfill his or her life according to the familiar petition of our Litany of Supplication: “a Christian ending to our life, painless, blameless and peaceful...”

The moral and spiritual values we need to respect and to protect in all of our reflection in the area of bioethics include the following: 1) the sacred character of human life, which is to be acknowledged and preserved from conception to the grave and beyond; 2) the sacrificial love of God as the origin and basis of every human relationship (for example, between the physician and the patient, or between the organ donor and the organ recipient); and 3) the call to holiness and to theosis: participation in divine life, which alone provides ultimate meaning to human existence and serves as its ultimate end.

It is profoundly Orthodox values of this kind—the sacredness or sanctity of human life, the sacrificial love of God, and the deification of the human person—that will determine our attitude toward procedures and protocols such as abortion on demand, in vitro fertilization, genetic engineering (including the cloning of human embryos), psychotropic drug therapy, and euthanasia.

To the degree that the medical team strives to remain faithful to the Gospel, it will recall that every medical decision is taken within an ecclesial framework. This means that every decision concerning the life or death of a person also involves the lives of all those who are united to the patient in the communion of the Body of Christ. It means that medical treatment is an aspect of the priestly ministry common to every member of the Church. The question the physician must answer is therefore the question every member of the ecclesial body must deal with: How can we exercise an authentic synergy or cooperation between man and God, such that our choices and decisions concerning life and death conform thoroughly and faithfully to the divine will? How should we act so that the love of God is the true foundation on which all of our relationships are built, particularly our relations with those who are suffering from disease and disability? In liturgical language, how can we take responsible action toward another person in such a way as to fulfill the basic priestly role incumbent on each of us, to “offer ourselves and each other, and all our life, to Christ our God”? How can we make biomedical decisions that will fully respect the fundamental analogy that exists between the offering of the person and the offering of the Holy Eucharist: “Thine own of Thine own, we offer unto Thee, on behalf of all and for all”? 

Summary: Bioethics and the Sacred Gift of Life
These are just a few of the basic questions we have attempted to address, in order to preserve an essentially theological perspective toward the issues raised in connection with biomedical therapies and their related technologies. The danger facing all those who involve themselves with bioethics today is that the field itself is at risk of being taken over by interests that are sociological and economic rather than theological and spiritual. In a world of limited resources and increasing medical demands, all too often the choice to treat one patient over another is made on grounds of convenience and experimental usefulness. Orthodox medical ethics, however, is teleological rather than utilitarian; it serves the divine economia rather than the interests of human progress or productivity. Therefore it necessarily focuses on the individual as a person, created in the image of God and endowed with transcendent value: a person who, by his or her very nature is an “ecclesial being,” characterized by “otherness” and “communion,” as by the dialectic between freedom and responsibility. To reduce the person to a purely physical or material object is to deny the transcendent aspect of the human creature and to betray the very vocation of medicine, which, like the eucharist itself, exists for the healing of both body and soul.

Let us move on at this point to a brief summary of some of the major areas that we have focused on in the previous chapters. What are the most important problems posed by the science of biomedicine that necessitate the serious and concerted reflection of those concerned with the ethical or moral consequences of that science?

Bioethics, once again, considers especially, but not only, problems that arise at the beginning and at the end of human life. A course outline in bioethics will ordinarily begin with a question that is both philosophical and medical: “At what moment does human life begin?” (at conception? at implantation? at birth?). And the course will conclude by considering the problem of euthanasia: the so-called “right to die,” together with the increasingly widespread practice of physician-assisted suicide.

Closely linked to the question of procreation is that of human sexuality in general. We have stressed the Orthodox conviction that gender distinction and complementarity are basic aspects of human nature and characterize the human person in his or her quest for participation in divine life. This means that every expression of genital sexuality has its proper place only within the context of a monogamous, heterosexual, blessed conjugal union. Against the cheapening of human life and relationships reflected and encouraged by so much of the media and entertainment industry today, we need constantly to affirm the ultimate sacredness and dignity of the human person. The intimacy of sexual relations is such that its expression outside the framework of the covenantal bond of marriage leads inevitably to sinful exploitation of other persons and to a certain level of abuse with regard to one’s own dignity as a bearer of the image of God. This is especially true with adultery, where the covenantal bond that makes of husband and wife “one flesh” for their sanctification and mutual salvation is violated to the core.

From a Christian perspective, marriage is a divinely established, sacramental relationship that serves three basic purposes: to deepen the bond of love, devotion and faithfulness between spouses; to enable them, through procreation, to participate in God’s own creative work; and by an ongoing ascetic effort that involves repentance, forgiveness and mutual intercession, to enable the couple to live and to labor for each other’s salvation. It is this profoundly sacramental aspect of marriage that makes of it an essentially covenantal relationship, whose purpose, above all, is to lead husband and wife into an eternal union with one another. That union transcends the limits of earthly existence and finds its fulfillment in eternal communion with the glorified Christ, the true Bridegroom, in the Kingdom of God.

In the United States today, the most difficult and divisive bioethical issue is certainly that of abortion. Other societies are equally torn by the problem but have not yet come to acknowledge its gravity: the immense social and spiritual tragedy that consists in willfully destroying millions of unborn children every year. It is well known that Orthodoxy, ever since apostolic times, has vehemently opposed elective or “convenience” abortions. From the moment at which fertilization or “syngamy” is complete there exists a unique human being whom the Church recognizes as personal, a being in relationship with God and with other persons. Abortion, therefore, is tantamount to murder: the willful taking of a human life in violation of the interests of the victim.

There are, as we have noted, so-called “hard cases” that seem to many ethicists to offer grounds for accepting abortion under special circum-
stances: 1) serious danger to the life of the mother, 2) psychological stress produced by the pregnancy that threatens the mother’s well-being, 3) pregnancy resulting from rape or incest, and 4) a diagnosis, provided by amniocentesis or chorion villus sampling, indicating that the child is afflicted with serious genetic “defects” or anomalies.

Traditionally, the only grounds on which the Church can accept abortion are a true and serious threat to the mother’s life. In such increasingly rare instances, she should be given priority over the child she is carrying, simply because of the web of relationships and responsibilities that is hers, that the child does not yet enjoy. As tragic as rape and incest are, studies have shown that aborting the fetus usually does more psychological and physical harm to the mother than helping her to bring the child to term (and, if need be, to place the child for adoption). How, in our present climate of legalized abortion and a nearly absolute priority given to “rights” over responsibilities, is the Orthodox Church to defend the unborn against what has been rightly called the “abortion holocaust”? How are we to proclaim effectively the traditional conviction that personhood is bestowed by God from the time of conception, and is thus wholly independent of human calculations or convenience? How, in other words, are we as Orthodox Christians to enter the debate on the “status of the embryo” in such a way as to make the point that procreation is ultimately an act of divine creation, and that the conceptus from the very beginning bears the image of God and is called to assume the personal likeness of God through a life-long inner pilgrimage that leads to deification?

This conviction concerning the fully human, and indeed personal quality, of the embryo has profound implications for the matter of assisted reproduction and the use of various technologies in the procreative process. Among the most problematic of these are genetic screening and in vitro fertilization. The only purpose of genetic screening is to detect genetic anomalies—such as Down’s syndrome, spina bifida, Tay Sachs disease, or the Lesch-Nyhan syndrome—with the aim of aborting undesirable fetuses, since at the present time it is not possible to correct these defects by genetic surgery. Yet with the rapid advances now being made in the field of gene therapy, some form of screening will soon become both mandatory and desirable, insofar as certain anomalies can be corrected in utero. What limits should be imposed on genetic screening?

How can we assess the value of the diagnosis provided by such screening as compared with the danger it represents both to the mother and to the child she is carrying?

As for in vitro fertilization, the primary objection to the procedure concerns so-called “extra embryos.” Ordinarily several ova are fertilized in a petri dish, two or three are transferred to the woman’s uterus, and the others are either discarded, frozen for future transfer, or used for experimentation. Because it holds the age-old conviction that personal human existence begins with conception, Orthodoxy cannot accept such a protocol. Most Orthodox ethicists, in fact, are reluctant to sanction the donation of extra embryos even in the interests of providing children to otherwise sterile couples. The legal complications produced by the existence of frozen embryos, together with cloning and other forms of manipulation, make it impossible for us to accept IVF where it leads to abuse of the germ cells or the newly created zygote. The recently developed procedure of Intra-Cytoplasmic Sperm Injection (ICSI), may offer a partial solution, insofar as it enables a single ovum to be fertilized by a single selected sperm, thereby eliminating the need for extra embryos. This does not prevent manipulation of human gametes and embryos, but it does offer a new possibility for couples to conceive without creating unwanted human life.

The question is: From an Orthodox perspective is it morally acceptable—that is, acceptable in the eyes of God—to create life outside the womb? The Roman Catholic Church has strongly condemned such procedures, citing both the invasiveness of the technique in the life of the couple and the danger of the slippery slope that leads to ever more manipulation. Orthodoxy does not have a “natural law” approach to the matter as does the Roman Church. Nevertheless, we still need to reach some degree of consensus as to whether we can accept medical procedures that involve drugs to increase ovulation, laparoscopy to retrieve ova, masturbation to acquire the needed sperm, and manipulation of the gametes in a laboratory, to arrive at a less than twenty percent chance of a successful pregnancy. In addition, we need to ask whether the Church can countenance a procedure that is so expensive that only the wealthy can have

access to it. These are issues that call for both serious reflection and carefully weighed decisions.

This leads us to the matter of the bio-possibilities and biohazards of genetic engineering in general. On the one hand, production of medicines, drugs, hormones and proteins by means of what the French aptly term “le génie génétique” holds out extraordinary possibilities for new medical treatments of formerly incurable diseases. The human genome project is providing us daily with knowledge of our genetic heritage, and it promises to furnish new therapies that will decrease the mortality rate among children while increasing the quality of life of those who in an earlier age would have borne debilitating mental or physical handicaps. Nevertheless, the most important question in this regard concerns not our physical or mental condition, but rather our degree of spiritual health and well-being. Manipulating DNA with the aim of “improving” the human species will lead us inevitably down the slope toward Ramsey’s “fabricated man”: the human person created according to human criteria—that is, human desires and perceived needs—rather than according to the image of God.

Who, after all, will determine what criteria are to be applied in producing genetically engineered human beings? And what will those criteria be? Without doubt, utility and intelligence will take precedence over sanctity and wisdom. Traits such as an aggressive temperament, an analytic mind, and physical strength will certainly be more prized in today’s highly competitive Western societies than Jesus’ own values as articulated in the Beatitudes: values such as poverty of spirit, humility, pursuit of justice, and self-sacrifice out of love for another person.

There appears to be an increasing level of anxiety among Christian medical specialists as the genome project moves ahead. Once the human genotype is fully mapped out and the manifold functions of the DNA molecule are known, scientists will hold the power to manipulate genetic material at will. This will lead not only to the creation of chimeras (already human genetic material being introduced into other organisms), but it could potentially lead to a resurgence of the eugenics movement that proved so disastrous during the first half of the 20th century. Scientific eugenics, founded around 1890 by Francis Galton, had two chief aims: to prevent undesirables such as the mentally retarded and physically handicapped from reproducing, and to “improve” the human race through genetic selection. The question now, as then, remains: Precisely who, using what criteria, is going to determine those who constitute the socially undesirable, and to what “final solution” will they be subjected in order that the human race be “improved”?

The extraordinary recent successes in the area of cloning demand special attention from the Church and from Christian bioethicists. The birth of the famous ewe “Dolly” elicited the question: “Today the sheep, tomorrow the shepherd?” (answered tentatively but ominously in the affirmative by the birth of the human gene-bearing sheep Polly). Dolly was the first mammal to be cloned using an adult cell (although, as we have noted, the project scientists themselves have raised the possibility that the cell in question was in fact embryonic). Previously it was only possible to clone an embryonic cell, one selected prior to the onset of cellular differentiation. This and other new technological possibilities open the way toward human cloning, including creation of anthropoids: sub-human creatures programmed to act as slaves, with perfect efficiency and unquestioning obedience. In reply to a request made by the White House in April of 1998, the Orthodox Church in America sent to President Clinton a declaration that categorically condemns all scientific experimentation that would lead toward the cloning of human beings. Although such experimentation has

2 The text of the statement is as follows:

“The recent cloning of a sheep from a single adult cell opens the way to the cloning of other species, including human beings. Although no one can prevent scientific research and experimentation from proceeding in this direction, the question arises as to whether the United States government should ban or regulate this activity and provide it with public funding.

The worldwide body of Orthodox Churches adhere strictly to the view that human life is sacred: that each human being is created as a unique person “in the image of God.” Accordingly, the great majority of Orthodox ethicists will insist that all forms of eugenics, involving the manipulation of human genetic material for nontherapeutic purposes, are morally repugnant and detrimental to human life and welfare.

Various cloning techniques using animals have been developed over the past ten years, promising enhancement of human life through the creation of new drugs, proteins and other useful products. Such endeavors deserve public support and funding. The prospect of human cloning, however, raises the specter of the “slippery slope” in the most direct and ominous way. In a “fallen” world, where rights outweigh responsibilities, cloning techniques using human cells will inevitably lead to abuse: the commercialization of “prime” DNA, production of children for the purpose of providing “spare parts,” and movement toward creation of a “superior” class of human beings. Moreover, scientists at present are unable to determine if a selected cell contains mutations or other defects that could produce crippling deformities or mental retardation in the cloned child.

In light of these factors, the Orthodox Church in America urges emphatically that a government ban be imposed on all forms of experimentation to produce human clones and that government funding for such activity be denied. A moratorium on this activity is urgently needed.”

2
gone on for many years using embryonic cells, the possibility of cloning adult cells—if indeed the procedure can be duplicated and applied to humans—vastly increases the likelihood that we will soon be producing “made-to-order” babies. Consequently, the Church must speak out, even if its declarations serve no other purpose than to limit the use of federal funds for this kind of manipulative abuse.

Genetic engineering should be encouraged and supported by public monies insofar as it can increase the quality and quantity of edible plants and animals, and provide appropriate therapies for human medical care. In the area of food production, this could even include the cloning of livestock, already well under way in the wake of the “Dolly” phenomenon. (Although it should be noted that many Orthodox find such manipulation of animal life to be abhorrent and ethically inadmissible.) What is totally unacceptable is the manipulation of human gametes with a view to augmenting or improving certain traits, just as it is morally unacceptable to create children for the purpose of providing “spare parts” for organ transplantation. This judgment holds in spite of the fact that fetal brain cells, for example, can significantly attenuate the symptoms of Parkinson’s disease by increasing levels of the neurotransmitter dopamine. Or that fetal organs can be transplanted without triggering a rejection response.

Despite the medical advantages of fetal tissue and the hope fetal transplants hold out to some patients, there remains a moral truth that we must respect: However noble the end may be, it cannot justify immoral means. This is a fundamental principle of Christian ethics, affirmed by the apostle Paul himself: we may not do evil that good may come (Romans 3:8). Human cloning is abhorrent and unacceptable because of the abuse that will inevitably follow from it, as is the stockpiling of fetal parts because of abuse inherent in it. By insisting on this point, we do not at all wish to hamper scientific progress or impede appropriate medical care. Our concern is simply to render unto God that which is God’s, beginning with human life. To recall once more St. Paul’s words to the Corinthians: “You are not your own; you were bought with a price. Therefore glorify God in your body!” (1 Cor 6:19f). Such a command is impossible to respect insofar as we give in to the temptation to fashion ourselves after our own image and to reconstitute ourselves with the organs of other people, particularly the nonconsenting unborn.

With regard to treatment of the terminally ill, a question raised today with special urgency is that of pain management, particularly in cases of cancer and other illnesses where physical and mental suffering can become unbearable, even “dehumanizing.” If euthanasia, in the form of physician-assisted suicide, preoccupies the media as well as medical ethicists today, it is because too little attention has been given to the proper and reasonable use of opiates such as morphine, often because of the unfounded and unreasonable fear that the patient will become addicted to them. We should recall that the St. Christopher hospices in England have for many years provided terminally ill cancer patients with the so-called Brompton cocktail that has proven to be highly effective in allowing patients to experience an end to their life that is indeed “painless, blameless and peaceful.” Patients provided with such medication tend to require lower doses than do others who are connected to a morphine drip, because they themselves are in control of the process of pain management.

Serious attention paid to the problem of pain management would go a long way toward halting the frenetic rush toward legalizing physician-assisted suicide. Serious abuses arising from the Dutch experiment with euthanasia have been well publicized. They should make us aware of the extraordinarily powerful attraction the so-called “right to die” exercises on the minds of those who feel themselves living in a world bereft of transcendent meaning. Yet, as studies have shown, those who seek medical assistance to end their lives dread not so much death as the dying process. The prospect of spending weeks, months or years attached to a ventilator, fed intravenously, and slowly expiring in a hospital ward is demeaning and depressing. The Church needs to put its moral weight behind alternatives—beginning with hospice programs—that offer consolation and hope rather than the frustration and despair which lead to suicide.

A related ethical matter we have stressed concerns the feeding and hydration of terminally ill patients. In recent years we have witnessed a sig-

3 The 2 January, 1998, issue of the journal Science announced tests of a compound related to nicotine that acts as a more powerful analgesic than opiates, including morphine, but without the negative side effects or a significant risk of addiction. Termed ABT-594 (for Abbott Laboratories, which is developing the so-called “nicotine analog”), the compound represents a potential breakthrough that would provide physicians with a highly safe and effective means to control pain, while avoiding the toxicity and addictive properties of today’s commonly used drugs. Unlike various forms of cloning, this is the kind of research the churches and other religious bodies can and should encourage.
nificant change of attitude in this regard. Since food and water are essential to sustain a living organism, it used to be taken for granted that they were mandatory in any treatment protocol. It was considered immoral and unthinkable to deprive dying patients of food and water because it was assumed that they would suffer the agonies of starvation and dehydration. When members of the medical team observed terminally ill patients tearing out naso-gastric tubes and I-V lines, they quickly replaced them, supposing that the patient was mentally unstable or was simply reacting to the irritation they caused. Today we recognize that this gesture is more often due to an intuition, common to dying patients, that continued feeding and hydration in the final stages of life (that is, with only hours or at most days to live) does more harm than good. For the patient in a terminal state, the absence of food and water allows the organism to produce natural analgesics (enkephalins, endorphins and similar neurohormones) and to increase azotemia, which also has an analgesic effect. This permits the cellular system to shut down progressively, allowing the patient to die with a minimum of physical pain.

In certain cases, then, it is medically appropriate to increase the dosage of opiates, such as morphine, thereby rendering bearable otherwise intractable pain. In unquestionably terminal cases this is morally acceptable treatment even there where the procedure threatens to slow or shut down the respiratory system. Similarly, in certain cases (determined by at least two physicians) it is appropriate at the terminal stage of life to withhold or to withdraw feeding and hydration tubes (provided that the body’s mucous membranes are kept moistened by ice chips or glycerine swabs). These actions do not, as it may appear, violate the first principle of the Hippocratic Oath, primum non nocere, “first of all, do no harm.” This is because, according to the “principle of double effect,” accepted by Orthodox as well as Roman Catholic ethicists, 1) one acts for the good of the patient; 2) the benefits that result are proportionally greater than the negative consequences (in that dying more quickly but in peace is preferable to a prolonged dying process marked by unbearable pain); and 3) the intention of the act is not to kill the patient but to reduce as much as possible his mental and physical suffering.

This said, however, we must insist on the fact that from an Orthodox perspective there is a fundamental difference between killing and allowing to die. Whereas allowing the patient to die merely accepts the limits of human existence and of modern biotechnology, and permits the illness to pursue its course until the end, the act of killing, including so-called “mercy killing” or euthanasia, usurps from God power and authority that belong to him alone. No matter what form it takes, euthanasia is morally unacceptable because God is Master of both life and death. Therefore, to inflict death intentionally, whatever the motivation, is to commit murder.

This conviction has important implications for the determination of death, as it does for those cases in which extraordinary means are used to maintain a patient’s physical existence. Organ transplant teams are understandably preoccupied by the chronic shortage of available organs. This has led to pressure to declare anencephalic newborns to be technically dead, in order that their organs might be harvested. And it has created in the popular mind the specter of the transplant team hovering over the body of a terminally ill patient, ready to remove vital organs before the patient is actually dead. Still more troubling are initiatives to declare patients in deep coma or persistent vegetative state to be legally dead, even though they can be maintained, often for many years, by life-support technology. Given our limited resources and the technological capacity to transplant vital organs successfully, should such patients’ lives be ended by withdrawing or withholding life support? And if so, should they then be considered candidates for organ harvesting?

A prior question, however, is whether it is morally acceptable to harvest and transplant organs in the first place. From the point of view of Orthodox, and especially patristic tradition, the matter could be argued either way. On the one hand, we insist on the “sanctity of life,” the inherently sacred quality of human existence, created in the image of God. This leads some theologians to hold that organ transplants should be prohibited because they violate the human body and reduce the dying person to a potential reservoir of “spare parts.” Since an Orthodox medical ethic will value the life and integrity of the patient above all else, it is immoral to use anencephalic infants or dying adults as sources for harvesting organs.

On the other hand, it could be argued that the greatest act of love the dying patient can make consists in offering his or her vital organs to others, in order that their life might be prolonged or improved. St. John Chrysostom’s homilies on wealth and poverty, for example, might be in-
terpreted as follows: All that “belongs” to us, including our personal existence, is a gift from God and in reality belongs to God; we are called to assume stewardship over our body in the name of Christ, and to exercise unconditional love toward our neighbor (the “sacrament of the brother”); therefore, we are morally obligated to offer to others vital organs that we ourselves can no longer use.

However we are to decide this issue, there are some basic guidelines that we need to respect. In recent years the criterion for determining death has shifted from cardio-respiratory cessation to so-called “brain death.” This latter, however, is ambiguous. Does the irreversible cessation of upper (hemispheric) brain functioning constitute death? Or should death be declared only where brain-stem activity has ceased? As we have pointed out, brain-stem death means the onset of putrefaction. It signifies the “death of the whole organism” rather than merely “death of the organism as a whole.” Therefore, once brain-stem death has occurred, it is too late to harvest organs. Using brain-stem criteria to determine death, we are left with the gruesome fact that vital organs can only be harvested from patients who are technically still alive.

In all of these cases—anencephaly and terminal illness, as well as PVS and deep coma—we must remember one crucial factor. Human personhood is determined not by medical diagnosis, but by divine Providence. An anencephalic child, considered “useless” and perhaps not fully human from a strictly social perspective, is nevertheless a person in the eyes of God. The same is true with the irresponsive PVS patient, or the trauma victim whose life can only be sustained on a ventilator. In making judgments regarding life and death, that truth remains fundamental. Neither illness nor death deprives the human creature of “personhood” in the eyes of God.

Nevertheless, given the reality of limited medical and economic resources, together with the fact of our mortality, it is irresponsible and lacking in stewardship to prolong the dying process through technological wizardry. There is a time to live and a time to die. Once the body has entered the terminal state (and anencephalics are by definition terminal patients) then reasonable and faithful treatment will consist of pain management, providing comfort, and allowing the “peaceful separation of soul and body” that we pray for in our prayers for the departing. Medical heroics (“dysthanasia”) all too often represents a kind of bio-idolatry, a “vitalism” that seeks to preserve mere biological existence, irrespective of the patient’s wishes or the cost to society.

The determination of what constitutes useless or futile treatment, as distinct from valiant efforts to preserve and improve the quality of the patient’s life where possible, is one that must be made in each individual case. The Church’s biblical and patristic tradition will not give us specific answers as to when and how life support should be maintained or discontinued. It will, however, insist on the infinite value of the human person. In so doing, it will provide us with the basic guideline for all medical decisions: unqualified respect for the patient as a bearer of the divine Image. This means that such decisions must have as their final aim to surrender the person into the loving and merciful hands of God, with the unwavering conviction that God, and God alone, should determine the limits of life and death.

It is in light of this kind of reflection that the great majority of Orthodox theologians reject categorically all forms of medically assisted suicide, just as they reject any action whose aim is to end a person’s life, even there where the ill patient is enduring what seems to be unbearable suffering. The answer to such situations is not the tragic death known by the euphemism “euthanasia.” It is rather to create measures that will effectively diminish the suffering, so that the terminally ill patient can die with a maximum of consciousness and a minimum of pain.

At the end stage of life, it is essential that dying persons be able to prepare for death in such a way as to preserve certain fundamental values and goals. They need to preserve to the fullest extent possible a conscious and personal relationship with God and with other people, they need to be able to confess and receive Holy Communion one last time, and they need to know that they are accompanied by the presence and prayer of those who love them and can surrender them gently and peacefully into the hands of God.

The offspring of modern medical technology, the field of bioethics focuses especially on biological and medical issues of philosophical and theological import, in order to bring to those issues insights and judgments that are both pertinent and just. The value of those moral judg-
ments will depend wholly on the presuppositions that undergird them. Even among Orthodox ethicists, however, shared presuppositions often lead to differing conclusions—regarding, for example, contraception, procreative technologies, organ transplants, or experimentation on germ-line cells. In these areas there exist within Orthodoxy today widely divergent opinions as to what truly conforms to the “mind of the Church.” Nevertheless, it is essential that we pursue our dialogue in order to arrive at appropriate solutions, even if it means agreeing to disagree on certain basic issues.

Dialogue among ourselves, however, is not sufficient. In the highly pluralistic, relativizing world in which we live—a world that is basically hostile to Christian values—it is of the utmost importance that we, as Orthodox Christians, join forces with others who call upon the name of Jesus Christ, to reflect together and to pray together, in order to discern the will of God for a world awash in moral confusion and unenlightened self-interest. And among ourselves as Orthodox theologians, medical specialists and concerned laity, it is equally important that we devote ourselves to the basic priestly task that consists in offering to God the problems and moral dilemmas of bioethics, together with the persons whose lives are touched by them. Our most basic responsibility, today and in the foreseeable future, is to submit to the Author of Life the multitude of difficult questions concerning life and death, with the hope and prayer that every ethical decision we make will serve his purpose and his eternal glory.

Appendix 1

This summary statement on abortion was written by the author several years ago as a brochure for distribution in Orthodox parishes and elsewhere. It was published by the Department of Religious Education, Orthodox Church in America, and is available through the DRE, P.O. Box 675, Syosset, NY 11791.

Orthodoxy and Abortion

Abortion: The Church’s Stance

Every human being is created by God, bears the image of God, and receives the gift of life in order to glorify God and to enjoy eternal communion with Him. Christian teaching, therefore, insists upon the sacredness of human life from its inception.

The question at the heart of the abortion debate is: What precisely is the moment of life’s inception? When does human life begin? This is the crucial question, since in American society the willful taking of a human life is still condemned as murder. Those who favor abortion-on-demand (“pro-choice”) are not philosophically “pro-murder.” Rather, they deny that the fetus is truly human.

The Orthodox Church has always taught that human life begins at conception, when a sperm unites with an ovum to produce a genetically unique, living being. In denouncing abortion in his own day, St. Basil the Great declared, “She who purposely destroys the fetus shall suffer the punishment of murder...and we pay no attention to the distinction as to whether the fetus was formed or unformed” (Canons 2 and 8). The patristic consensus holds that the soul is created at conception. We express this truth liturgically by celebrating feasts of the conception of St. John the Baptist (Sept. 24), of the Holy Mother of God (Dec. 8), and of our Lord himself (Annunciation, March 25).
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here is a story of a hermit being asked by an earnest visitor, “What do you actually do?” And the hermit replies, “I live here.” Living here: it is a calling, a life’s work—but also the most basic thing imaginable. Before anything else, we live on earth; we live in our environment. But today, we increasingly feel that this basic ground is being taken from under our feet. When we talk about our environment, it is almost always in the context of crisis, degradation, damage or loss. The very business of living as humans on the earth suddenly seems enormously problematic and complicated.

It seems strange that something so basic as our relationship with our natural environment should be a matter of lively debate and soul-searching. For most of human history, after all, this relationship must have seemed fairly straightforward. There were certain things that human ingenuity could control; humans could domesticate animals, cultivate crops, mine and smelt metals. They felled trees and built houses and ships; they developed sophisticated systems of water storage and distribution. In retrospect, we can see that they shaped entire landscapes; sometimes they would hunt a population of a certain animal to extinction, and occasionally they provoked local ecological collapse by over-using resources. But such environmental changes happened gradually, and it is unlikely that people had much awareness of the extent to which they were contributing to them. There seemed to be quite a clear dividing line between
things that were subject to humans, and the workings of the natural world which were in the hands of God. Humans were on the receiving end of both nature's bounty and natural disasters, and could do little more than react to whatever nature dealt them.

Then came an age of rapid advances in science and technology. For the first time, entire civilizations felt that they were largely in control of natural forces instead of being at their mercy. People no longer felt compelled to work around or simply accept aspects of nature that were inconvenient to them: they could alter them. At the same time, radical changes were being made in the social environment: entire (or almost entire) societies could now enjoy previously unheard-of levels of prosperity and comfort. But then suddenly—as it seemed to most people—the natural world itself was in crisis. First it was the pollution of water and air and soil. Familiar animals and plants began to disappear from their former range. Now the very systems that regulate the earth show signs of strain. Holes have appeared in the ozone layer. Extreme weather—heat waves, storms and floods—threaten the lives and livelihoods of thousands at a time. Receding glaciers, vanishing sea ice and thawing permafrost threaten ways of life that have survived for centuries or millennia. Rising temperatures combined with extensive world travel bring tropical diseases to prosperous countries in temperate zones. Like a child pulling thoughtlessly at a loose thread, we watch with growing horror as the fabric of our world starts to unravel. Or perhaps we deploy a familiar human defense mechanism, and persuade ourselves that nothing unusual or disturbing is really happening.

Unfortunately, our capacity to affect the world as a whole is not matched by our capacity to think in terms of the world as a whole. So there is a temptation to try to pigeonhole the threats we face, to cut them down to size. None of this is really our problem, the thinking seems to go. It affects something out there called “the environment”: a realm of rainforests and distant wildernesses, polar bears and white rhinos, or perhaps wild flowers and birds that some of us might choose to enjoy in our spare time. Concern for all this is an optional extra, something of interest only to “environmentalists.” In the view of some, such “environmentalism” is at best an irrelevance, a luxury for the rich, or a distraction from our proper concern for human welfare. At worst, it is regarded as a sinister and politically motivated plot to subvert our way of life.

It is this sort of thinking that leads people to ask why “the environment” should be of concern to Christians. On a basic and practical level, this should be easy to answer. The natural world is, after all, where we all live. So being indifferent to environmental pressures on other creatures is rather like pulling a dead canary out of a mine shaft and saying airily: “Not to worry: humans are more important than canaries.” But the dead canary means potentially dead miners. Many of the issues we label as “environmental” can better be thought of as the ultimate “life issues”: they concern the very life support system that our physical survival depends on. More specifically, they concern the ways in which human activity (or inaction) threatens the life of other humans, as well as other species, by making the earth a more dangerous and unhealthy place to live. So environmental concern turns out to be a matter of practical love for our neighbor, especially those most in need of our care. Most environmental problems take their toll on the poor and weak long before they affect those who can afford to live far from the landfills, upwind of the factories or power plants, and well above sea level. From the Christian point of view, there is no
such thing as a discrete ideology of “environmentalism” separate from love of God and love of neighbor. Christian environmental concern is not a distraction from feeding the hungry, clothing the naked and caring for the poor, but rather a recognition of the bigger picture. It is a recognition of all that needs to happen if we are to obey the imperatives of Christian charity at the present juncture of human history.

This may explain why we need to concern ourselves with practical measures to address environmental problems. But why should such problems require profound theological thinking? In particular, why should they require a new look at our relationship to the rest of God’s creation? Is this not a concession to the secular view of humans as just another animal, rather than a unique creature in the image of God?

To understand the need for the theological perspective, we need to consider what is actually involved in taking practical measures to address environmental problems. First of all, we need the honesty and courage to recognize what the problems are, how human activity is contributing to them, and how we personally are implicated. These questions can be very complex, involving an elaborate nexus of causes and effects; but they are ultimately questions of fact to which theology (or ideology) should not be relevant. In practice, however, as we all know, agreeing on facts is rarely simple. If a particular finding would oblige people to make sacrifices or change their behavior in other unpalatable ways, they will find all sorts of reasons to disbelieve it. Or it may happen that people object, on principle, to some of the solutions proposed to deal with a set of problems (such as artificial birth control, to reduce the pressure from a growing population); and instead of suggesting alternatives, as they have every right to do, they sometimes find it simpler to deny the problem. Or again, if people are convinced that the way they use the earth is perfectly legitimate—that it is fulfilling to the letter a divine mandate, for instance—then they may be less likely to accept that it could result in a litany of woes drawn straight from an Old Testament prophet’s depiction of divine displeasure.

Let us suppose, however, that we can agree on the nature of at least some of the environmental threats facing us: we then come to the question of remedies. Of course, everyone is happy to embrace remedies so long as they are painless. “Technology will find a solution,” people often say hopefully. There is no need to inconvenience ourselves, so the thinking goes; we can carry on living in just the same way. Now, there is no doubt that technology in various forms has played an important part in solving human problems since the dawn of civilization. But when we look at the potentials of various technologies (whether we are talking about improving crop yields, producing cleaner energy, energy efficiency or other areas) it quickly becomes apparent that few are without their drawbacks; almost none will produce a net benefit if they are not combined with difficult decisions to give up some of the things we have grown accustomed to doing. We need to entertain the possibility that “technical fixes” will not be sufficient.

It is hard to escape the conclusion that with an ever-growing human population, it is not enough for humanity as a whole to do more with less; individually, we must also learn to do less with less. This seems to point to an ethical dimension, whether we are talking about individual decisions (using products and produce that cause less pollution, driving and flying less . . . ) or about policy changes at the national and international level. Of course, the latter are out of the hands of any one individual; but governments and com-
panies have an incentive to make hard decisions only when their citizens or customers are whole-heartedly in support of the necessary changes. But is an appeal to ethics sufficient to deal with the underlying causes of environmental problems—to address these problems in such a way that they do not keep recurring? Moral failings such as selfishness and greed are often blamed for environmental destruction, and they play an obvious role in perpetuating it; yet they are hardly novel features of human nature. If selfishness and greed are the principle cause of environmental problems, why did such problems not manifest themselves millennia ago? Surely, something more must be involved.

The fact that we so readily invoke technology as a panacea reveals a feature of the modern outlook that may have much to do with today's environmental ills: a culture of control. Technology has always enabled humans to push the boundaries of what nature allows (starting with clothes and houses to protect us against the weather) or to make the most of what it offers. But in modern times, technology has increasingly been used in an attempt to defy nature's constraints altogether. There has been a very significant change in the way we view human technical skill. Instead of being seen as a further aspect of God's providence, this aspect of human ingenuity becomes a way for us to arrange the world for our own convenience, with no reference to some higher will for the world or for us. And this clearly takes us very deep into what we believe about humans' place in the world, the Creator's will for his creation and the way God uses nature to guide and teach us. As we look more closely at this whole idea of control, enormously influential as it is, we start to see why it is profoundly problematic from both a practical and a theological point of view.

What is meant by a “culture of control”? Looking around us, we repeatedly see a desire to control nature, often manifested in seemingly trivial ways. Many people regard it as quite normal, for instance, to have strawberries to eat in mid-winter, relax in a cool house in mid-summer in a subtropical climate, or sit on a well-watered lawn beside a swimming pool in a semi-desert. Or even, for that matter, to fly across oceans or continents for a weekend break. Some would see such things as harmless indulgences, which only a killjoy would object to. But such indulgences do raise expectations to levels that become increasingly unrealistic as an ever larger portion of the world's growing population starts to demand similar luxuries. And more profoundly, they reflect an expectation that nature should not be allowed to restrict us. That if I happen to feel like doing something, then neither season, nor climate, nor distance should be allowed to stand in my way.

This is not to say that efforts to control nature are always motivated by self-indulgence; one could equally point to advances in medicine which have alleviated so much human suffering over the past century, and the many inventions that have freed people from backbreaking and dangerous labor. But whatever our motives, the fact remains that the more humans pursue control over nature, the more it seems to elude us. It is not just the still-untamed power of tsunamis or volcanoes, which can turn our lives upside down—or end them—in a few minutes. More sobering still is the discovery that our very attempts to control and improve nature spawn a host of unintended consequences. Levees and channeled waterways prevent the deposition of silt, depleting the wetlands that would otherwise buffer storm surges, thus necessitating higher and stronger levees ... Ubiquitous and convenient plastics turn out to be filling our bodies with persistent toxins. Short-lived con-


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**in conclusion**

**Living in God’s Creation**

We have looked at some of the riches of the Orthodox tradition, some of the many aspects of the Church’s ecological vision. And this brings us to crucial questions: what does this mean for the way we live our lives? How are we to bear witness to this vision? And, finally, what difference will it make? We will suggest some answers from three angles: the Orthodox ethos, our approach to environmental issues, and the images we use for our place in creation.

But first, a note of caution. Sadly, it has to be said that the practical application of theology is an area where we Orthodox often fall down. There is a temptation to say, “Look, it’s all in the Fathers” (or the liturgical texts, or sacramental life . . .) and then sit back as if the problem were solved. Yet for all the richness of our theology of creation, Orthodox countries are hardly distinguished for environmental protection, or for widespread resistance to environmentally destructive elements of the modern lifestyle. And Orthodox communities in the West largely reflect the environmental attitudes of the surrounding culture. Especially where Orthodox communities have been formed largely by upwardly mobile immigrants, there seems little appetite for rejecting the conspicuous consumption and wastefulness that society at large regards as signs of success.
Of course, there are many individual exceptions to this gloomy generalization. Particularly striking on this score are the monasteries, so many of which provide an example of environmentally sensitive living, of a love that spills out to embrace all humans and all creatures. Monks and nuns often seem to grasp swiftly and intuitively the environmental implications of Orthodox theology. But since we vigorously deny the idea of a two-tiered Christianity, with monasteries set above those “in the world”—why should monasteries be the only place where the Christian life is lived out consistently?

There is no place, then, for complacency. Yet we should never underestimate the power of the Church’s tradition to transform our vision in life-changing ways. I received a vivid reminder of this as I was working on the foregoing chapters, and had given a draft to a kind friend who had agreed to read it over.

On the final morning of our vacation (as she later wrote to me), “I sat reading about how all creation praises the Lord at midnight. When the rest of my family sleepily drifted out of their beds like morning mist, my husband shepherded us all out to the beach to see the sun rise over the ocean. It was seven o’clock in the morning, but I was awed to have a perfect example of the worship of God by his creation immediately before me. I became aware of the chorus of morning bird calls, the graceful procession of the dolphins, and the changing play of light and pale stained glass colors on the sea and sky. Alone on the dock with my family, the only human representation of creation in attendance, I wished to take part in the celebration.”

This contemporary response to an ancient church text illustrates well the starting point for Orthodox environmental responsibility: not a set of ethical imperatives, but an ethos of “taking part in the celebration.” The vision of creation expressed in Orthodox theology should translate into a way of living that is liturgical, eucharistic and ascetic. Our actions and work are to glorify God as part of a cosmic liturgy, a world in which every creature glories its Creator in its own way. Our use of the world is to be an offering of thanks to its Creator, recognizing that everything we have the use of is his; it is by his mercy that it is available for our needs and the needs of others. And we are to handle the good things of the earth with ascetic detachment, not making them idols to which we are enslaved. An ascetic ethos is one that celebrates our freedom from the domination of “must-haves.”

A eucharistic and ascetic ethos is also one of sacrifice—in the fullest sense of the word. It is to recall that the root meaning of “sacrifice” is not “go without” but “make sacred.” “Sacrifice” and “pollution” are both originally religious notions; and, in a sense, they can be seen as opposites. We pollute the world in the fundamental, spiritual sense of the term when we make it an idol, the object of our own appetites—when we deny its connection with its Creator. There is an uncanny parable in the fact that this so often leads to physical pollution, as commodities are mined, energy is generated, and waste piles up in the service of those appetites. To approach natural resources with an ethos of sacrifice does not mean refraining from using them at all, but loosening our grasp. We make them sacred by recognizing them as God’s gifts; we offer them back to him in using with gratitude what we need, but also in sharing his bounty with our neighbor and with other creatures. This too is a way of taking part in the cosmic celebration of God’s creation.

1Private letter from Christine Bulko.
How does this translate into an approach to environmental issues? First of all, we must recognize that the Church engages with contemporary issues in a very different way from any secular organization. Its concern is not with transforming structures, but with transforming human beings. The familiar motto “think globally, act locally” is for the Orthodox Christian at once too broad and too narrow. We are called to think not just globally, but **cosmically**; and to act not just locally, but **personally**. Think cosmically—be aware that our ultimate task is not to improve the world, but to transform all creation. And act personally: recognize that I am the Adam who wants to take the world as his food, to use it apart from its Creator. To see the roots of the alienation from God that is played out in abuse of his creation, I need look no further than my own heart.

We “act personally” on many levels, often simultaneously. Acting personally means working on my inner self, wresting with the greed, selfishness, laziness, and so forth, that distort my relationship with Creator and creation alike. This is the process of **metanoia**—“change of mind,” repentance—which Orthodox homilies so often invoke, and without which we cannot assume our cosmic task. And, paradoxical though this may seem, this act of turning inward to work on oneself is also the bedrock of any social and structural change. A person whose goal is freedom from passions is ready to relinquish his or her own privileges so as to serve the needs of others.

Acting personally also embraces “acting locally”—those practical works, whether on an individual level or that of the local Church, that manifest love in action. So a household, parish or diocese may feel called to work on energy efficiency, recycling, or organic gardening, just as it may feel called to reach out to the homeless and hungry. Acts of environmental responsibility are less direct than traditional acts of compassion, but no less real. In a globalized world, restricting works of mercy to the beggar at my door simply shows a myopic lack of imagination.

For the non-monastic Christian living “in the world,” acting personally also involves the way we use whatever influence we may have in society. Public service, business decisions, work with charitable organizations, and indeed voting, are all ways in which we have influence and affect people’s lives beyond our own immediate circle; and we have a choice how to use that influence. Will it be only to serve our own narrow interests? Or will it be to serve the well-being of other people and other creatures? Again, the answer depends in large part on how seriously we are working on ourselves.

We are “acting personally” also when we make decisions for our own lives that have much wider ramifications. This provides a way to approach one major environmental issue that Orthodox often sidestep, that of the world’s rapidly growing human population. There are various possible reasons for the reluctance to face this issue. One seems to be a perception that acknowledging human numbers as a problem somehow denies the value of each human being in the eyes of God, but there seems to be a confusion here between the **intrinsic** value of the person and the **emergent** properties of the population in aggregate. If we have 500 people in a church restricted by fire regulations to a maximum of 300, this does not mean that we would wish that any given individual were not in church— but we have a problem nonetheless. Then there is also a deep-seated feeling among many pious Orthodox that the number of children one is to have should be entirely in the hands of God. Yet many other Orthodox, especially in the West, see no objection to married couples using artificial contraception to limit the size of their family. For Orthodox in America, the issue is fur-
ther complicated because concern over population levels is linked
in the minds of some with condoning abortion. It is quite true
that many secular environmentalists support abortion as a means
of birth control—because they come out of a society in which
many people regard abortion as an acceptable option, regardless
of whether they have any interest in the environment. But there
is nothing to stop us accepting that world population growth is
a problem, while insisting that certain ways of addressing it are
morally unacceptable in principle. (In fact, people do this all the
time, explicitly or implicitly: that is why no one suggests reduc­
ing population by banning the treatment of childhood diseases or
reintroducing execution for minor offenses.)

Most Orthodox would recognize that the size of one’s family does
involve personal decisions, as well as an acceptance that God may
have plans different from one’s own. Much depends on the motives
underlying our decisions. A desire to have no children, or few, may
be a manifestation of selfishness, materialism or unwillingness to
make a commitment to another person; and it is understandable
that Christians should consider such motives unworthy. But a
desire to have children may equally be a selfish one: and since
when has the Christian tradition regarded the natural bonds of
family as the ultimate form of love? Might not a couple decide to
limit the size of their family out of a more all-embracing love—a
concern for those other children, born and yet to be born, for
whom the earth’s resources are steadily being depleted? As the
marriage service itself suggests, family life is intended to be not
inward-looking but outward-looking; and with new challenges
now facing the human race, we may need to add new ways of
manifesting this quality.

In Conclusion

Always underlying our life in God’s creation will be our image
of ourselves, of how we fit into the whole. Images have power:
they guide our behavior in ways that elude our consciousness. To
be helpful and not a hindrance, however, an image does not only
need to make theological sense; it must also be true to the physical
realities of the world.

All Orthodox agree that the human role is unique, and vitally
important to God’s purposes for his creation. They also agree
that this imposes on us an awesome responsibility to care for the
world, and not to use it simply to satisfy our selfish desires. That
said, however, there are striking differences of emphasis. As we
have seen, there is much in church tradition and in contemporary
Orthodox thought that emphasizes divine presence in creation
and stresses the unity of man and the world. On the other hand,
agreed statements and official pronouncements—a genre not
known for being adventurous—are often given to more anthro­
pocentric language. We are told that man is clearly distinguished
from nature; humanity is superior to the rest of creation, which
exists for man’s sake and not vice versa. This is precisely the sort
of language that many environmentalists point to, too hastily per­
haps, as the root of human arrogance and abuse of nature. Many
of the pronouncements of Ecumenical Patriarch Bartholomew
contain prime examples of this language: but on the other hand,
they also amply demonstrate that “anthropocentricity” of this sort
has nothing in common with the idea that only humans count,
that we have a right to tailor the world to our own convenience.
In fact, patriarchal pronouncements repeatedly emphasize that
true concern for the well-being of our fellow humans necessarily
leads to concern for their environment.

The aim of such “anthropocentric” language—and it is a laudable one—is to affirm the infinite value of the human being: the person is not a means to an end, nor the accidental result of an impersonal cosmic process. He is not “just another animal,” a pestilential species busy sowing the seeds of its own well-deserved extinction. But we might wonder: is it necessary or helpful to make this point by stressing a distinction between man and his environment, which, on a physical level, looks increasingly artificial? All today’s environmental problems, from the build-up of toxins in our bodies, to the unintended consequences of our attempts to control nature, improve the land, or vanquish disease, seem to point in the other direction. In our physical being, we are part of an ecosystem: what we do affects every other creature, and vice versa. The point here is not to put human life on a par with that of an earthworm: rather, it is to underline that human “superiority” over earthworms is of limited relevance. On the small scale, it does indeed mean that the human can plough a field even though some worms will die as a result. But on the larger scale, one cannot ensure the well-being of humans without securing that of earthworms too.

There are resources within the Orthodox tradition for making sense of such an interconnected world. We may turn, for instance, to the popular image of man as priest of creation. Sometimes this image is used to express a sort of benign anthropocentrism. Man takes creation into his hands, literally or metaphorically, and offers it up to God: the implication is that creation is simply the matter of the offering, God-given, but passive. It has nothing of the dynamism of the world we see around us.

But are there not greater depths to the image of human priesthood? As we saw earlier, the logic of the metaphor requires us to recognize in nature not only the matter of the offering, but also the cosmic congregation—for a priest does not celebrate alone. This has consequences for the way we view human creativity, that characteristic quality that we increasingly recognize as a two-edged sword. The Eucharist is an offering of human work, a specifically human product. This is important in affirming that our creative work can produce a worthy offering; we are not doomed always to degrade and spoil God’s handiwork. Some writers attempt to link this creativity with “priesthood,” but that is to stretch the metaphor: it is not the priest who contributes the bread and the wine, but the community of which he forms part. As priest of creation, therefore, we offer also the working of nature, that great chain of transformations of which ours is only the final stage.

This way of understanding our role has two important practical consequences. Firstly: to see our working of nature in continuity with transformations within nature does not reduce human creativity and intentional action to the level of waters weathering a rock. But it does remind us that our work has its precursors: it is both new and part of a pattern. There are “precedents” that we should do well to study, so as to work with nature rather than reinventing it. The second consequence has to do with the emphasis to be placed on transforming nature through art or technology. Is this a divine imperative, or simply a part of our nature, which can be used for good or ill? If we see our primary task as being to offer up the gifts brought by the cosmos, rather than necessarily to shape them into final form, we can still affirm that our creativity can be an offering. But we shall not assume that only our creativity can make a worthy offering.

There are other, somewhat neglected images of man’s role that can be of use to us here. I am thinking especially of St Maximus’...
image of man as a workshop of unity, a connecting link uniting creation and Creator. Precisely because it is not a personal image, it reminds us that we need not forever be turning the world into something in order to offer it to God. It is by our very nature that we carry nature with us; by being a creature of earth, an element in an ecosystem. And nature can be carried up into the divine presence precisely because there is an element in the ecosystem that yet bears the divine image.

“When we try to pick out anything by itself,” writes the American conservationist and explorer John Muir, “we find that it is bound fast by a thousand invisible cords that cannot be broken, to everything in the universe.”

This is the basic principle of ecology, which is being confirmed in ever greater detail as we become more aware of our dependence on natural systems, our intricate involvement in the web of life. Yet especially to Orthodox Christians, such an image will also seem strangely familiar. In these “invisible cords,” can we not see the logoi or essential principles of all things, connected to each other through the Creator Word? It is this interconnection that the physical web of life reflects. To recognize that we are part of this web is only to affirm that we qualify as a link. From the “web” of nature, we are indeed a strand “picked out,” a creature set apart by being endowed with the image of God. But never “by ourselves”: as we draw closer to God, we draw with us the universe.

If we perceive this sort of symmetry between the world as ecosystem and the world united in the Word of God, attentiveness to the wisdom of nature takes on a new aspect. It is not only a matter of prudence and survival to work with nature, and not against it. It is also a way of drawing closer to its Creator, following those threads which are also the divine will expressed in every creature. And as we discover ever more deeply the sense in which we are part of our ecosystem, so we rediscover the experience of creation as gift to us. It is not a gift for our consumption; nor does it exist only for our sake. The gift, as Maximus says, is the “rationality of the world”; the patterns we discern in it, the way it functions and hangs together. We receive this as a gift when we conform our lives to it. Perhaps an awareness of interdependence, fragility and natural limits might be among the gifts awaiting our acceptance.

After all this, the question will still be asked: can anything I do really make any difference? This can be answered on two levels: we may think of them as the “global” and the “cosmic.”

The figure of the dedicated environmentalist, radically committed to a sustainable way of living, reminds me of a story told by a friend. Our friend was born in India; and like most children of the British Raj, he and his brother were sent home at a tender age, in the care of their nanny, to start school. As the ship neared the end of its voyage, so many homesick expatriates crowded to the side to catch their first glimpse of the English coast that the ship began to list dangerously to starboard. Soon an announcement came over the tannoy: “Will some passengers please proceed to the port side to redress the balance of the ship.” Nobody moved; except, that is, for Nanny. Seizing two reluctant small boys firmly by the hand, she marched purposefully across the deck proclaiming, “We are going to redress the balance of the ship!”

Reminiscence by Archimandrite Ephrem (Lash).
At first sight, the image is somewhat comical: a lonely figure waging a noble but futile struggle against insuperable odds. But the point of the story is that Nanny was absolutely right. Not just morally right in following the call of duty, but right about the root cause of the problem and its remedy. The imbalance of the ship, like that of our environment or even the global climate, depended on the familiar human dynamic: every individual is convinced that nothing he or she does can possibly have an effect on anything so large. And then once it becomes apparent that we have affected the whole, no one is prepared to change before everyone else does. So stalemate continues until people realize that the only remedy for the imbalance is to reverse its cause: to recognize that my own contribution counts, and act accordingly.

If it is hard to see direct results from our actions on the global level, on the cosmic level it is impossible. And yet we firmly believe that our life’s work is to move toward a transfiguration in Christ in which the entire cosmos is involved. Our destiny is bound up with all the rest of creation, not just for a few million years, but for all eternity. Man’s proven ability to harm nature on a global scale can be seen as a parable of this connection, albeit showing its shadow side.

It seems strange that anyone from the Christian tradition should doubt in principle that human action could affect even something so vast in scale as the global climate. The scale of human environmental impact should remind us of something basic to the story of salvation: the momentous effect of a human decision. The fall story is telling us that when humans opt for self-reliance and choose to use the world without reference to God, this is connected in some mysterious way with the suffering and disharmony of the natural world. The Annunciation reminds us of what is required to reverse this movement of disintegration: one person has to be found who with all her being says “Yes” to God’s saving work.

Perhaps this puts into perspective our desire to “save the earth.” When we speak of saving the earth from this or that particular threat, we are essentially talking about a movement back, not forwards. We mean returning to a state where the earth is still corruptible, still imperfect—but at least habitable. But we must ask: what is the point of this “saving” work? Our answer must be that we live on a habitable earth in order to play our part in the saving work that is God’s, the work of taking all things forward to the Kingdom. If our task were global, then the tiny individual might well have cause to despair. But the cosmic dimension of our task relieves us of any illusion that “everything depends on me,” while emphasizing to the utmost the importance of our willing assent to the task given us. We should know by now that there is no path to the Kingdom except through a thousand ordinary, humdrum decisions, whether it is sparing a kind word for somebody or recycling a sheet of paper. Every act of care and responsibility towards God’s creation, human and non-human, is a practical assent to his plan of salvation. It signals our willingness to be co-workers with the Almighty in bringing his creation to the fulfillment for which it was made.
the author

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Orthodox Patriarchs and Hierarchs articulate a Theology of Creation

❖ A Brief and Partial Survey ❖

compiled and edited by Frederick W. Krueger
September 1, 1998
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The abuse by contemporary man of his privileged position in creation and of the Creator’s order to him “to have dominion over the earth” (Genesis 1.28) has already led the world to the edge of apocalyptic self-destruction, either in the form of natural pollution which is dangerous for all living beings, or in the form of the extinction of many species of the animal and plant world, or in various other forms. Scientists and other men of learning warn us now of the danger, and speak of phenomena which are threatening the life of our planet, such as the so called “phenomena of the greenhouse” whose first indications have already been noted.

In view of this situation, the Church of Christ cannot remain unmoved. It constitutes a fundamental dogma of her faith that the world was created by God the Father, who is confessed in the Creed to be “Maker of heaven and earth and of all things visible and invisible.” According to the great Fathers of the Church, Man is the prince of creation, endowed with the privilege of freedom. Being partaker simultaneously of the material and the spiritual world, he was created in order to refer back creation to the Creator, in order that the world may be saved from decay and death. ...

Unfortunately, in our days under the influence of an extreme rationalism and self-centeredness, man has lost the sense of the sacredness of creation and acts as its arbitrary ruler and rude violator. Instead of the eucharistic and ascetic spirit with which the Orthodox Church brought up her children for centuries, we observe today a violation of nature for the satisfaction of basic human needs, but of man’s endless and constantly increasing desires of lust, encouraged by the prevailing philosophy of the consumer society.
But creation "groans and travails in all its parts" (Romans 8.22), and is now beginning to protest at its treatment by the human being. Man cannot infinitely and at his pleasure exploit the natural sources of energy. The price of his arrogance will be his self-destruction, if the present situation continues.

In full consciousness of our duty and our paternal spiritual responsibility, having taken all the above into consideration and having listened to the anguish of modern man, we have come to the decision, in common with the Sacred and Holy Synod surrounding us, to declare the first day of September of each year a day on which on the occasion of the feast of Indiction, which is the first day of the ecclesiastical year, prayers and supplication are offered in this holy center of Orthodoxy for all creation -- to be the day of the protection of the environment.

"We... declare the first day of September of each year... to be the day of the protection of the environment."

Therefore, we invite through this our Patriarchal Message the entire Christian world to offer together with the Mother Great Church of Christ (the Ecumenical Patriarchate) every year on this day prayers and supplications to the Maker of all, both as thanksgiving for the great gift of creation and as petitions for its protection and salvation. At the same time we paternally urge all of the faithful of the world to admonish themselves and their children to respect and protect the natural environment, and on the other hand all those who are entrusted with the responsibility of governing the nations to act without delay, taking all necessary measures for the protection and preservation of natural creation.

Ecumenical Patriarch BARTHOLOMEW I  
Archbishop of Constantinople and New Rome

Remarks at the Environmental Symposium
Santa Barbara, California  
November 8, 1997

The Ecumenical Throne of Orthodoxy, as a preserver and herald of the ancient Patristic tradition and of the rich liturgical experience of the Orthodox Church, today renews its long standing commitment to healing the environment. We have followed with great interest and sincere concern, the efforts to curb the destructive effects that human beings have wrought upon the natural world. We view with alarm the dangerous consequences of humanity’s disregard for the survival of God’s creation. ...

We believe that Orthodox liturgy and life hold tangible answers to the ultimate questions concerning salvation from corruptibility and death. The Eucharist is at the very center of our worship. And our sin toward the world, or the spiritual root of all our pollution, lies in our refusal to view life and the world as a sacrament of thanksgiving, and as a gift of constant communion with God on a global scale.

“...our first task is to raise the consciousness of adults who most use the resources and gifts of the planet.”

We envision a new awareness that is not mere philosophical posturing, but a tangible experience of a mystical nature. We believe that our first task is to raise the consciousness of adults who most use the resources and gifts of the planet. Ultimately, it is for our children that we must perceive our every action in the world as having a direct effect upon the future of the environment. At the heart of the relationship between man and environment is the relationship between human beings. As individuals, we live not only in vertical relationships to God, and horizontal relationships to one another, but also in a complex web of relationships that extend throughout our lives, our cultures and the material world. Human beings and the environment form a seamless garment of existence; a complex fabric that we believe is fashioned by God.
People of all faith traditions praise the Divine, for they seek to understand their relationship to the cosmos. The entire universe participates in a celebration of life, which St. Maximos the Confessor described as a “cosmic liturgy.” We see this cosmic liturgy in the symbiosis of life’s rich biological complexities. These complex relationships draw attention to themselves in humanity’s self-conscious awareness of the cosmos. As human beings, created “in the image and likeness of God” (Genesis 1:26), we are called to recognize this interdependence between our environment and ourselves. In the bread and wine of the Eucharist, as priests standing before the altar of the world, we offer the creation back to the Creator in relationship to Him and to each other. Indeed, in our liturgical life, we realize by anticipation, the final state of the cosmos in the Kingdom of Heaven. We celebrate the beauty of creation, and consecrate the life of the world, returning it to God with thanks. We share the world in joy as a living mystical community with the Divine. Thus it is that we offer the fullness of creation at the Eucharist, and receive it back as a blessing, as the living presence of God.

“Ultimately, it is for our children that we must perceive our every action as having a direct effect upon the future of the environment.”

Moreover, there is also an ascetic element in our responsibility toward God’s creation. This asceticism requires from us a voluntary restraint, in order for us to live in harmony with our environment. Asceticism offers practical examples of conservation. An abundance of resources will be extended to include an abundance of equitable concern for others.

We must challenge ourselves to see our personal, spiritual attitudes in continuity with public policy. Encratia frees us of our self-centered neediness, that we may do good works for others. We do this out of a personal love for the natural world around us. We are called to work in humble harmony with creation and not in arrogant supremacy against it. Asceticism provides an example whereby we may live simply.

“We are called to work in humble harmony with creation and not in arrogant supremacy against it.”
Asceticism is not a flight from society and the world, but a communal attitude of mind and way of life that leads to the respectful use, and not the abuse of material goods. Excessive consumption may be understood to issue from a world view of estrangement from self, from land, from life, and from God. Consuming the fruits of the earth unrestrained, we become consumed ourselves by avarice and greed. Excessive consumption leaves us emptied, out-of-touch with our deepest self. Asceticism is a corrective practice, a vision of repentance. Such a vision will lead us from repentance to return, the return to a world in which we give as well as take from creation.

“We invite Orthodox Christians to engage in repentance for the way in which we have behaved toward each other and the world.”

We invite Orthodox Christians to engage in genuine repentance for the way in which we have behaved toward God, each other and the world. We gently remind Orthodox Christians that the judgement of the world is in the hands of God. We are called to be stewards and reflections of God’s love by example. Therefore we proclaim the sanctity of life, the entire creation being God’s and reflecting His continuing will that life abound. We must love life so that others may see and know that it belongs to God. We must leave the judgement of our success to our Creator.

We lovingly suggest to all the people of the earth, that they help one another to understand the myriad ways in which we are related to the earth and to one another. In this way, we may begin to repair the dislocation many people experience in relation to creation.

“For humans to cause species to become extinct... to (cause) changes in climate, (or to) strip the Earth of its natural forests, or destroy its wetlands... for humans to contaminate the Earth’s waters, land, air, and life, these things are sins.”

We are of the deeply held belief that many human beings have come to behave as materialistic tyrants. Those that tyrannize the earth are themselves, sadly, tyrannized. We have been called by God to “be fruitful, increase and have dominion in the earth” (Genesis 1:28). Dominion is a type of the Kingdom of Heaven. Thus it is that St. Basil describes the creation of man in paradise on the Th day, as being the arrival of a king in
his palace. Dominion is not domination; it is an eschatological sign of the perfect Kingdom of God, where corruption and death are no more.

If human beings treated one another’s personal property the way they treat the environment, we would view that behavior as anti-social. We would impose judicial measures necessary to restore wrongly appropriated personal possessions. It is therefore appropriate, for us to seek ethical, legal recourse where possible, in matters of ecological crimes.

It follows that, to commit a crime against the natural world, is a sin. For humans to cause species to become extinct and to destroy the biological diversity of God’s creation... for humans to degrade the integrity of Earth by causing changes in its climate, by stripping the Earth of its natural forests, or destroying its wetlands... for humans to injure others humans with disease... for humans to contaminate the Earth’s waters, its land, its air, and its life, with poisonous substances, these things are sins.

"...to commit a crime against the natural world is a sin."

In prayer, we ask for the forgiveness of sins committed both willingly and unwillingly. And it is certainly God’s forgiveness, which we must ask, for causing harm to His Own Creation.

Thus we begin our process of healing our worldly environment which was blessed with Beauty and created by God. Then we may also begin to participate responsibly, as persons making informed choices in both the integrated whole of creation, and within our own souls.

"How we treat the earth and all of creation defines the relationship that each of us has with God."

We are urging a different and, we believe, a more satisfactory ecological ethic. That ethic is shared with many of the religious traditions.... All of us hold the earth to be the creation of God.... He imposed on humanity a stewardship role in relationship to the earth. How we treat the earth and all of creation defines the relationship that each of us has with God. It is also a barometer of how we view one another. For if we truly value a person, we are careful as to our behavior toward that person. The dominion that God has given
humankind over the Earth does not extend to human relationships. As the Lord said, “You know that the rulers of the Nations lord it over them, and their great ones are tyrants over them. It will not be so among you; but whoever wishes to be great among you must be your servant, and whoever wishes to be first among you must be your slave; just as the Son of Man came not to be served, but to serve, and to give his life as a ransom for many” (Matthew 20:25-28).

It is with that understanding that we call on the world’s leaders to take action to halt the destructive changes to the global climate that are being caused by human activity. And we call on all of you here today, to join us in this cause. This can be our important contribution to the great debate about climate change. We must be spokespersons for an ecological ethic that reminds the world that it is not ours to use for our own convenience. It is God’s gift of love to us and we must return his love by protecting it and all that is in it. ...

The Lord suffuses all of creation with His Divine presence in one continuous legato from the substance of the atoms to the Mind of God. Let us renew the harmony between heaven and earth, and transfigure every detail, every particle of life. Let us love one another, and lovingly learn from one another, for the edification of God’s people, for the sanctification of God’s creation, and for the glorification of God’s most holy Name. Amen.

“We must be spokespersons for an ecological ethic that reminds the world that it is not ours to use for our own convenience.”
In June 1988 Pope John Paul II made a remarkable statement to participants in an international conference held at the Vatican on the contemporary dialogue between theology and science. He asserted that these two large spheres of human experience and inquiry are interdependent, and that collaborative interaction ought to characterize their present relationship rather than the misunderstandings and conflict so prevalent in their past. “We need each other to be what we must be,” the Pope said. “Science can purify religion from error and superstition; religion can purify science from idolatry and false absolutism. Each can draw the other into a wider world, a world in which both can flourish.” He envisaged a “relational unity between science and religion,” which would result not in identity or assimilation but in dynamic interchange, with each “radically open to the discoveries and insights of the other.”

If such intense dialogue does not take place, he warned, then these two institutions will contribute not to the future integration of our common culture but to its fragmentation. Initiative for such dialogue, moreover, must come from the theologians, because historically they have as a group made such little effort to understand the findings of science. Now, however, they must recognize that the vitality and significance of theology for humanity will in a profound way be reflected in its ability to incorporate these findings. . . . The matter is urgent. Contemporary developments in science challenge theology far more deeply than did the introduction of Aristotle into Western Europe in the thirteenth century. . . . Christians will inevitably assimilate the prevailing ideas about the world, and today these are deeply shaped by science. The only question is whether they will do this critically or unreflectively, with depth and nuance or with a shallowness that debases the Gospel and leaves us ashamed before history.
In spite of appeals such as this, there is general recognition today that it will not be easy to bring about this dialogue. For a number of reasons, theologians do not yet know how to deal theologically with the findings of science. On the other hand, as we shall see, scientists have been having their own problems in recent years regarding collaboration with theologians. In what follows, then, I would like to examine the functioning of these two enterprises, first the professional commitment of scientists, second that of theologians. It will then be easier for us, thirdly, to understand their mutual reluctance today to converse seriously with each other. This understanding will enable us, finally, to evaluate the dialogue itself, such as it is at present, and to ask what opportunities now exist for a more fruitful rapprochement in the future.

It is important to emphasize at the outset that my chief concern in exploring these four large areas is to understand the present possibilities for dialogue. I thus see a need to begin with some historical perspective and then to develop some sense of the obstacles to conversation. What I do not see as necessary at this point is to prescribe some theoretical framework within which to overcome these obstacles. This would take us far too deeply into the philosophy of science, a field that still interests very few scientists and theologians, even though in principle its analyses may be essential as connecting links between scientific and theological data. While mutual agreement on fundamental issues may well be what the dialogue should ultimately aim at, this cannot be its point of departure. For the initial question that puzzles the generality of scientists and theologians, in so far as they are curious about the subject at all, is whether what one group is doing can possibly have any relevance for the pursuits of the other.

Nevertheless, exploring such relevance must inevitably reveal the unspoken assumptions of both parties. Their dialogue cannot, in other words, avoid touching upon many of the theoretical concepts that have long been the province of philosophers of science. Indeed, the two groups may be in a better position to dialogue more effectively today precisely because they have already developed such implicit assumptions. I shall try to point these out as they arise in the course of our discussion, but the particular approach I take to the dialogue, as well as limitations of space, preclude elaboration of these mainly philosophical issues.

--- The Commitment of Science ---

Let us begin by recognizing certain common misconceptions about the scientific enterprise. Three very common ones are that science starts with no presuppositions in its research, that it is based on hard and unimpeachable factual evidence, and that its findings are unalterable and will eventually explain all areas of human experience. In other words, says this stereotype, the hidden explanatory mechanisms of the world can be discovered through observation by scientists standing apart from the world and theorizing about it objectively. The problem with these misconceptions is not that they are totally false but that they are only partially true. They have been fostered almost unconsciously in the popular mind because all around us we see the extraordinary achievements of science’s progeny, technology, achievements that provide for most of our physical needs and for much of our need for entertainment. Hence it is not surprising that scientific attitudes and methods should have become integral to the thinking of most contemporary men and women, many of whom conclude, not unreasonably, that these attitudes and methods are so all-encompassing and reliable as to constitute a sufficient foundation upon which to build their lives.

This conclusion is fostered today by not a few scientists who, sometimes unconsciously, inject its implications into the scientific enterprise as such. A closer examination, however, reveals these convictions to be actually outside the domain of science itself and not required by it at all. They really constitute certain ways of thinking about science, an ideology that has come to be known as “scientism,” which demotes to the purely subjective all forms of knowledge that fail to deliver prediction and control of what is tangible and concrete. Langdon Gilkey has neatly summarized the two major suppositions of this ideology: first that science represents the sole cognitive entrance into reality, and second that scientific knowledge of nature exhaustively defines reality itself, so that what cannot be known by science is simply not there.2 Jacob Bronowski’s story of the “Ascent of Man” is one example of this scientific triumphalism; Carl Sagan’s “Cosmos” is another. Sagan puts it bluntly: “The cosmos—as known by science—is all there is, all there was, and all there will be.”3

It is important for us to be clear about the full implications of these ideological assumptions. In their most extreme form they deny to the knowable cosmos all subjectivity, all qualities in any way connected with human emotions and personal experience or with which the human spirit could feel some sense of kinship. All downward causation from the personal to the impersonal is thus eliminated, and everything is explained in terms of the most elementary physical processes. Because the human plays no role in the natural world, no role consequently exists for purposes, values, ideals, or freedom. Hence physicist Gerald Feinberg can refer to life...
simply as “a disease of matter,” and psychologist B. F. Skinner can state flatly: “We cannot apply the methods of science to subject matter that is assumed to move about capriciously. . . . The hypothesis that man is not free is essential to the application of scientific method to the study of human behavior.”

The saddest implication of all, however, is that if all human activity, precisely as human, is devoid of any meaning, then the discoveries of science, as one of the activities of the human, must share in this meaninglessness. Nobel Prize physicist Steven Weinberg does not shrink from this conclusion: “The more the universe seems comprehensible, the more it also seems pointless. . . . The effort to understand the universe is one of the very few things that lifts human life above the level of farce, and gives it some of the grace of tragedy.” In scientism, then, we have the ultimate manifestation of that imperialistic tendency of science to present itself as the only genuine and exhaustive description of the real. Geneticist Jacques Monod draws the logical conclusion for humankind: “The ancient covenant is in pieces; man at last knows that he is alone in the unfeeling immensity of the universe out of which he emerged only by chance.”

In recent years historians of science have begun to question whether this ideology of scientism is really what undergirds the scientific enterprise. Is science as such really so value-free? Is what scientists do really so totally focused on objects, so uninfluenced by personal beliefs and subjectivity? Consider, for example, the massive resistance of the scientific community a few decades ago to the discovery that the universe is expanding at enormous speeds of millions of miles an hour, and that this and other confirmatory evidence indicate that billions of years ago there has to have been some gigantic cosmic explosion that marked the birth of the universe. One physicist trivialized this theory by calling it “the big bang,” as if the cosmos were a gigantic firecracker. Einstein was upset simply because the theory implied that the world had a beginning. “The circumstance of an expanding universe is irritating,” he wrote in a letter to a fellow physicist. “To admit such possibilities seems senseless to me.” The great British astrophysicist Sir Arthur Eddington complained that “the notion of a beginning is repugnant to me. . . . The expanding universe is preposterous.”

The reactions of many astronomers at the time, wrote one astronomer recently, “provide an interesting demonstration of the response of the scientific mind—supposedly a very objective mind—when evidence uncovered by science itself leads to a conflict with the articles of faith in our profession. It turns out that the scientist behaves the way the rest of us do when our beliefs are in conflict with the evidence.” The root problem here is that the majority of scientists find it extremely difficult to deal with a natural phenomenon whose causes apparently cannot be explained. Hence the initially strong resistance of many to the discovery that the cosmos very likely did have a beginning, under conditions in which the present laws of physics are not valid and as a product of forces which are as yet unknown. This quasi religious faith in the power to understand is well illustrated by the following assertion of Nobel Prize physicist Sheldon Glashow:

We believe that the world is knowable, that there are simple rules governing the behavior of matter and the evolution of the universe. We affirm that there are external, objective, extrahistorical, socially neutral, external and universal truths and that the assemblage of these truths is what we call physical science. Natural laws can be discovered that are universal, invariant, inviolate, genderless and verifiable. . . . This statement I cannot prove, this statement I cannot justify. This is my faith.

Beyond these candid remarks of scientists themselves, we should note that philosophers of science have long distinguished between the instrumental success of science (whereby it provides correct expectations about the workings of the natural world) and scientific theories (whereby scientists claim to describe this natural world comprehensively and realistically). The former deals with the value-neutral grounds for nature’s control and for successful predictions regarding our natural environment. The latter, in contrast, often tend to conflict with each other, and are frequently undermined by further empirical investigation. The norm for truth of instrumental science would thus seem to be whether or not it corresponds to the physical world of nature. The norm for the truth of a scientific theory, on the other hand, cannot be such empirical correspondence (since multiple theoretical interpretations may fit any given set of accepted facts), but rather whether or not it coheres with the total relevant context and achieves consensus among scientists themselves, a process characterized by judgments of value as well as of fact.

This distinction has been the source of a number of contemporary challenges to the presumed impersonal “objectivity” of scientific theories, insofar as these lay claim to the prestige of empirical science. Studies have revealed in striking ways the extent to which seemingly objective
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New paradigms explain dimensions of reality that old paradigms do not. Adherence to these new insights is so problematic precisely because their acceptance cannot be forced by logical proofs or neutral experience. Young scientists generally embrace the new paradigm and perpetuate it within their community; the older generation lose the struggle for dominance of the original paradigm, but continue to follow it nonetheless until they eventually die off. For Kuhn, then, paradigm shifts are like political revolutions: they clash with vested interests and they take place outside normal methods of change. In many ways they are, as one critic calls them, the equivalent of “scientific mob rule.”

Understandably scientists have been reluctant to follow Kuhn in equating science as a social system (within which scientists function under community pressures) with science as a cognitive system (in which data ought to be value-free and governed by logic and experiment). Nevertheless, it is widely accepted today that the two systems cannot be completely separated. The way the scientific community thinks at the time of a paradigm shift, its social goals, and other historical circumstances are not simply superficial manifestations of the change that is taking place but to some limited extent also its cause. This is not to say, however, as Kuhn seems to imply, that the causes of paradigm shifts are neither rational nor objective. Unfortunately it is not always clear, in his critique of these shifts, whether he is referring to the sociology of scientific communities or to the epistemology of scientific discovery. Continuities and overlap are clearly evident between certain paradigms: physicists agree, for example, that Newton’s mechanics are the slow-moving equivalent of Einstein’s mechanics, and that they still remain valid for systems whose velocities are tiny compared to the velocity of light. Moreover, to hold that all observations are theory-laden, and so subject to social distortion, is not to say that they exert no control at all over theories. For theories themselves are also fact-laden. They must therefore submit to the correctives that come through the continuous testing of objective data in different social contexts over many years, procedures which have always characterized scientific method.

Nevertheless, scientists as subjects can no longer be thought of as somehow separated from the objects they study. Their observations, as well as the concepts and models they develop to understand these observations, are interrelated in much more subtle ways than the popular image of science allows. It is therefore not the case that unquestionable experimental facts lead to exact predictions and then to theories that ob-

theories are both culture-dependent and subject-dependent. Science as a whole is now coming to be seen as a far more relativistic project, influenced to a considerable extent by social ideologies and attitudes. Its imperialistic claim to be the single road to certain knowledge has thus been largely eroded, and it is increasingly being viewed as just one of the ways in which humans have sought to make sense of their world. Scientific theories seek answers to practical questions in particular historical circumstances, just like theories in all other areas of human knowing. Often this is done for purposes that are not exclusively scientific, but are also social, moral, political, and economic as well.

In his influential 1962 study, The Structure of Scientific Revolutions, Thomas Kuhn, a theoretical physicist turned historian of science, focused on those rare moments when major changes occur in the world views of scientists. These world views he calls “paradigms,” clusters of broad suppositions, both conceptual and methodological, which constitute the “received tradition” of a given scientific community and dictate the norms for good science and the direction of research at any particular historical period. Through paradigms, scientific communities define and limit the types of question that can be asked as well as the types of solution that are acceptable. During long periods of “normal science” knowledge advances by the application of these key concepts and large methodological assumptions to observed phenomena. But unexpected findings can produce sudden shifts in prevailing paradigms, and these intellectual upheavals have such far-reaching effects that they constitute a scientific revolution. Obvious examples would be the shift from a Ptolemaic model of the universe to a Copernican model, and the displacement of Newton’s mechanistic model of the interaction of matter and energy by those of relativity and quantum theory.

Kuhn’s major point, however, is that there is really very little logical connection between any two paradigms; the choice between them is not dictated by any objective rules. A new paradigm is produced not by data but by intuition, and it then so transforms the imagination of the scientific community that old data come to be seen in a completely new light. Even the meaning of terms changes as in the switch from Newtonian physics to relativity, in which terms like “time,” “mass,” and “velocity” came to be understood quite differently. Paradigm shifts are therefore really conversion experiences on the part of scientists. This conversion must occur at once or not at all, says Kuhn, for the simple reason that the paradigms themselves are basically incommensurable and even contradictory.
jectively and comprehensively describe the material world. For science is before all else personal knowledge, something going on in persons. The skill of the knower is always present along with the object known. The scientist thus assesses evidence and formulates theories in the same way that a doctor makes a difficult diagnosis, or a judge weighs ambiguous evidence, or a wine taster blends a good sherry. Intellectual beauty, symmetry and simplicity are as operative in these choices as are empirical data. "But just as the sherry blender has to submit the result of his labors to the judgment of the discerning public, so the scientist has to persuade his colleagues of the soundness of his judgment. This necessity saves personal knowledge from degenerating into mere idiosyncrasy." 17

This socially contextualized and personalistic coefficient in scientific knowledge has prompted many scientists to reconsider how accurately they can know reality, and even whether they have any right to speak about knowing reality at all. The chief catalyst for both reconsiderations has clearly been the discovery of the subatomic world. Long a puzzle to physicists, this world of elusive entities has now become the dominant focus of their thought and experiment. Early in the century Werner Heisenberg formulated his famous uncertainty principle: the more accurately we know about one half of this world (the location of particles) the less we know about the other half (what these particles are doing). While the source of this mysterious indeterminism is not yet known (it could be instrumental, epistemological, or ontological), the knowledge-limitation itself is experimentally certain and its consequence clear: no absolute predictions can be made about the total behavior of anything in the microworld.

Picturability has therefore been lost, and rigid mechanistic causality is now recognized as impossible at this level. None of the entities can be known in itself but only in its relation to the observer. All such observations are thus radically observer-dependent. Niels Bohr once remarked, when a student of his in Copenhagen complained that quantum mechanics made him giddy, "If anybody says he can think about quantum problems without getting giddy, that only shows he has not understood the first thing about them." 18 Years later Nobel laureate Richard Feynman made the same admission: "I think it safe to say that no one understands quantum mechanics. Do not keep saying to yourself, if you can possibly avoid it, 'But how can it be like that?' because you will go 'down the drain' into a blind alley from which nobody has yet escaped. Nobody knows how it can be like that." 19

Many scientific positivists would go one step further than Feynman and say that all this talking about entities not accessible to experience is just a conceptual tool to facilitate prediction of phenomena. Such theories are neither true nor false, they say, but simply convenient ways to summarize and harmonize the experimental data available to everyone. What scientists actually see, in other words, are just numbers on computer screens or marks on photographic plates. Besides, how can theories developed from these data possibly represent existing realities, when it is clear that science has changed its mind so often in the past about the basic structure of the universe? When scientists construct models for the subatomic world (i.e., analogies between the behavior of entities on the macrolevel and the behavior of quantum particles), no one doubts the value of the model for purposes of theory. But why must we presume that the theory represents actual existing particles? 20 Here the positivist is not far from the idealist: a theory is simply a mental construct that the scientist imposes upon the chaos of experimental data in order to achieve some modicum of understanding.

These discussions of the relationship of scientific theories to truth and reality have over the last generation moved the scientific community as a whole very far from that naive realism that celebrated a mechanistic view of the world. Today most scientists are more modest in their truth claims about the physical world. Their goal is no longer certain knowledge but only verisimilitude, a slow but progressively more accurate understanding, a gradual tightening of their grip on a reality that they have come to realize will always elude them in its totality. They still seek the truth about nature, but now they are fully aware that what they seek is often selected to accord with their presuppositions and prejudices. "Recognition that science has discovered a wide range of truths is compatible with the conviction that a wide range of truths it has not discovered exists, and that its formulations of the truths it has discovered are one-sided, presenting only abstractions from the full truth." 21

Scientists today are thus conscious of the accuracy of the famousparable told by Sir Arthur Eddington in 1929. It concerned a zoologist who decides to study deep-sea life by using a net of ropes on a two-inch mesh. After repeatedly lowering his net and each time studying what he caught, he concludes that there are no deep-sea fish less than two inches in length. Obviously the zoologist's method of fishing determined what he could catch. In the same way, science may still aim at knowing the real, but because it selects only publicly observable sense data, and because its abstract
Theories about these data are so limited by both culture and subjectivity, it is now no longer possible for scientists to claim that reality is only what they know.\textsuperscript{22}

To what then are scientists committed in their pursuit of intelligibility? Quite simply to experimentation. It is experimental work that provides the strongest evidence today for scientific realism. For scientists cannot organize an experiment without believing that its object exists. While their beliefs about a particular object may undergo very significant change over time, they cannot even begin to organize any of their observations without asserting the object’s existence. This has always been true, even when the object has not been observable. The electron is a good example. Kuhn would say that, when it was first discussed before 1900 in the context of classical physics, it had a meaning and significance radically different from its new status in quantum theory. But physicists today still use the same word to speak of what they presume is the same entity, even though they now remain more open to new ways of understanding its precise nature.\textsuperscript{23}

Hence the realism scientists assert in practice is about entities, not about concepts, models or theories. The latter tend to be thought of much more frequently as “candidates for reality,” with which scientists still aim to unlock the secret structures of nature, but about which they remain always skeptical, without any of those illusions of permanence so confidently claimed by the naïve realism of the past. “There is no quicker way for a scientist to bring discredit upon himself and upon his profession,” writes the eminent British zoologist Peter Medawar, “than roundly to declare . . . that science knows or soon will know the answers to all questions worth asking, and that questions which do not admit a scientific answer are in some way nonquestions or ‘pseudoquestions’ that only simpletons ask and only the gullible profess to be able to answer.”\textsuperscript{24}

This new “critical realism” is an acknowledgment by scientists that they know reality only imperfectly, and that their search for truth is always influenced by personal judgment. This search is also subject over time to continual public scrutiny, however, and this is what eventually provides the true test of its capacity to cope with new data and predict new phenomena. In other words, by criticizing competing theories we can steadily approximate objective truth. It is precisely this rational staying power of the scientific enterprise that finally yields genuine verisimilitude. Models and theories may indeed only approximate the real world, but with each new approximation science’s grip on this world is tightened ever so slightly. For science is a way of thought, not merely a body of knowledge, and scientists now readily admit that the way they think has its own built-in limitation. Such contemporary modesty in truth claims has also had an unexpected result: many scientists in recent years have begun to listen with more respect to other truth claims about the real world, especially to those proposed by the insights of contemporary theology.

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**The Commitment of Theology**

When we turn now to the professional commitment of theologians, it is important to distinguish at the outset between religious faith experience and the intellectual reflection upon that experience which is the theologian’s concern. “Faith seeking understanding” is the classic definition of theology. Hence the presupposition of the theological enterprise is that there is an identifiable sphere of human interaction with reality which results in a sense of the Absolute that transcends sense perception. In the case of Christians this is the central religious experience of God’s self-disclosure through the revelatory events of the Bible. This initiative of God reconciled them, they believe, to God’s own self, to others and to themselves, through the life, death, and resurrection of Jesus of Nazareth, who lived on the Jewish periphery of the Roman empire some two thousand years ago. In the person of Jesus they find the fullness of God and the decisive key to the meaning of human existence. This union with God in Jesus is mediated for them historically through the Christian Scriptures and through the teachings and sacramental rituals of the Christian faith community. Christian theologians thus have a threefold data base on which to rest their intellectual analysis: the biblical narratives as testimony of the earliest witnesses to God’s self-revelation, the tradition and worship of the Christian churches over the centuries, and the contemporary experience and life commitment of believing Christians. Theological analysis then seeks to explore, often with the aid of secular disciplines, the cognitive aspects of this total faith experience, which obviously includes other important aspects, such as those that are historical, social, liturgical, and institutional. The starting point is the fact that, from biblical times to the present, the Christian community has never doubted that it is truly in touch with a transcendent dimension of reality, that it encounters God living and operating here and now in the lives of its members. This type of experience is not limited to Christians, of course. William James concluded his seminal work on religious psychology at the turn of the century with an affirmation of its universal character; and Rudolf Otto’s classic
study of the “numinous” element in all religion shows it to be everywhere an awareness of mystery, majesty, and fascination.\textsuperscript{25}

But what the theologian wants to know is the extent to which this experiential component, involving as it does existential decision and a total commitment of one’s life, can indeed be captured in concepts and propositions. When will such cognitive formulations be more than purely subjective preference or personal taste? In what sense can they be said to communicate objective truth for the knower? For even though religious language normally functions in the contexts of worship and life-orientation, it nevertheless contains assertions about what one worships and to what one is oriented.\textsuperscript{26} These assertions may not be verifiable experimentally, but religious people still believe that they have an objective reference, and that reasons can be advanced for holding them to be true. Thus the theological task of understanding and evaluating these cognitive claims of religion cannot be avoided.

Theological interpretation of biblical texts has had a checkered history. Premodern theology was certainly not hermeneutically naive in dealing with this first data base. Interpretative categories had long existed in the allegorical exegesis of Origen, Augustine, and Aquinas. In the religious turmoil of the sixteenth and seventeenth centuries, however, rigidity and authoritarianism was the order of the day for both Protestants and Catholics, and as a result biblical literalism generally prevailed. This was exemplified most blatantly in the public condemnation of Galileo in 1633. While knowledgeable people at the time were well aware of the deficiencies of geocentrism and attracted to the heliocentric theory of Copernicus, the Catholic Church had a special problem. For this geocentric cosmology had come to be identified with religious orthodoxy: it was part of that Aristotelian worldview within which all medieval theology had been constructed, and it was supported by a literal reading of biblical texts dealing with the heavens. Thus Galileo’s repeated public proclamation that he had proved Copernican theory to be a fact (which even his supporters acknowledged he had not) appeared to be a threat to orthodoxy that had to be publicly eliminated.\textsuperscript{27}

Such an authoritarian approach to biblical texts eventually had to face the stringency of the Enlightenment critique which took into account the autonomy of human reason. This proved to be a watershed that changed the whole direction of biblical hermeneutics, since until then theologians had assumed that religious faith always had to act as reason’s guide. Tools of language and textual criticism were now taken much more seriously, and by the end of the nineteenth century, when the discovery of evolution seemed once again to contradict the Christian scriptures, biblical scholars were able to offer Church authorities more constructive ways to deal with the challenge than were available in the time of Galileo.

While biblical literalism still flourishes today among fundamentalist Christians, mainly as a source of certainty in a time of moral relativism and rapid cultural change, Roman Catholicism has abandoned it, as well as all mainline Protestant churches. For the scholarly analysis of scriptural texts has shown that the biblical writers believed themselves to be recording not infallible divine dictation, but rather events in their lives which they experienced as revelatory of God’s presence, as in the history of Israel, for example, or in the person of Jesus. Hence most Christian theologians no longer think of their Scriptures as the ahistorical revelation of God, but as a divine revelation mediated by time and circumstance, whose meaning develops in the course of history. The biblical witness must inevitably be partial and limited, experienced and reported by fallible witnesses, as well as influenced by the thought forms of a particular historical period. Because there is no such thing as uninterpreted experience, there can therefore be no such thing in the Bible as an uninterpreted revelation of God.\textsuperscript{28}

Just as Christian theology became progressively more open and tentative in regard to its understanding of Scripture, its first data base, so it also developed new attitudes toward its second base, the formal, doctrinal teachings of the living Christian tradition. Protestantism and Roman Catholicism followed very different paths, however, in reaching such new understandings. Liberal Protestant theologians of the nineteenth century, led by Friedrich Schleiermacher, initially sought ways to formulate traditional Christian doctrines in light of the then-current concerns of Scripture scholars for the human character of the biblical record. But their efforts gradually led them to deemphasize the revelatory character of the Bible altogether, and to derive their theological reflection on Christian faith primarily from an interpretation of religious experience. To this was added a strong reliance on philosophical reflection and ethical consciousness as important sources for our knowledge of God. But such increased emphasis on the human as an object of inquiry inevitably meant that there would be less and less place for Scripture and church tradition.

The neoorthodoxy of Karl Barth reacted strongly against this liberal Protestant neglect of historical revelation. Only God’s self-disclosure,
insisted Barth, not the human search for God, can be the starting point for theology. Christians must therefore recognize a radical discontinuity between God and God’s revelation on the one hand, and human reason and culture on the other. God is totally transcendent to human persons, and this gap cannot be bridged from the human side, but only through God’s coming in Jesus Christ. This insistence on the primacy of revelation, moreover, went hand in hand with a general acceptance by Barth of the results of critical biblical scholarship, which convinced him that the Bible speaks only of human creatureliness, sinfulness, and dependence on God, and says nothing at all about nature or cosmology or human cultural achievement. The human person, as the present receiver and interpreter of revelation, was consequently ignored and the capacity of reason correspondingly devalued. Human experience at particular points in history had relatively little importance; revelatory events of the past alone had true religious significance.

Neoorthodoxy provoked its own reaction. The movement known as Christian existentialism put exclusive emphasis on contemporary experience and individual self-understanding: God can be encountered only in the immediacy of a personal relationship. The most influential of these theological existentialists, Rudolf Bultmann, insisted that to speak of God’s activity as if it were somehow objective in historical events, as the Bible seems to do, is mythological. None of the events grounding traditional Christian teaching were really observable; they were all interior events of rebirth and transformation of the heart. The question to be asked by theology, therefore, is how this mythical imagery of Scripture can be translated into language about one’s own existential situation and about new possibilities for one’s life here and now. The Christian message, in other words, refers not to objective happenings in the past but exclusively to new understandings of ourselves and to a present transformation of our lives. These God accomplishes in us in the midst of the hope, despair, fear, and decision of our historical existence.

Obviously the problem with Christian existentialism is not its concern for the personal lives and experiences of Christians, since these phenomena form the third data base on which contemporary theology rests its intellectual analysis. The problem is rather that existentialism as a theological approach totally privatizes Christianity, separating it from its historical community structures as well as from its belief that its traditional doctrines, however interpreted, are truth claims about objective realities. This is not to say that the religious practices of Christians cannot be understood as a way of life, or a set of attitudes and strategies for moral living, since this is obviously the way Christians speak about them. What constitutes the existentialist position, however, is a reliance on these experiences and practices that tends often to ignore the key historical role of doctrinal truth, the confession of which has always been central to Christian life.

Unlike Protestantism, Roman Catholicism dealt in a much more authoritative fashion with the implications of modern biblical criticism for traditional doctrinal teaching. Until the end of the nineteenth century, the study of the Bible had relatively low status in Catholic intellectual circles. But, as Catholic scholars gradually sought to acclimatize church teachings to the modern world, they began to use the same historical–critical methods as liberal Protestants in their search for a scientifically sound approach to Scripture. The reaction of Pius X to these intellectual efforts was repressive and harsh, less because of any particular doctrinal formulations (almost all of which are commonplace today) than because he perceived an implicit threat to church authority in the attempt to make scientific study the arbiter of religious truth. In 1907 he labeled all the efforts of these widely diverse scholars “Modernism” and condemned the movement en bloc as heresy.

Hence in the Roman Catholic Church there was never any specifically theological response to the so-called Modernist crisis comparable to the neothodoxy reaction to liberal Protestantism. The response was rather one of pure disciplinary authority, motivated by a need for submission, theological uniformity, and institutional stability. By 1910 the nascent Catholic intellectual elite was silenced, and all free theological inquiry and innovation effectively suppressed. A certain fundamentalist mentality now took over, ecclesiastical as well as biblical. It was not until 1943 that Catholic scholars were at last allowed to apply scientific methods to the study of Scripture, and not until the Second Vatican Council in the 1960s that official Catholic theology finally internalized the problems of modernity and responded to the “Modernist” challenge with genuinely theological argument.

As we come to the end of the twentieth century, then, Protestantism has provided some badly needed correctives for Catholicism’s rationalizing tendency, which usually overdeveloped the importance of neat propositional statements. Nevertheless, because theology’s perennial thrust is for intelligibility, the issues of revelation and truth will not go away. The question theologians are now faced with, consequently, whether they be Protestant or Catholic, is how precisely to deal with these issues in the
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future. Obviously the first step is to be aware of the limitations of one’s conceptual tools. Only fundamentalist Christians repudiate such limitations today. We have already noted some of these limitations as they have affected our understanding of the biblical texts. Let us see now how these conceptual tools are further restricted by the inevitable need of theology to employ models and paradigms.

Theologians have come to recognize in recent years that their language is much less scientific and much more metaphorical than previously realized, as well as much richer in those systematic and relatively permanent metaphors called models. The awareness of Arthur Peacocke is typical: “The model of God as personal, transcendent Creator, immanent in and transforming his creation and especially man, i.e., of God as Creator, Redeemer, Sanctifier, is a root-metaphor which has a comprehensive role at the summit of a hierarchy of theological models and metaphors explicating religious experience.” 32 Though less conceptually precise than doctrines, religious models have always had a strong affective function, evoking moral and spiritual response, commitment, and self-involvement, especially in Christian liturgy. Thus God is referred to as Father, Mother, Creator, Shepherd, Judge, Jesus as Christ, Son of God, King, Savior; the Holy Spirit as Comforter and Advocate. Even abstract religious concepts like “transcendent” and “immanent” contain a spatial metaphor.

Nevertheless, this Christian faith experience of God’s self-disclosure and personal relationship to us in Jesus clearly contains beliefs about God and about the relationship. These beliefs in inevitably involve statements about God. While truly cognitive, these theological statements are not explicitly descriptive, however, because the reality of God is simply beyond the capacity of language to express. As the parables of Jesus suggest, we are able to speak of God only by analogy. This is because the religious encounter is so open: there is no way to specify in advance or to control the experience. Because meaning is to be found exclusively in the event itself, it can be captured only by symbol. Such cognition must always be partial and inadequate, and yet it is precisely this gap between symbol and referent that gives the theologian room for maneuver in making propositional statements. All words used in such statements must therefore inevitably fall short of the concepts they signify.

If this limitation on religious language is so clear to theologians today, what have they to offer in defense of the claim that such language actually catches reality? Are religious models just useful fictions, whose only function is to express and evoke a certain psychological attitude or ethical response? The answer would seem to lie in the crucial distinction between referring to God and describing God. A critical realism would say that a model comes into existence originally in order to help an individual or community to interpret an event or experience by imagining what cannot be observed. Subsequently linguistic communities and interpretative traditions perpetuate the model, thereby guaranteeing a continuity of reference and protecting the model against arbitrariness and distortion. Hence there is, as Ian Barbour notes, a genuine intersubjective testing among members of any given religious community. “The interpretation of initiating events, formative experiences, and subsequent individual and communal experiences goes through a long process of testing, filtering, and public validation in the history of the community. Some experiences recur and are accepted as normative, others are reinterpreted, ignored or discounted.” 34 The more recurrent and widespread the experiences in question, the more secure the reference and hence the reality.

However, such intersubjective testing has its limitations. Janet Soskice makes the point well: “To be a realist about the referent is to be a fallibilist about knowledge of the referent. . . . So the theist may be mistaken in his beliefs about the source and cause of all . . . . for fixing a referent does not on this account guarantee that the referent meets a particular description.” 35 Christian theology, in other words, tends too easily to forget that there is an “is not” in all metaphor. The confident personal witness and affirmation of God’s self-revelation, therefore, does not mean that the reflective understanding and verbal expression of this knowledge can be anything more than approximate. These theological formulations, moreover, because they are to a large extent critical reflections on the life and thought of Christians at a particular time, will always be revisable, subject to a process of testing by the community. Nor is such revision a negative factor in the search for intelligibility. “Rational argument in theology,” says Ian Barbour, “is not a single sequence of ideas, like a chain that is as weak as its weakest link. Instead, it is woven of many strands, like a cable many times stronger than its strongest strand.” 36

Not only is theological discourse limited by the use of models, however; it is also limited because, just like scientific discourse, it must take place within a certain paradigm, a certain broad set of metaphysical and methodological assumptions. Hans Küng has helped to show how Kuhn’s analysis of historic changes in the world views of science can be applied also to theology. 37 Like “normal science,” “normal theology” is generally conservative. Traditional questions and modes of thought are passed on by
particular theological communities; young theologians are initiated into these community practices and do their theological work in the context of community expectations. Before a paradigm change actually takes place, there is a transitional period of uncertainty, during which normal theology gets challenged, usually provoking strong reaction and resistance to whatever might alter the status quo. The growing crisis finally peaks, and eventually a sudden breakthrough takes place for a new interpretative framework.

Küng lists five major paradigm changes in the history of Christian theology: from the apocalyptic paradigm of primitive Christianity to the Hellenistic paradigm of the patristic period, and from there to the Augustinian paradigm, the medieval Thomistic paradigm, the Reformation Protestant and the Counter-Reformation Catholic paradigms, and finally to the critical Enlightenment paradigm. This latter is presently being challenged by a contemporary ecumenical paradigm, according to Küng, the full dimensions and implications of which are not yet known. Representatives of various traditional theologies, moreover, still cling to and work within older paradigms: Orthodox within the Hellenistic paradigm, fundamentalist Protestants within the Reformation paradigm, Roman Catholics within the Counter-Reformation paradigm, and liberal Protestants within the Enlightenment paradigm. Because each of these paradigms arose in a specific time of crisis and uncertainty (such as the rise of science during the Enlightenment), a long period of normal work and cumulative growth inevitably followed once the crisis had passed, in which the scope of the paradigm was extended and all major changes resisted.

Küng takes pains to emphasize that in the course of each of these paradigm shifts there is a root conceptual stability in the midst of comprehensive conceptual change, a continuity in the midst of discontinuity. For the effort is always to reformulate the original tradition, not to re-discover it: to communicate a fresh experience of the original biblical message of God’s self-revelation in Jesus. Within whatever paradigm it takes place, therefore, Christian theology is always an effort to think through what is believed to be the truth of the Christian faith. What is distinctive about the present theological crisis is that so many cultural factors are also involved: secularization, religious pluralism, racism, sexism, the turmoil of developing nations, the ambiguity of science and technology, environmental problems, and the threat of nuclear war. The experiences of women and of the Third World of being exploited, for example, have been contributing for some time now to the correction of many endemic biases in the classical theological tradition.38

We have been discussing models and paradigm shifts in theology because we are trying better to understand the contemporary commitment of theologians to articulate the Christian faith experience. This commitment is worlds apart from the popular stereotype of theologians as closed-minded ideologues rigidly defending propositional statements which they expect all Christians to follow without question. For all these conceptualizations of God’s revelation in Christ are now recognized as no less “candidates for reality” than the theories and models of science. All earlier theological models, based on historical and authoritarian understandings of beliefs, have by and large collapsed today, except in the minds of biblical or ecclesiastical fundamentalists. Naive realism has yielded to a sense of the complexity and tentative character of most theological issues, and all easy solutions risk looking like so many efforts to preserve the status quo. Theological understandings are coming rather to be seen as time-bound efforts to translate a historical message from the world of past experience to the world of the present. In short, theologians have as a group been experiencing for some time now a genuine modesty in regard to both what they know and how they know it. Their enterprise of understanding reality has therefore turned out to be as corrigible as that of science.39

In these commitments of science and theology can be seen, I think, the two major contemporary efforts to grapple with and rationally to organize the human experience of reality. Although concerned with radically different subject matter (revelation in history has no parallel in science), the ultimate quest of each is for intelligibility rather than for the generation of observable data. Alfred North Whitehead, philosopher as well as mathematician, saw this relationship clearly: “The dogmas of religion are the attempts to formulate in precise terms the truths disclosed to the religious experience of mankind. In exactly the same way the dogmas of physical science are the attempts to formulate in precise terms the truths discovered by the sense perceptions of mankind.”40 A skeptical and qualified realism, moreover, has become the working assumption of by far the majority of scientists and theologians. The epistemology of science
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as such is validated. The Church’s relation to genetics, to depth psychology, to the development of the social life and morals of humankind as conditioned by natural science was never especially benevolent, was not sufficiently differentiated. The Church was always quicker to say no than to say yes. 42

Religious leaders on local, national and international levels are much more prudent and tactful today in what they say about science. This strategy enables them in effect to ignore scientific findings altogether, or to minimize their significance in relation to what they see as the overarching importance of human values. They justify such unconcern because Christian faith is addressed to the average person, and the work of scientists is usually inaccessible to this average consciousness. The fact that science has so often in the past played a surgical role in regard to deep-rooted religious beliefs is additionally a reason for distrust. 43 Science’s cold light has thus always been seen as a threat. There is little recognition, for example, that Darwin’s corrective to the biblical narrative of creation was indeed healthy for religion, releasing the early chapters of Genesis to function powerfully as the biblical authors clearly intended, namely as a story of the goodness of all creation as the work of a free and transcendent God, and of human dependence upon and alienation from God as the source of life.

Ironically, a new and healthy development in contemporary theology is having a further negative effect on this dialogue. This is the deprivatization effected by political and liberation movements acutely conscious of massive global suffering. These movements are eager to assuage such suffering with all the theological resources of the Christian tradition, and their sensitivity understandably has little interest in the religious implications of scientific discovery. Because theologians in these movements are reacting strongly against the existentialist disregard for the needs of human community, they naturally tend to regard all cosmological issues as distractions from Christian responsibility for the poor and oppressed. Indeed, one of their claims is that science as an enterprise serves mostly rich nations, with only a tiny percentage of its research aimed at problems typical of poor countries. This has naturally led them to emphasize the liberating message of the doctrine of redemption and to neglect any exploration of the doctrine of creation. Theologians sympathetic with both these movements are therefore seeking today to modify what they see as an overemphasis on society and history. They want to reintroduce into consideration the important third category of “world” or “cosmos,” and to insist that human salvation cannot be divorced from that of the material universe, which Scripture says is also “groaning in pain.” 44

Let us begin with theology. There is a certain legacy from the past here that is difficult to overcome, occasioned by the transition in the West from a medieval mentality to the modern critical mentality engendered by the Renaissance and solidified by the Enlightenment. The Christian churches generally resisted this transition, and finally adapted to it only after the new methodologies of philosophy and the natural sciences gained sufficient status and prestige. In the meantime, church authorities often overstepped the boundaries of theology to make pronouncements on questions that were answerable only in scientific terms and about which they totally lacked competence. Religious resistance to the heliocentric system of Copernicus thus lasted a long time, as did religious insistence that the evolution of living beings could not be true because it contradicted the account of creation in Genesis. Biological emergence of humans from animals was denied for over a century, and as late as 1950 the Catholic Church was still insisting officially that all humans originated from a numerically single pair. In the words of Karl Rahner:

The Church has often shown too little understanding toward those branches of anthropology in which the material, biological reality of the human being differs from that of theology, but, as we have seen, a common sociology of knowledge, arising from the dynamics of history and culture, can both critique and illumine the efforts of each. 41

It would seem, then, that dialogue between these two intellectual enterprises should not only be possible but even welcomed. What proves to be intelligible in their observations is applied by science to prediction and control of nature, and by theology to questions of life’s ultimate meaning, to the worship of God, and to personal responsibility. Hence theology tends naturally to use more “actor” language, science more “spectator” language. (As we saw, however, science has a much more human face than the popular stereotype allows.) The interaction of the two should consequently reveal a certain complementarity rather than conflict. For both are concerned with nature and the cosmos, the one as lawful structure, the other as related to God and to humankind. One would think that theology ought to be attentive to all discoveries of nature’s structure, and that science ought to be open to hear with respect whatever theology has to say about relating these discoveries to the larger and more complex area of religious experience. We should expect, in other words, some fruitful exchange along the lines suggested by John Paul II.

Yet it is only with extreme reluctance that scientists and theologians can get themselves to speak with each other today, and it is important for us to understand why. Let us begin with theology. There is a certain legacy from the past here that is difficult to overcome, occasioned by the transition in the West from a medieval mentality to the modern critical mentality engendered by the Renaissance and solidified by the Enlightenment. The Christian churches generally resisted this transition, and finally adapted to it only after the new methodologies of philosophy and the natural sciences gained sufficient status and prestige. In the meantime, church authorities often overstepped the boundaries of theology to make pronouncements on questions that were answerable only in scientific terms and about which they totally lacked competence. Religious resistance to the heliocentric system of Copernicus thus lasted a long time, as did religious insistence that the evolution of living beings could not be true because it contradicted the account of creation in Genesis. Biological emergence of humans from animals was denied for over a century, and as late as 1950 the Catholic Church was still insisting officially that all humans originated from a numerically single pair. In the words of Karl Rahner:

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A final factor inhibiting the dialogue is awareness of the perennial danger of theology seeking to incorporate even the best science of the day, whose findings have truly become part of the intellectual culture of a particular period. This is, after all, what happened in the Middle Ages, when biblical theology was so merged with the cosmology of Ptolemy and Aristotle that it was impossible for the Church to respond flexibly when this cosmology was finally discredited. The great fear of those who argue this way is that attaching one's religious belief to contemporary science is a sure route to obsolescence: married to science today, a widow tomorrow, as Arthur Peacocke would say.

But there is a false supposition here, namely that the only objective theologians could possibly have in this dialogue would be to gain some new evidence to validate a particular traditional teaching. Such an aim would not be theological at all, however, and would really constitute a neglect of revelation and religious experience as the true supports of the teaching in favor of certain scientific data that would allegedly provide stronger support. If theologians were really to have this objective, they would simply be looking for some new “God of the gaps” type of argument, like the classic example in which a creator God is invoked as a hypothesis to account for those puzzling aspects of the natural world that science for the present at least is unable to explain.

If, on the other hand, the true objective of theologians is to seek in science not new evidence for their teachings but rather new insight into them, then their search for the intelligibility of faith experience would in no way be compromised by dialogue. They would simply be recognizing that some features of our natural world have become so well established that it would be foolish for the theologian not to take them into account.

This reluctance of theologians to dialogue with scientists, which we have been discussing up to now, is matched today by an equal reluctance on the part of scientists. The reason is quite simply that in the eyes of scientists, religion constitutes a threat—not to themselves personally so much as to the integrity of their method, which seeks knowledge of universal causality. This will come as a surprise only to those whose image of science is still governed by the conventional stereotype: scientists as detached collectors of observable data, validating their theories by clear-cut criteria, and testing them against indisputable factual evidence. But this stereotype ignores the impact of their methodology on the personal lives of scientists, and attributes to them a confidence in their intellectual pursuit which, as we saw earlier, has been severely limited in recent years, and in some areas even eroded.

Consider, for example, this reaction of Albert Einstein, when faced with the full implications of the discovery that the universe was expanding at fantastic speeds: “It was as if the ground had been pulled out from under one, with no firm foundation to be seen anywhere, upon which one could have built.” Or that of Wolfgang Pauli in the months before Heisenberg formulated a new theory of quantum mechanics: “At the moment physics is again terribly confused. In any case, it is too difficult for me, and I wish I had been a movie comedian or something of the sort and had never heard of physics.”

In principle, however, this collapse of earlier mechanistic and positivist models served to free scientists to sense the ultimate mystery of reality, and as a result some actually became more open to religious insight. Werner Heisenberg, for example, could write: “Although I am convinced that scientific truth is unassailable in its own field, I never found it possible to dismiss the content of religious thinking... Thus in the course of my life I have repeatedly been compelled to ponder on the relationship of these two regions of thought.”

But this greater openness to religion in the personal lives of scientists is only with the greatest difficulty translated into their professional lives where dialogue with theology must take place. Princeton sociologist Robert Wuthnow, after analyzing a number of recent studies of science vis-à-vis religion, concludes that the irreligiosity of most scientists is a “boundary posturing mechanism” to maintain the precarious reality of the work they do. That is to say, irreligiosity helps to maintain the plausibility of the scientific province by differentiating scientists (in their own minds) from the larger public who represent everyday reality and generally maintain stronger religious identifications. By helping to maintain the plausibility of the scientific role for the scientist, irreligiosity contributes to his or her role performance as a scientist, as indicated by higher productivity and greater attachment to the values of science... [In short,] the more successfully scientists can extricate themselves from the realm of everyday reality, of which conventional religion is an important aspect, ... the more likely they are to make the transition successfully into the scientific role.

In the mind of the average scientist, therefore, his or her work needs to be protected not from religion so much as from everyday life in which religion flourishes. The other phenomenon noted by Wuthnow is that “scientists seem more likely to think of themselves as religious persons than they are actually to engage in any of the conventional practices or beliefs associated with religion.” This fact “suggests that scientists may be able to...
maintain private, nonconventional religious orientations at the same time that their public boundary-posturing activity calls on them to disidentify with the conventional religious performances that are tainted by everyday reality." Wuthnow concludes that

the proverbial conflict between religion and science may be more a function of the precariousness of science than of the precariousness of religion. Rather than religion being constantly on the run, so to speak, in the face of ever-advancing scientific knowledge, scientists have had to carve out a space in which to work by dissociating themselves from the powerful claims which religion has had traditionally, and which it still appears to command over the everyday life of contemporary society. 49

The religious beliefs and values of many scientists may thus appear to them to be perfectly valid forms of personal faith, as long as this faith is isolated from religious practice and closed to scientific scrutiny. They are content to live in two equally legitimate but separated realms, between which there can properly be neither conflict nor compromise. Werner Heisenberg, whose words on religious commitment we quoted earlier, could be quite explicit:

The care to be taken in keeping the two languages, religious and scientific, apart from one another, should also include an avoidance of any weakening of their content by blending them. The correctness of tested scientific results cannot rationally be cast in doubt by religious thinking, and conversely, the ethical demands stemming from the heart of religious thinking ought not to be weakened by all too rational arguments from the field of science. 50

This explains, of course, why most scientists feel so ill at ease in dialogue situations with theologians. They are suited neither by training nor by disposition to grapple with the larger questions that tend to arise in these discussions, such as those that touch on the history and philosophy of science, as well as the relation of science to society, to ethics, or to the history of religious thought. On the other hand, most theologians, as we saw, are equally ill at ease, because as a group they find great difficulty with the language of science. Their humanistic training hardly prepares them to appreciate or to work with the rigorous insistence by scientists on the importance of empirical, causal, and testable data. "God," says one scientist, "is in the details of existence. And anyone who refuses to look there is likely to be worshiping idols." 51

Hence some significant effort is needed on both sides to overcome the pull to isolation that arises naturally from the historical experiences of each, as well as from their present methodologies and psychological concerns. The motivation to do this from the theological side has to come from the realization that, if God is in fact the all-encompassing reality Christian faith proclaims, then what science says about nature, whether physical, chemical, or biological, can never be irrelevant to a deeper experience of God. The language of science, moreover, is now the common possession of humanity as a whole, and not to use this language in understanding and communicating Christian teaching entails a serious risk of not being heard. Science, for its part, must recognize the religious quest as one of the major and permanent realities of human life, even in our present technological culture. Not to relate to this quest in any way at all is simply to impoverish science. Langdon Gilkey makes this point well:

A scientific community that ignores the relation of its truth and its life to law, to morals, and to fundamental religious symbols... only makes itself and its culture vulnerable to ideological capitulation. Ignorance of the religious in both its demonic and its creative forms can be even more fatal for a scientific culture than ignorance of new scientific and technological developments. 52

It is important for all parties involved to recognize, moreover, that dialogue will tend to be strongly resisted by movements within Christianity that we mentioned earlier: fundamentalism (whether biblical or ecclesiastical), neoorthodoxy, and Christian existentialism. Though very different in many respects, each seeks to isolate theology by insisting that what is distinctive and constitutive of Christianity, namely revelation and commitment to a way of life, is totally absent from science. By supposition, therefore, we have two realms with no common interests or points of contact, and hence no possibility of communication. Between theological assertions and scientific assertions there can only be total separation. Impersonal nature is thus either of no religious importance or is important merely as the physical setting chosen by God for human redemption. Nor is it any accident that theologians in these movements tend to endorse positivism as the correct description of the scientific enterprise: such a view helps them emphasize the dichotomy all the more, since positivism asserts that sense data are the only reliable norm for knowledge, and that any religious statements which cannot be verified by such data must therefore be meaningless.

Nevertheless, there is a fundamental truth in these negative assessments of dialogue and it should be freely acknowledged: some language problem is inevitable in all discussions between theologians and scientists. A certain discrimination will be especially needed on the part of theologians in
dealing with the extrascientific statements of scientists, and on the part of scientists in dealing with extratheological statements of theologians. The neuralgic issue is thus not the existence of such a language problem but its severity and the extent to which it can be resolved. In our earlier discussion of scientific and theological commitments we saw the many similarities as well as the key differences in these two approaches to knowledge: each intends to speak of reality (though for each the data and content of this reality are quite different), and each in recent years has become more tentative and modest in regard to what it actually knows. Science also appears to be less objective in its methodology than was previously thought, theology to be less subjective. Propositional statements in both languages are thus seen to be approximations of objective truth, as “candidates for reality,” always open to modification and correction from new data, as well as from more accurate concepts, models, and theories. In spite of their mutual reluctance to dialogue, therefore, theologians and scientists are more ready today than in the past to show genuine respect for each other’s truth claims.

But there will obviously be different ways for them to conceive the relationship between their respective languages, and some provisional agreement on this relationship ought perhaps to constitute an early goal of their interaction. How in practice might one language serve to illumine the other? Superficially one could say that science asks “how” questions about observable sense data, and religion asks “why” questions about personal goals and ultimate purpose. Such a distinction is too easily blurred however, since scientists obviously profess faith in the intelligibility of nature and have their own ultimate concerns in the pursuit of truth, and theologians are often curious to know how the world God created actually works. This overlap of interest need pose no serious epistemological or methodological problem as long as theological language and concepts are not used to answer strictly scientific questions and vice versa.

Ian Barbour proposes the category of “levels” of knowledge as a way to relate the two languages. This is a methodological concept that is common in science, where levels of analysis are relative both to the state of knowledge at the time and to the problem under investigation. Scientists use different abstract models and theories because they believe that there are different levels to be analyzed in the objective structure of the world. This structure in turn reveals levels of organic complexity in nature that chemistry and physics do not deal with, and in the case of humans there occur events of reflective intelligence whose complexity biology does not deal with. However, none of this implies that there exist separate strata or sharp boundaries in nature, and so these levels of activity, like levels of analysis and organization, are not seen to be mutually exclusive.

Hence the presence of distinctly higher-level phenomena in humans does not rule out in their case the laws of physics, chemistry, and molecular biology. When the language of theology makes assertions about human persons addressed by God, therefore, this likewise does not exclude any scientific statements regarding lower-level phenomena like atoms, neurons, and DNA molecules. There is, in other words, a continuous spectrum of levels in the total human unit, and these need to be addressed by language appropriate to the particular level in question. The reason all these languages, whether scientific or theological, ought to be able to communicate with each other is precisely their reference to this objective reality and unity of human beings, to which both science and theology bear witness.

Holmes Rolston deals with this language problem from another point of view, by emphasizing the fact that science and theology do not confront each other as closed but as open systems. The issue is thus not whether they are compatible as systems, but whether their different emphases do not simply reflect a common effort to render the universe and human beings as fully intelligible as possible. Science is mainly in search of physical causes, theology mainly in search of meanings and values. Tension exists between them at the points of their overlap because we all want our understandings of causes and meanings to cohere. “The warfare between science and theology is often a struggle to clarify to what extent causal explanations are compatible with or antagonistic to meaning explanations.”

Sometimes “precursors of meaning” may even appear in biological and sociological explanations, but a religious explanation is usually needed to provide a full account of meaning. Nor do such full accounts of meaning compete with causes. Rather, there is a “causal looseness” in matter itself, an unfinished openness and indeterminacy well documented by science. It is here that meanings are to be found, not in some “perforation of the natural by a supernatural order.” Indeed, notes Rolston, warrants exist within the sciences for nonreductive causal explanations that allow for the influence and effectiveness of purpose. For the universe that science studies is not a mere sequence but a story, a struggle upward through matter, life, thought, history, and culture. Only a narrative can really capture what is going on. And it is precisely this need of humans for meaningful narrative that allows theology to complement the causality of science.
Opportunities for the Future ———

Once their mutual reluctance is overcome and commitment made to achieve some mutual understandings, it is incumbent on both parties to be realistic about the dialogue. Hence we must now ask, finally, what objectives we can expect to achieve through this collaborative interaction between scientists and theologians. I believe that only one focus will make the conversation worthwhile for the two participants, at least initially, and that is the human person. There is, of course, a second focus of supreme importance today, namely the responsibility of human freedom for the use of science’s progeny, technology. But this focus raises so many large and delicate questions of morality that it demands the participation and expertise of many thinkers from many fields in addition to those from the natural sciences and theology. Hence we shall touch briefly on this second focus only insofar as it is derivative of the first and a manifestation of the mysterious power of human freedom.

Only in recent years have scientists begun paying any attention at all to human beings. The sheer complexity of the human tended in the past to be totally overlooked. The sophisticated tools of relativity theory and quantum mechanics enabled physics to move with ease from the enormously simple and relatively empty structures of galaxies to the simple and equally empty structures of the subatomic world. Physicists never paused in this movement to notice the incredible intricacy of the human phenomenon midway between the immense and the infinitesimal. Biology and chemistry dealt with the molecular and genetic structures of living things, but, because reflective consciousness was restricted to the higher forms of life, there seemed to be good reason to regard it as a mere epiphomenon of life. Human persons, each with more atoms in their makeup than stars in the universe, were thus relegated to just another animal species.

This situation is now slowly changing. A new science has emerged that challenges traditional science because of the order of being that it studies: that range of the very complex that exists between the range of the infinitely large and the infinitely small. Physicist Heinz Pagels recently explained this development:

Science has explored the microcosmos and the macrocosmos; we have a good sense of the lay of the land. The great unexplored frontier is complexity. Complex systems include the body and its organs, especially the brain, the economy, population and evolutionary systems. Scientists, in a new interdisciplinary effort, have begun to meet the challenge of complex systems and, remarkably, are understanding how complexity can emerge from simplicity. ... Some aspects of our moral behavior—behavior that either reflects or constitutes our moral values—seem extremely complex, but conceivably they arise from simple elements that can be understood. While science cannot judge, it can help us understand. Pagels believes that this new orientation of science is the first step toward a resolution of the apparently unresolvable conflict between the reductionist and the transcendental views of reality. For the first, life and even human culture is nothing but complex chemical reactions; for the second, human thinking so transcends the material world that the cultural matrix of art, religion, and science form an invisible universe of meaning. “The mind, it seems, is transcendental to nature. Yet according to the material sciences that transcendent realm must be materially supported and as such is subject to natural laws. Resolving this conflict is, and will remain, a primary intellectual challenge to our civilization for the next several centuries.” Like many scientists, Pagels holds both views to be true, and does not want the conflict resolved by collapsing the differences in some simplistic way in favor of one or the other. But he does want permanent dualism either, and he looks to the new concern of science for complexity as an eventual way out. “Where these new developments are headed no one can tell. But they portend a new synthesis of science that will overturn our traditional way of organizing reality.”

While science is coming to see the unusual character and significance of complex systems, theology, absorbed as it must be with the self-transcendence of human persons, is being forced by science to see these hearers of God’s word in their true physical insignificance in the cosmos. We know today that the human species is one of about two and one-half million known species, a relatively recent arrival in the cosmos, living on a medium-sized planet orbiting an average star in the outer regions of an ordinary spiral galaxy, that has about a hundred billion other stars in it, and that exists in a universe with at least a billion other galaxies. Alpha Centauri, the nearest star to our sun in our Milky Way galaxy, is four light years away, which is the distance light travels in four years at the rate of 186,272 miles per second, or about 23 trillion miles. The traditional Christian
message that humans are the ones for whom the material world primarily exists, when delivered in this context of overwhelming vastness, is not easily heard.

It is far more likely, as Karl Rahner has said, that Christians who think about these things will begin to feel themselves to be an accidental, marginal phenomenon, a chance product of a very localized evolutionary process that is itself known to abound in countless improbable accidents. They will then find even more dizzying the teaching that the eternal God who holds these billion galaxies in place actually became human on this tiny speck of planet. For most people the narrow horizon of everyday life will usually serve to neutralize this dizziness, but Rahner believes that Christians simply have to start getting used to this feeling of being lost in the cosmos. In other words, they must find a way to allow the scientific view of the world to coexist in their consciousness with the Christian view, without minimizing either their own cosmic insignificance or their importance and dignity as human persons. Indeed, their very recognition and acceptance of the fact of being lost in the cosmos actually raises them above it and enables them to realize it as an expression and a mediation of that ultimate experience of contingency which they, in virtue of their ancient faith, must perceive and accept before the infinite God as finite creatures. . . . In this way the feeling of cosmic dizziness can be understood as an element in the development of people’s theological consciousness. . . . If people have to give up their feeling of being at home in the universe in exchange for the feeling of not being at home, which reflects the character of their religious experience, then this is at root a legitimate element of humankind’s fate.58

Because of this physical insignificance of the human, and also because of the old scientific fiction of a totally objective observation, scientists usually do not notice the fact that the operation of their own minds is the most sophisticated and complex thing the material world has yet produced. In charting the size of the universe or the depths of the atom or the organic mechanisms of life, scientists are exercising powers of thought that are really the products of matter, in so far as it has at last come to know itself and to be capable of reflecting upon its world. Scientists who claim they can never find any signs of spirit among the objects they investigate fail to notice why this must be so. The reason, notes Langdon Gilkey, is that what they are investigating are all objects, lacking any inwardness and often existing in the past. The scientists themselves, as pre-

sent knowing subjects doing the actual investigating, are simply left out. And so, if Carl Sagan is referring only to the exteriority of nature when he insists that the cosmos is all there is, he is clearly wrong: there is also Carl Sagan looking at the cosmos and trying to make sense of it.59 Holmes Rolston makes this same point: the most significant thing in the known universe is immediately behind the eyes of the observer. In our three pounds of brain there may be more operational organization than in the whole of the Andromeda galaxy. The number of possible associations among the trillion neurons of a human brain, where each cell can “talk” to as many as a thousand other cells, may exceed the number of atoms in the universe. The number of possible genetic combinations in the offspring that a man and woman can conceive may exceed the number of atoms in the universe.60

Hence it is reasonable to expect that serious dialogue over time between scientists and theologians must eventually produce changes in how the human phenomenon is regarded. Already science has begun to recognize that, in the world of nature, more seems mysteriously to come from less: the universe is somehow right for the production of thought and freedom, which have come into being from what billions of years ago was originally matter strewn out into the universe by exploding stars. How is it that such a lifeless and mindless cosmic process should have accomplished this almost infinitely improbable feat? And how is it that physical reality is somehow adapted to our mode of knowing and so can be understood by us as observers? This baffling intelligibility inherent in the universe has struck more than one scientist with awe. “The most incomprehensible thing about the universe,” Einstein once said, “is that it is comprehensible.”61 Is there not here at least a hint of some transcendence, an intuition of a wider reality than science has elected to investigate, a realization that science raises questions that its own methodology does not allow it to answer? Max Planck, the father of modern quantum theory, knew this well: “Science cannot solve the ultimate mystery of nature. And it is because in the last analysis we ourselves are part of the mystery we are trying to solve.”62

If scientists should now be more willing than in the past to see their models of reality as partial, applicable only to certain restricted levels of reality, theologians should be no less willing to see their own models in the same way. For they can no longer pretend to understand the fullness of human history and cultural change apart from the dynamics of a
physical nature and a cosmic process some fifteen billion years old. If in dialogue they are eager to say what Christian faith can contribute to the understanding of this process, they must also be ready to listen when scientists point to the theological impact of certain realities in the natural world. Because there is no reason to doubt that the human future will be any less the product of scientific discovery and research than the human past, there is also no reason to doubt that theology will continue to feel the effects of this influence. Traditionally theologians have been interested in persons primarily as social and historical beings, and this is why they are currently directing much of their energy to strategies for political and social reform. But this focus needs to be complemented now by that of the scientists, who are interested in persons primarily as natural beings. These scientists are just as much concerned with the human future as are the theologians, but their proposals must necessarily be in the context of the human relationships to matter and to its movement.

This mention of proposals for the future brings us now to the issue of human freedom in the dialogue. The immediate objective ought not be to discuss very complex ethical questions involving the uses of technology, but simply to acknowledge that science as well as theology must carry a burden of responsibility. This will not be as easy as one might expect, since not all scientists would agree that they have any role to play in this context. Some would say with Albert Einstein that “science can only ascertain what is, but not what should be, and outside of its domain value judgments of all kinds remain necessary. Religion, on the other hand, deals only with evaluation of human thought and action; it cannot justifiably speak of facts and relationships between facts.” While science as such obviously cannot resolve moral conflict, scientists themselves have to recognize that what they pursue in their research can reach dangerously beyond their immediate objectives. Theologians therefore have every right to insist that scientists recognize the full significance of free decision in their work. For their freedom inevitably involves them in something more than natural science, and that something is all too often freighted with social dilemmas and moral ambiguity.

This focus on the human person, which I believe to be the key to the dialogue’s success, must eventually involve the two parties in some discussion of the relationship of matter to spirit insofar as this is to be seen in human beings. Such discussion must aim first of all at making the positions of each discussant intelligible to the other. Scientists will have the easier task here because, insofar as they think of the question at all, they will tend either toward dualism if they believe in God or toward materialism if they do not. The dualist, following Descartes and Newton, will think of mind and body as radically distinct, the extended material body functioning like any other machine, only inhabited by a “soul” as the principle of human subjectivity. In the current biological context these scientists would have an insurmountable difficulty explaining how a totally spiritual source of consciousness could have evolved from matter, just as Descartes and Newton in their day had no explanation of how the soul interacts with the body it inhabits (the “ghost in the machine” as Gilbert Ryle called it). Hence in the former case as in the latter, the creative intervention of God must fill the gap.

Most scientists, however, are materialists. They avoid the conceptual problems of mind/body dualism by equating mind with the brain. For these reductionists all interior consciousness, all mental states, are nothing but physical states of the central nervous system. While we do indeed have a conscious experience that we know directly, this experience exerts no causal power on the physical world; it is simply a concomitant of certain physical processes which are causally related to other physical processes. We are still machines, therefore, but now we have no “ghost.” Geneticist Jacques Monod puts it succinctly: “Anything can be reduced to simple, obvious mechanical interactions. The cell is a machine. The animal is a machine. Man is a machine.” Such scientific materialism has its own problems, of course. Why should humans have such a thing as self-conscious experience in the first place? Why should such interior experience have developed at all in an evolutionary process if it had no biological function? How could it have been selected if it was irrelevant to survival?

Theologians, for their part, have in the past always held some version of spirit/matter dualism, in their case in order to articulate the transcendental character of human persons, their unlimited openness to hear and respond to God’s self-disclosure. The traditional name for this higher spiritual dimension of the human came from the Greek concept of “soul,” which by its very nature had to be distinct from the body to which it was joined. In this dualism, matter was usually undervalued as the physical matrix for the soul, which was alone seen as the depository of divine revelation as well as the instrument and direct object of salvation. By the turn of the century, when the discovery of evolution became impossible to deny, theologians usually reacted by saying that, while one might have to speak of the evolution of the human body, the spiritual and transcendent character of the human soul demanded a
special creative intervention of God. In other words, there was another gap that had to be filled, this time at the moment of conception.

With our present knowledge of evolutionary theory and of genetics, however, theologians have become aware that they cannot draw any easy boundary between matter and spirit. Clearly there is no such dichotomy in the Bible: for biblical authors humans are psychosomatic unities. The body as a prison from which death liberates the soul is a Greek not a Hebrew idea. On the side of matter, what has helped theology is the full retrieval of Christian teaching on the resurrection and immortality of body and soul together. Matter can thus be taken more seriously when its future spiritual destiny is acknowledged. On the side of spirit, theologians eventually learned that evolutionary theory itself recognized a self-transcendence of the lower into the higher, of the less continually producing the unexpected and unpredictable more. This meant that body/soul dualism is no longer the only way to safeguard the irreducible spiritual principle in human persons. The theological focus has finally shifted, therefore, to the potential spirituality present in the actual dynamisms of matter, and to a new understanding of God's continuous creative presence and causality within the process of physical evolution. When in the ordinary course of this process Homo sapiens appeared on the scene, an altogether different relationship developed between God and nature, for something radically new was now possible, a species that could consciously respond to a God who was personally present in knowledge and love to all members of the species.

No one has done more to help theologians hammer out this middle position between dualism and materialism than Pierre Teilhard de Chardin. By profession a geologist and paleontologist, Teilhard faced earlier than most religious thinkers the full implications of evolution for understanding the relationship of matter and spirit. When he spoke to scientists he emphasized that the transition from life to thought was an example of what is common in nature: “In every domain, when anything exceeds a certain measurement, it suddenly changes its aspect, condition or nature. . . . Critical points have been reached, rungs in the ladder, involving a change of state—jumps of all sorts in the course of development.” Exteriorly this movement of life involves the slow development of the nervous system and brain, but this increase in complexity corresponds experimentally to a slow interior growth of consciousness. Indeed, said Teilhard, “the story of life is no more than a movement of consciousness veiled by morphology.” Like the temperature of boiling water, this psychic temperature in the cellular world was inevitably transformed at a single stroke, leaping across the threshold of reflection to thought, “a mutation from zero to everything.” This interval, however, is “transexper­mental, about which scientifically we can say nothing.”

To theologians, on the other hand, Teilhard spoke in a different vein:

Need I repeat that I confine myself here to phenomena, i.e. to the experimental relations between consciousness and complexity, without prejudging the deeper causes which govern the whole issue? In virtue of the limitations imposed on our sensory knowledge by the play of the temporospatial series, it is only, it seems, under the appearances of a critical point that we can grasp experimentally the “hominizing” (spiritualizing) steps to reflection. But with that said, there is nothing to prevent the thinker who adopts a spiritual interpretation from positing (for reasons of a higher order and at a later stage of his dialectic), under the phenomenal veil of a revolutionary transformation, whatever “creative” operation or “special intervention” he likes.

--- Conclusion ---

Let me summarize the main argument I have been making and draw two brief conclusions. The present dialogue between scientists and theologians is at best in its infancy: neither group, as a group, is well prepared to understand the sources, methods, or subject matter of the other. While there are ample historical reasons for this, as well as for the current reluctance to change it, the thought processes of each group have nevertheless undergone a remarkably similar development in recent decades. They have both become more modest regarding the certainty of what they know as well as more open to outside influences. Their epistemologies may differ because of the different types of human experience they investigate, but there is a common sociology of knowledge available to both, and this goes far toward explaining their common commitment to the intelligibility of reality as well as their growing respect for each other. Hence new opportunities do exist for dialogue today, especially if the participants limit their initial focus to what each can contribute to new insights into the human.

The first conclusion we can draw is that theologians are in a position to gain more from this dialogue, at least initially, than are scientists. This is undoubtedly why John Paul II directed his message primarily to them. For their neglect of physical nature, of all those forces present in
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The cosmos and in life, has been almost total. That God creates all that exists has usually been their only concern. What and precisely how God creates has been of little or no interest. Only within a dialogue process, therefore, is it possible for them to learn anything about the fantastic results of God’s creative power, and the implications of these results for human persons and their relationship to God.

Such an experience cannot but affect the way theologians think about nature itself as a source of knowledge about God, creation, divine providence, and the mystery of evil. They must also begin to ask about the relation of such “natural theology” to the “theology of nature” long derived from biblical revelation, which emphasizes God’s immanence in the world as well as transcendence to it. The source references in these pages are an indication of how extensive this questioning has already become. Outside the context of dialogue, moreover, new theological efforts must certainly be made to reformulate certain traditional Christian doctrines in the context of widely accepted scientific findings regarding the evolution of matter and the human person. Christology, original sin, redemption, the theology of death, and the material character of the afterlife are the most obvious areas raising new questions which theologians must somehow confront.

Secondly, we must recognize that scientists will be interested in discussing their findings with theologians only in so far as theologians are willing to meet them on their own ground. For few scientists, even among those who are religiously committed and who readily acknowledge their models to be partial, are much interested in strictly theological questions. The most that can be expected, as we saw, is respect for the integrity of the theological enterprise as a search for its own particular intelligibility of human experience. This means that the focus of the dialogue proper must be on the scientific understanding of nature and the human person, and on what we can and cannot know about God from these findings. To quote Whitehead once more: “When we consider what religion is for mankind, and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relations between them.”

Because their primary orientations are so different, as well as their tools of intelligibility, any concerns which are seen as common to both science and theology can never be pursued without friction or without constant need of adjustment at their points of overlap. For while we may no longer have two totally separate realms of discourse, we also have little likelihood of achieving a single integrated intellectual enterprise. A coherent vision of all things may indeed be the ultimate goal of the dialogue, but scientists as well as theologians will have to settle in the short run for a friendly collaborative sharing and scrutiny of their fallible insights into very different aspects of reality.

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10. Ibid., 19.


12. See the two overviews by Mary Hesse, “Cosmology as Myth,” in Cosmology and Theology, ed. David Tracy and Nicholas Lash (New York: Seabury, 1983), 49-54, and “Retrospect,” in The Sciences and Theology in the Twentieth Cen-
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13. Thomas S. Kuhn, The Structure of Scientific Revolutions, 2nd ed. (Chicago: Univ. of Chicago Press, 1970). Kuhn’s argument has been discussed at length in Paradigms and Revolutions, ed. Gary Gutting (Notre Dame, Ind.: Univ. of Notre Dame Press, 1980). David L. Hull, another historian of science, has recently proposed a very different biological model: the same kinds of forces responsible for shaping the rise and demise of species also act on the social and conceptual development of science. See his Science as a Process (Chicago: Univ. of Chicago Press, 1988).


16. Kuhn’s concept of paradigm influence within the scientific community has in recent years been given a much larger societal focus by a movement within the sociology of knowledge known as “the strong program.” The myth of scientific neutrality, say these social historians, has made it possible today for government and industry to misuse both pure science and technology to achieve political and economic goals. The questions posed by scientists and the type of answers they seek thus originate, according to “the strong program,” not within science but outside it.

As Ian Barbour perceptively notes, however, experimental data are the great corrective to this charge of cultural relativism. While such externalist sociological critiques may be a healthy antidote to internalist views of a purely rational science, they inevitably underestimate the constraints of data upon both outside influence and insider objectives. That is to say, one can justify neither scientific theory nor social ideology without some reproducible confirmatory data. See Barbour, Religion in an Age of Science (San Francisco: Harper & Row, 1990), 74–75. Other critiques of “the strong program” will be found in Arthur Peacocke, Intimations of Reality (Notre Dame, Ind.: Univ. of Notre Dame Press, 1984), 18–22; Martin Rudwick, “Senses of the Natural World and Senses of God: Another Look at the Historical Relation of Science and Religion,” in The Sciences and Theology, ed. Peacocke, 241–61; Sal Restivo, “The Myth of the Kuhnian Revolution in the Sociology of Science,” in Sociological Theory 1983, ed. Randall Collins (San Francisco: Jossey-Bass, 1983), 293–305.

17. Polkinghorne, One World, 12. See the more detailed discussion of these analogies by Michael Polanyi, Personal Knowledge (Chicago: Univ. of Chicago Press, 1958).


23. Kuhn, Structure, 198–204. Unlike Kuhn, the philosopher Karl Popper insists on the importance of experimentation as a means of logically and deductively refuting scientific hypotheses. General laws and theories themselves, however, are not inductively derived from such observation, but rather have their origin in the imagination and intuition of the scientist. As such they cannot be positively verified, but only shown by data to be false. There can thus be no absolute certainty in any scientific theory; the most we can expect is a gradual approximation to truth. Popper’s understanding of science is to be found in his many books, including The Logic of Scientific Discovery (New York: Basic Books, 1959) and Conjectures and Refutations (London: Routledge & Kegan Paul, 1963).


26. For an extensive discussion of the inevitable tension involved between the existential commitment of religious experience and the theologian’s task of understanding and evaluating religious belief claims, see Barbour, Issues, 207–69.

27. In 1984 the Vatican formally acknowledged the error of this condemnation. See Origins 16 (1986): 122. Galileo’s undoing was his insistence that he had proven heliocentrism beyond doubt and that church authorities must immediately reinterpret all biblical texts to the contrary. But the evidence he produced (the orbits of the moons of Jupiter and the waxing and waning of Venus, both seen with his telescope) was quite inconclusive at the time, and this gave his enemies on the papal commission their excuse for humiliating him: he was forced to abjure heliocentrism publicly and live under house arrest until his death.

Given Galileo’s enormous contribution to science, recognized even in his lifetime, this episode in the history of theology and of the Church is both sad and fascinating, and its literature is very extensive. The best of the longer studies is Giorgio de Santillana, The Crime of Galileo (Chicago: Univ. of Chicago Press, 1955). An excellent short account is William R. Shed, “Galileo and the Church,”...


36. Barbour, *Religion*, 90. A recent statement by the Vatican's International Theological Commission has cautiously endorsed this need to reinterpret doctrinal statements in a contemporary context: "The definition of a dogma, therefore, is never just the end of a development, but always a new beginning as well ... Such a contemporary interpretation of dogmas must take into account ... the abiding validity of the truth and the actuality of the truth. ... Consequently the work of theology, the historical study of the sources as well as dialogue with sciences dealing with humanity and its various cultures, with hermeneutics, linguistics and philosophy are of great importance for the contemporary interpretation of dogma. ... Without doubt the permanent and valid content of the dogmas is to be distinguished from the way in which they are formulated. In any age the mystery of Christ surpasses the possibilities of formulation and thus eludes any final systematization" ("On the Interpretation of Dogmas," *Origen* 20 [1990]: 12).


39. What I have described as the professional commitment of Christian theologians is how the vast majority go about practicing their craft today. The inverse of this approach has been developing for some time, however, in such nontheological areas as the history, sociology, and philosophy of religion. The former outlook assumes that religious language is the product of a distinctive historical experience of God and of one's relationship to God, whose primary and normative source for the Christian is the biblical narrative, expressed and communicated in more or less adequate ways by metaphors, symbols, and models. The latter outlook assumes that language is rather the producer of this experience, which in turn is its effect, not its cause. When applied to Christian doctrines, this alternative model says that their most important function is their use as rules of discourse and action. All authoritative Christian teaching is therefore to be regarded simply as rule theory.

George Lindbeck believes that this "cultural-linguistic" view of doctrine is better than what he calls the "experiential-expressivist" view, because it does not ghettoize theology by isolating it from close association with the best of nontheological thinking. He concedes, however, that "experiential-expressivism" may be better suited to the religious needs of modernity and is in fact the model habitually used by the generality of Christian theologians. He would also have to acknowledge, I think, that doctrines never appear in the tradition as no more than ways of speaking about certain Christian attitudes and practices. See his *The Nature of Doctrine: Religion and Theology in a Postliberal Age* (Philadelphia: Westminster, 1984).


41. This contemporary critical realism thus asserts that we can know to some extent the truth about real objects, but clearly departs from traditional Western foundationalism by denying that our perception and inference can give us absolute certainty. This is because both scientists and theologians have come to recognize, each through their own distinctive experience of reality, that too many cultural, personal, and conceptual filters intervene between the knowing subject and the object known.

One could legitimately argue, of course, that the current crisis in both theological and scientific knowledge is more extensive and radical than I have indicated. Whether or not this is actually the case would not affect the main
points I am making, namely that scientists and theologians generally aim at some intelligibility of the real, and that the truth claims of each are now far more modest and tentative than they were in the past. For an overview of developments that today raise questions about this search for intelligibility see, on the science side, James Gleick, *Chaos* (New York: Penguin, 1987), and Ilya Prigogine and Isabelle Stengers, *Order Out of Chaos* (New York: Bantam, 1984); on the theology side, David Tracy, *Plurality and Ambiguity* (San Francisco: Harper & Row, 1987), and Mark C. Taylor, *Deconstructing Theology* (New York: Crossroad, 1982).


43. Polkinghorne, *One World*, 65, makes this point well.

44. See the critique by Tracy and Lash, *Cosmology and Theology*, 88–89. The biblical text referred to here is Rom. 8:22.

45. In a widely publicized allocution to the Pontifical Academy of Sciences in 1951, Pius XII appealed to the Big Bang model to confirm what he called the “classical proofs” for the existence of God and for a finite beginning of the universe in a divine act of creation. As was to be expected, scientists were generally upset by this misunderstanding and misuse of their theory for apologetic purposes. But many Catholic philosophers and theologians were equally disturbed, because they could find no direct connection between scientific statements about cosmic beginnings and biblical statements about the creative power of God. See *The Proofs for the Existence of God in the Light of Modern Natural Science: Address of Pope Pius XII to the Pontifical Academy of Sciences* (Washington: National Catholic Welfare Conference, 1952).

A more balanced epistemological evaluation is that of Ernan McMullin, “How Should Cosmology Relate to Theology?” in *Sciences and Theology*, ed. Peacocke, 39: “What one could readily say, however, is that if the universe began in time through the act of a Creator, from our vantage point it would look something like the Big Bang that cosmologists are now talking about. What one cannot say is, first, that the Christian doctrine of creation ‘supports’ the Big Bang model, or, second, that the Big Bang model ‘supports’ the Christian doctrine of creation.” Finally, it is important to recognize that this doctrine is not a teaching about cosmological beginnings in time at all, but rather about the absolute dependence of everything on God at every moment; nor do biblical scholars believe that the Genesis story refers literally to such beginnings.


49. Ibid., 198–99.


53. Langdon Gilkey pressed this “why/how” distinction during his testimony against the creation scientists in their trial at Little Rock in 1981. The trial concerned an Arkansas law mandating the teaching of creation science in public schools if these schools taught evolution. Gilkey’s strategy, which succeeded, was to defeat the arguments of biblical literalists, who through creation–science courses sought to propagate scientific conclusions derived from the Genesis story. See his account of the court proceedings in *Creationism on Trial* (San Francisco: Harper & Row, 1985). Gilkey himself holds a far more subtle understanding of the relationship (ibid., 161–208). For a discussion of the other court cases involved in this controversy, see my *Boundaries Dimly Perceived: Law, Religion, Education, and the Common Good* (Notre Dame, Ind.: Univ. of Notre Dame Press, 1990), 89–92.


55. Holmes Rolston III, *Science and Religion: A Critical Survey* (New York: Random House, 1987), 25. See also pages 21–26, 179–86, 219–24, 278–82, 311–17, 126–36. It is important to note that the concept of physical causality is not the same in the classical and contemporary worldviews. Before 1900 the natural world was regarded as mechanically determined and in principle predictable. Today indeterminacy is recognized at the microlevel and, because of the complexity of causal chains, unpredictability at the macrolevel. This causal uncertainty is compounded in the megaworld of intergalactic distances and cosmological processes unfolding over billions of years. While the scientific ideal still remains the discovery of causal dependency, there is now much more use of and reliance upon the tool of correlation between physical situations, which may or may not yield a causal connection. This tool will obviously be more central in some areas, such as biology and medicine, where physical causes are so much more difficult to determine. See Peacocke, *Creation and the World of Science*, 52–63.


57. Ibid., 12–13.


64. Quoted by Barbour, *Religion*, 6. See also pages 196–97. We are focusing here, it should be noted, on the corporeal aspects of the human person which
we find combined with the extraordinary capacity for reflective consciousness. This approach to “matter” is able to provide an immediate common ground for scientists and theologians. Very few at this early stage in the dialogue will want to get involved in the more abstract philosophical question of some commonly agreed meaning for “matter.” Theologians generally do not find this to be a pressing theological problem, and scientists as a group will have very different experimental experiences of “matter,” depending on whether they are astrophysicists, particle physicists, physical chemists, or molecular biologists.

65. Rahner, “Science and Theology,” 27–31, 41–46; Gabriel Daly, Creation and Redemption (Wilmington, Del.: Glazier, 1989), 49–55. Rahner and Daly note that one can still refer to this process, if one so wishes, as “the special creation of the human soul,” because they both want to give a benign interpretation to the words of Pius XII in his 1950 encyclical Humani generis: “The Catholic faith obliges us to hold that souls are immediately created by God” (DS 3896). Rahner insists, however, that the ancient teaching tradition of the Christian Church on the origin of the human soul did not in fact hold this clearly. Hence the Pope could have meant only “to emphasize that the transcendentality of the human subject cannot be derived simply from its material presuppositions with their material foundations, since one must still make a distinction between body and soul (even if it is now more difficult than before to affirm their unity and diversity ontologically)” (“Science and Theology,” 44). Daly merely remarks that “this teaching was never defined and there is no intrinsically compelling reason for holding that it is an indispensable model for treating human creation” (Creation and Redemption, 52).


67. Ibid., 169, n. 1. We cannot do more here than to indicate the two main emphases of Teilhard. For a fuller understanding see the chapter on “The Birth of Thought” (ibid., 163–90) as well as “The Analysis of Life,” in his Activation of Energy (New York: Harcourt Brace Jovanovich, 1971), 129–39.


HOMILY 1

Creation of the Heavens and the Earth

(ON THE HEXAEMERON)

IN THE BEGINNING God created the heavens and the earth.¹

An appropriate beginning for one who intends to speak about the formation of the world is to place first in the narration the source of the orderly arrangement of visible things. For, the creation of the heavens and earth must be handed down, not as having happened spontaneously, as some have imagined, but as having its origin from God. What ear is worthy of the sublimity of this narrative? How well prepared should that soul be for the hearing of such stupendous wonders? Cleansed from the passions of the flesh, undarkened by the cares of life, devoted to labor, given to investigation, watchful on all sides to see if from some place or other it may receive a worthy concept of God.

Before weighing the accuracy of these expressions, however, and examining how much meaning there is in these few words, let us consider who is speaking to us. For, even if we do not attain to the profound thoughts of the writer because of the weakness of our intellect, nevertheless, having regard for the authority of the speaker we shall be led spontaneously to agree with his utterances. Now, Moses is the author of this narrative, that Moses who while still a child at the breast was

¹ Gen. 1.1.
acknowledged to be ‘acceptable to God’; he, whom the daughter of Pharaoh adopted and royally reared, appointing as masters for his instruction the wise men of Egypt. He, who, hating the pomp of royalty, returned to the lowly state of his own race and preferred to suffer affliction with the people of God rather than to have the ephemeral enjoyment of sin. He, who, possessing naturally a love for justice, on one occasion, even before the government of the people was entrusted to him, was seen inflicting on the wicked, punishment to the extent of death because of his natural hatred of villainy. He, who, banished by those to whom he had been a benefactor, gladly left the uproar of the Egyptians and went to Ethiopia and, spending there all his time apart from others, devoted himself for forty entire years to the contemplation of creation. He, who, having already reached the age of eighty years, saw God as far as it is possible for man to see Him, or rather, as it has not been granted to anyone else according to the very testimony of God: ‘If there be among you a prophet of the Lord, I will appear to him in a vision, or I will speak to him in a dream. But it is not so with my servant Moses, who is the most faithful in all my house: For I speak to him mouth to mouth: and plainly, and not by riddles.’ So then, this man, who is made equal to the angels, being considered worthy of the sight of God face to face, reports to us those things which he heard from God. Let us hear, therefore, the words of truth expressed not in the persuasive language of human wisdom, but in the teachings of the Spirit, whose end is not praise from those hearing, but the salvation of those taught.

(2) ‘In the beginning God created the heavens and the earth.’ Astonishment at the thought checks my utterance. What shall I say first? Whence shall I begin my narration? Shall I refute the vanity of the heathens? Or shall I proclaim our truth? The wise men of the Greeks wrote many works about nature, but not one account among them remained unaltered and firmly established, for the later account always overthrew the preceding one. As a consequence, there is no need for us to refute their words; they avail mutually for their own undoing. Those, in fact, who could not recognize God, did not concede that a rational cause was the author of the creation of the universe, but they drew their successive conclusions in a manner in keeping with their initial ignorance. For this reason some had recourse to material origins, referring the beginning of the universe to the elements of the world; and others imagined that the nature of visible things consisted of atoms and indivisible particles, of molecules and interstices; indeed, that, as the indivisible particles now united with each other and now separated, there were produced generations and deteriorations; and that the stronger union of the atoms of the more durable bodies was the cause of their permanence. Truly, it is a spider’s web that these writers weave, who suggest such weak and unsubstantial beginnings of the heavens and earth and sea. It is because they did not know how to say: ‘In the beginning God created the heavens and the earth.’ They were deceived by the godlessness present within them into thinking that the universe was without guide.

2 Cf. Acts 7:20-22: ‘At this time Moses was born, and he was acceptable to God; he was nourished three months in his father’s house, and when he was exposed, Pharaoh’s daughter adopted him and brought him up as her own son. And Moses was instructed in all the wisdom of the Egyptians.’
3 Cf. Ex. 2:12: ‘And when he had looked about this way and that way, and saw no one there, he slew the Egyptian.’
4 Cf. Ex. 2:15: ‘But he fled from his sight, and abode in the land of Madian.’
5 Num. 12:8-9.
6 Cf. I Cor. 2:4: ‘And my speech and my preaching were not in the persuasive words of wisdom, but in the demonstration of the Spirit.’
7 Gen. 1:1.
8 Cf. Aristotle, Metaphysics 1.3.983b: ‘Of the first philosophers, then, most thought the principles which were of the nature of matter were the only principles of all things.’
9 The founders of the Atomist philosophy are Leucippus and Democritus who lived in the 5th century B.C. Their views are presented by Aristotle, On the Soul 1.2.403b, and by Cicero, On the Nature of the Gods 1.24-26. (The translation of On the Nature of the Gods is always that of C. D. Yonge.)
and without rule, as if borne around by chance. In order that we might not suffer this error, he who described the creation of the world immediately, in the very first words, enlightened our mind with the name of God, saying: 'In the beginning God created.' How beautiful an arrangement! He placed first 'the beginning,' that no one might believe that it was without a beginning. Then he added the word, 'created,' that it might be shown that what was made required a very small part of the power of the Creator. In fact, as the potter, although he has formed innumerable vessels by the same art, has exhausted neither his art nor his power, so also the Creator of the universe, possessing creative power not commensurate with one world, but infinitely greater, by the weight of His will alone brought the mighty creations of the visible world into existence. If, then, the world has a beginning and was created, inquire: 'Who is He that gave it the beginning, and who is the Creator?' Rather, lest in seeking through human reasoning you might perhaps turn aside from the truth, Moses has taught us beforehand, imprinting upon our hearts as a seal and a security, the highly honored name of God, saying: 'In the beginning God created.' The blessed Nature, the bounteous Goodness, the Beloved of all who are endowed with reason, the much desired Beauty, the Origin of things created, the Fount of life, the spiritual Light, the inaccessible Wisdom, He is the One who 'in the beginning created the heavens and the earth.'

(3) Do not, then, imagine, O man, that the things which you see are without a beginning, and do not think, because the bodies moving in the heavens travel around in a circle and because the beginning of the circle is not easily discerned by our ordinary means of perception, that the nature of bodies moving in a circle is without a beginning. Indeed, this circle, I mean the plane figure circumscribed by one line, just because it escapes our perception and we are not able to find out whence it began or where it stops, we ought not, forthwith, to assume is without a beginning. But, even if it does escape our observation, assuredly, He who drew it with a center and a certain radius truly began from some point. Thus, indeed, because objects, moving in a circle close in upon themselves, and the evenness of their motion is interrupted by no intervening break, do not maintain the illusion of the existence of a world without beginning and without end. 'For this world as we see it is passing away,' 10 'Heaven and earth will pass away,' 11 That which is now given in brief in the first statement of the divinely inspired teachings is the preliminary proclamation of the doctrine concerning the end and the changing of the world.

'In the beginning God created.' It is absolutely necessary that things begun in time be also brought to an end in time. If they have a beginning in time, have no doubt about the end. Really, to what end are geometry and arithmetical investigations, the diligent study of solids and the much-discussed astronomy—all very laborious vanity—directed, if those who pursue them have believed that this visible world is co-eternal with God, the Creator of all things; if they attribute to a circumscribed world which possesses a material body the same glory as to the limitless and invisible Nature; and if they are not able to understand even this much, that the whole of anything whatsoever, whose parts are subject to corruption and change, must also at some time submit to the same changes as its parts? But, to such an extent 'they have become vain in their reasonings, and their senseless minds have been darkened, and while professing to be wise, they have become fools,' 12 that some have declared that heaven is co-existent with God from eternity; 13 others, that it is God Himself without

10 I Cor. 7.31.
11 Matt. 24.35.
12 Rom. 1.21, 22.
13 Cf. Aristotle, On the Heavens 2.1.283b: ‘That the heaven as a whole neither came into being nor admits of destruction, as some assert, but is one and eternal, with no end or beginning... we may convince ourselves.’
beginning and without end, and that it is responsible for the arrangement of every individual thing.\textsuperscript{14}

(9) Doubtless, their superfluous worldly wisdom will one day make their condemnation more grave because, while they are so keenly aware of vain matters, they have been blinded to the comprehension of the truth. They who measure the distances of the stars and register both those in the north, which are always shining above the horizon, and those which lie about the south pole visible to the eye of man there, but unknown to us; who also divide the northern zone and the zodiac into numberless spaces; who carefully observe the rising of the stars, their fixed positions, their descent, their recurrence, and the length of time in which each of the wandering stars completes its orbit; these men have not found one means from all this either to understand that God is the Creator of everything and the just Judge who gives the deserved reward for the actions of our life, or to acknowledge the idea of a consummation of all things consequent upon the doctrine of judgment, namely that it is necessary for the world to be changed if truly the state of the souls is to change to another form of life. As the present life has a nature akin to this world, so also the future existence of our souls will receive a lot consistent with its state. They, however, are so far from holding to these truths that they laugh broadly at us when we explain about the end of this world and the regeneration of life. Now, since the beginning naturally stands before that which proceeds from it, necessarily in talking about that which has its existence in time he placed this word before all others, saying: ‘In the beginning he created.’

(5) In fact, there did exist something, as it seems, even before this world, which our mind can attain by contemplation, but which has been left uninvestigated because it is not adapted to those who are beginners and as yet infants in understanding. This was a certain condition older than the birth of the world and proper to the supramundane powers, one beyond time, everlasting, without beginning or end. In it the Creator and Producer of all things perfected the works of His art, a spiritual light befitting the blessedness of those who love the Lord, rational and invisible natures, and the whole orderly arrangement of spiritual creatures which surpass our understanding and of which it is impossible even to discover the names. These fill completely the essence of the invisible world, as Paul teaches us when he says: ‘For in him were created all things,’ whether visible or invisible, ‘whether Thrones, or Dominations, or Principalities, or Powers,’\textsuperscript{15} or Forces, or hosts of Angels, or sovereign Archangels. When at length it was necessary for this world also to be added to what already existed, primarily as a place of training and a school for the souls of men, then was created a fit dwelling place for all things in general which are subject to birth and destruction.

Adapted by nature to the world and to the animals and plants in it, the passage of time began, always pressing on and flowing past, and nowhere checking its course. In truth, is this not the nature of time, whose past has vanished, whose future is not yet at hand, and whose present escapes perception before it is known? Such also is the nature of all that has been made, either clearly growing or decaying, but possessing no evident settled state nor stability. Therefore, it was proper for the bodies of animals and plants, bound, as it were, by force to a sort of current, and maintained in a motion which leads to birth and corruption, to be possessed of the nature of time, which has the peculiar character natural to things which change. Here he who wisely taught us about the generation of the world fittingly added to the account con-

\textsuperscript{14} Cf. Cicero, \textit{On the Nature of the Gods} 1.14: ‘Cleanthes, . . . a disciple of Zeno at the same time with Aristo, in one place says that the world is God.’ Cf. also Origen, \textit{Contra Celsum} 5.891: ‘The Greeks say plainly that the whole world is God: the Stoics, that it is the first god: the followers of Plato, that it is the second; but some of them, that it is the third.’

\textsuperscript{15} Col. 1.16.
cerning it, these words: ‘In the beginning he created’; that is, in this beginning according to time. Not because he is testifying that according to seniority it was first of all that exists, does he say that in the beginning it was created, but he is describing the beginning of the existence of these visible and sensible creatures after that of the invisible and spiritual.

A first movement also is called the beginning, as ‘The beginning of a good way is to do justice.’ For, by just actions we first advance toward the blessed life. Again, that is also called the beginning from which something is produced but still remains inherent in it, as the foundation in a house and the keel in a ship, according to the saying: ‘The fear of the Lord is the beginning of wisdom.’ In fact, piety is, as it were, the groundwork and basis for perfection. Art is also the beginning of works of art; thus, the skill of Besselel was the beginning of the adornment of the tabernacle. Frequently too, the useful aim of the activity is the beginning of actions, for example, approval from God is the beginning of charity, and the end contained in the promises is the beginning of every virtuous action.

(6) Although ‘beginning’ is so varied in sense, see if the word in this place is not in agreement with all its meanings. In fact, it is even possible for you to learn when the formation of this world began, if only going back from the present to the past you would strive to discover the first day of the generation of the world. You will in this way find from what moment the first movement in time came; then, too, that the heavens and the earth were laid down, first, like foundation stones and groundwork; and next, that there was some systematic reason directing the orderly arrangement of visible things, as the word ‘the beginning’ shows you. Moreover, you will find that the world was not devised at random or to no purpose, but to contribute to some useful end and to the great advantage of all beings, if it is truly a training place for rational souls and a school for attaining the knowledge of God, because through visible and perceptible objects it provides guidance to the mind for the contemplation of the invisible, as the Apostle says: ‘Since the creation of the world his invisible attributes are clearly seen... being understood through the things that are made.’ Or, perhaps, the words ‘In the beginning he created,’ were used because of the instantaneous and timeless act of creation, since the beginning is something immeasurable and indivisible. As the beginning of the road is not yet the road, and the beginning of the house, not yet the house, so also, the beginning of time is not yet time, on the contrary, not even the least part of it. And, if anyone should say contentiously that the beginning is time, let him know that he will be dividing it into parts of time. And these parts are beginning and middle and end. But, it is entirely ridiculous to think of the beginning of a beginning. Moreover, he who divides the beginning will make two instead of one, or rather, many and unlimited beginnings, since the part which is divided is always cut into other parts. In order, therefore, that we may be taught that the world came into existence instantaneously at the will of God, it is said: ‘In the beginning he created.’ Other interpreters of this, giving the meaning more clearly, have said: ‘God made summarily,’ that is, immediately and in a moment. Such, then, to mention a few from the many points, is the explanation concerning the beginning.

(7) Yet, of the arts some are said to be creative, others prac-
tical, and others theoretical.20 The aim of the theoretical skills is the action of the mind; but that of the practical, the motion itself of the body, and, if that should cease, nothing would subsist or remain for those beholding it. In fact, there is no aim in dancing and flute playing; on the contrary, the very action ends with itself. However, in the case of the creative skills, even though the action ceases, the work remains, as that of architecture, carpentry, metal work, weaving, and of as many such arts as, even if the craftsman is not present, ably manifest in themselves the artistic processes of thoughts, and make possible for you to admire the architect from his work, as well as the metal worker and the weaver. That it might be shown, then, that the world is a work of art, set before all for contemplation, so that through it the wisdom of Him who created it should be known, the wise Moses used no other word concerning it, but he said: ‘In the beginning he created.’ He did not say: ‘He produced,’ nor ‘He fashioned,’ but ‘he created.’ Inasmuch as many of those who have imagined that the world from eternity co-existed with God did not concede that it was made by Him, but that, being, as it were, a shadow of His power, it existed of itself coorclinately with Him, and inasmuch as they admit that God is the cause of it, but involuntarily a cause, as the body is the cause of the shadow and the flashing light the cause of the brilliance, therefore, the prophet in correcting such an error used exactness in his words, saying: ‘In the beginning God created.’ The thing itself did not provide the cause of its existence, but He created, as One good, something useful; as One wise, something beautiful; as One powerful, something mighty. Indeed, Moses showed you a Craftsman all but pervading the substance of the universe, harmonizing the individual parts with each other, and bringing to perfection a whole, consistent with itself, consonant, and harmonious.

‘In the beginning God created the heavens and the earth.’ From two extremes Moses implied the existence of the whole, giving to the heavens precedence of generation and asserting that the earth was second in existence. Assuredly, whatever intervenes between these was made at the same time as the extremities. Therefore, even though he says nothing about the elements, fire, water, and air, nevertheless, by the judgment of your own intelligence, reflect, in the first place, that all things are compounded with all others, and that you will find water and air and fire in the earth, if really fire is struck from stones, and if from iron, which itself has its source from the earth, a plentiful fire is wont to shine forth when there is friction. This also is deserving of wonder, that the fire which exists in the bodies lies harmlessly hidden, but on being called forth to the outside consumes that which hitherto preserved it. That water exists in the earth is proved by the diggers of wells; and that air does is shown by the vapors which are sent up from the moistened earth when it is heated by the sun. Moreover, since the heavens naturally occupy the place above, and the earth is lowest, because light objects are borne to the heavens but the heavy objects are wont to fall down to the earth, and since height and depth are the very opposite of each other, he who made mention of those things which stand farthest apart according to nature also indicated by way of synecdoche those which fill up the intervening space. Therefore, do not look for a detailed account of each, but understand those passed over in silence through those which were set forth.

(8) ‘In the beginning God created the heavens and the earth.’ An inquiry into the substance of each of the things which exist, whether they fall under our contemplation or lie open to our perception, brings into the explanation a long and

20 Cf. Aristotle, *Metaphysics* 6.1.1025b: ‘Therefore, if all thought is either practical or productive or theoretical, physics must be a theoretical science.’

21 Cf. Plotinus *Ennead* 2.1.1: ‘We hold that the ordered universe, in its material mass, has existed for ever and will for ever endure: but simply to refer this perdurance to the Will of God, however true an explanation, is utterly inadequate.’
disconnected account, so that in the examination of this problem more words would be used than in everything else that can be said about each of the objects investigated. Besides, a concern about these things is not at all useful for the edification of the Church. Concerning the substance of the heavens we are satisfied with the sayings of Isaia, who in simple words gave us a sufficient knowledge of its nature when he said: ‘He established the heaven as if smoke,’22 that is, He gave the substance for the formation of the heavens a delicate nature and not a solid and dense one. And, as to their form, sufficient for us are the words which he spoke in the glorification of God: ‘He that stretcheth out the heavens as a vaulted ceiling.’23 These same thoughts, let us also recommend to ourselves concerning the earth, not to be curious about what its substance is; nor to wear ourselves out by reasoning, seeking its very foundation; nor to search for some nature destitute of qualities, existing without quality of itself; but to realize well that all that is seen around it is related to the reason of its existence, forming an essential part of its substance. You will end with nothing if you attempt to eliminate by reason each of the qualities that exist in it. In fact, if you remove the black, the cold, the weight, the density, the qualities pertaining to taste, or any others which are perceptible, there will be no basic substance.

Therefore, I urge you to abandon these questions and not to inquire upon what foundation it stands. If you do that, the mind will become dizzy, with the reasoning going on to no definite end. If you say that air is spread under the surface of the earth,24 you will be at a loss as to how its soft and porous nature, pressed down under such a weight, endures and does not slip through in all directions in order to escape from under the sinking weight and flow continuously over that which compresses it. Again, if you suppose that water is the substance placed under the earth,25 even so you will inquire how it is that the heavy and dense body does not pass through the water, but instead, although excelling in weight, is supported by the weaker nature. In regard to seeking the foundation for the water itself, you are again at a loss as to what watertight and firmly standing support its uppermost depth rests upon.

(9) If you suggest that there is another body heavier than the earth to prevent the earth from going downward you will notice that, that too, needs some like support to keep it from falling down. And, if we are able to fashion some support and place it underneath, our mind will seek again the support for that, and thus we shall go on endlessly, always inventing other bases in turn for the bases found.26 Moreover, the farther we advance in our reasoning, the greater is the supporting force we are compelled to bring in, that will be able to withstand the whole superimposed mass. Set a limit, then, to your thoughts, lest the words of Job should ever censure your curiosity as you scrutinize things incomprehensible, and you also should be asked by him: ‘Upon what are its bases grounded?’27 But, even if at some time in the Psalms you hear: ‘I have established the

22 Cf. Isa. 51:6 (Septuagint version).
23 Isa. 40:22 (Septuagint version).
24 Cf. Aristotle, On the Heavens 2.13.294b: ‘Anaximenes and Anaxagoras and Democritus give the flatness of the earth as the cause of its staying still. Thus, they say, it does not cut, but covers like a lid, the air beneath it.’
25 Cf. Ibid. 294a: ‘Others say the earth rests upon water. This, indeed, is the oldest theory that has been preserved, and is attributed to Thales of Miletus. It was supposed to stay still because it floated like wood and other similar substances, which are so constituted as to rest upon water but not upon air. As if the same account had not to be given of the water which carries the earth as of the earth itself.’
26 Cf. Ibid.: ‘Some have been led to assert that the earth below us is infinite, saying, with Xenophanes of Colophon, that it has “pushed its roots to infinity.”—in order to save the trouble of seeking for the cause. Hence the sharp rebuke of Empedocles in the words “if the depths of the earth are endless and endless the ample ether—such is the vain tale told by many a tongue, poured from the mouths of those who have seen but little of the whole.”’
pillars thereof,28 believe that the sustaining force is called the pillars. As for the saying: ‘He hath founded it upon the seas,’29 what else does it signify than that the water is spread around the earth on all sides? Now, how does water, which exists as a fluid and naturally tends to flow downward, remain hanging without support and never flow away? Yet, you do not consider that the earth, suspended by its own power, provides the same or even a greater need for a reason, since it has a heavier nature. Moreover, we must, even if we grant that the earth stands by its own power and if we say that it rides at anchor on the water, depart in no way from the thought of true religion, but admit that all things are kept under control by the power of the Creator. Therefore, we must say this to ourselves and to those asking us on what this immense and insupportable weight of the earth is propped up: ‘In the hand of God are all the ends of the earth.’30 This is safest for our own understanding and is most profitable for our hearers.

(10) Already some of the inquirers into nature say with a great display of words that the earth remains immovable for the following reasons: that, because of its holding the middle place of the universe and because of the equal distance on all sides to the edge, not having place to incline farther on any side, necessarily then, it rests upon itself, since the equal space encircling it on all sides makes an inclination toward any one side entirely impossible for it.31 And they add that the earth did not obtain the middle place by chance, nor of itself, but that this is the natural and necessary situation for the earth.32 For, since the heavenly body occupies the highest position, whatever heavy weights, they assert, we might assume to fall from above, will be brought together to the center from all sides. To whatever point the parts are borne, there the whole mass, of course, will be pressed together. If stones and wood and all earthy material are carried downward, this would be the proper and suitable situation for the whole earth; but, if one of the lighter objects is carried away from the center, clearly it will move toward the higher regions. Therefore, the proper motion for the very heavy objects is downward; but reason has shown that downward is the center. Do not, then, wonder that the earth never falls, since it holds naturally the middle place. It is positively obliged to remain in that place, or being moved, contrary to nature to be displaced from its proper location. And, should any of these things which have been said seem to you to be plausible, transfer your admiration to the wisdom of God which has ordered them so. In fact, our amazement at the greatest phenomena is not lessened because we have discovered the manner in which a certain one of the marvels occurred. But, if this is not so, still let the simplicity of faith be stronger than the deductions of reason.

(11) We might say this same thing also concerning the heavens, namely, that most verbose treatises have been written by the wise of the world on the nature of the heavens. Some have said that it is composed of the four elements, as though it were tangible and visible, and that it shares in the nature of earth because of its solid surface, of fire because it is seen, of air because it is considered to be all-pervading, and of water because it is wet and smooth. Others have opposed their opinions by saying that it is one solid body and that it is incorruptible, incorruptible according to the opinion of what is unchanging. Some have said that it is the place to which any fragment of earth moves must necessarily be the place to which the whole moves; and in the place to which a thing naturally moves, it will naturally rest. The reason then is not in the fact that the earth is indifferently related to every extreme point: for this would apply to any body, whereas movement to the centre is peculiar to earth. . . . Thus for all the indifference theory shows to the contrary, earth also would have moved in this manner away from the centre, unless the centre had been its natural place.

28 Ps. 74.4.
29 Ibid. 23.2.
30 Ibid. 94.4.
31 Cf. Aristotle, Ibid. 2.1 3.295b: ‘But there are some, Anaximander, for instance, among the ancients, who say that the earth keeps its place because of its indifference. Motion upward and downward and sideways were all, they thought, equally inappropriate to that which is set at the centre and indifferently related to every extreme point; and to move in contrary directions at the same time was impossible: so it must needs remain still.’ Cf. also Plato, Phaedo 108 and 109.
32 Cf. Ibid. 295b, 296a: ‘The place to which any fragment of earth moves must necessarily be the place to which the whole moves; and in the place to which a thing naturally moves, it will naturally rest. The reason then is not in the fact that the earth is indifferently related to every extreme point: for this would apply to any body, whereas movement to the centre is peculiar to earth. . . . Thus for all the indifference theory shows to the contrary, earth also would have moved in this manner away from the centre, unless the centre had been its natural place.’
and of the other elements because of their mingling together. Others have rejected this reasoning as unlikely, and, acting at random and according to their own minds, have introduced a certain fifth elemental substance for the formation of the heavens. Now, in their opinion there is a certain ethereal body which, they say, is neither fire, nor air, nor earth, nor water, nor any at all of the simple elements, because motion in a straight line is proper to simple objects, light objects being borne upward and heavy objects downward. But, upward and downward motion is not the same as circular motion; on the whole, straight motion differs very much from circular motion. And of those objects of which the natural motions happen to differ, the substances also, they say, necessarily must differ. It is not even possible, however, for us to assume that the heavens are formed of primary bodies which we call elements, because bodies which are compounded from unlike bodies cannot have an even and unforced motion, since each of the simple bodies inherent in the composite ones has a different impulse from nature. In the first place, then, it is with effort that the composite bodies are kept in continual motion, because one motion cannot be in harmony and agreement with all the contrary motions; but the motion peculiar to the light object is opposed to that of the heavy one. Indeed, whenever we are borne downward, we use violence against the fiery part of our being, dragging it down contrary to its nature. This pulling of the elements in contrary directions is an occasion of their dissolution. For, that which is under compulsion and in opposition to nature, although it resists for a little while, violently and utterly, is quickly dissolved into the elements from which it was composed, since each of those which had come together returns to its own place. Because of these logical necessities, as they say, those who assume a fifth element for the generation of the heavens and the stars in it, having rejected the opinions of their predecessors, needed an hypothesis of their own. But, another, strong in persuasive argumentation, rising in his turn against them, refuted and dissolved these theories and introduced his own personal opinion.

If we undertake now to talk about these theories, we shall fall into the same idle chatter as they. But, let us allow them to refute each other, and let us stop talking about the substance, since we have been persuaded by Moses that ‘God created the heavens and the earth.’ Let us glorify the Master Craftsman for all that has been done wisely and skillfully; and from the beauty of the visible things let us form an idea of Him who is more than beautiful; and from the greatness of these perceptible and circumscribed bodies let us conceive of Him who is infinite and immense and who surpasses all understanding in the plenitude of His power. For, even if we are ignorant of things made, yet, at least, that which in general comes under our observation is so wonderful that even the most acute mind is shown to be at a loss as regards the least of the things in the world, either in the ability to explain it worthily or to render due praise to the Creator, to whom be all glory, honor, and power forever. Amen.

33 Cf. Plato, Timaeus 31b: ‘Thus it was that in the midst between fire and earth God set water and air, and having bestowed upon them so far as possible a like ratio one towards another—air being to water as fire to air, and water being to earth as air to water—he joined together and constructed a Heaven visible and tangible.’
Statement of Support for Universal Access to Palliative Care in Canada

Available online:

Adopted by Consensus October 2016

As Christians in Canada, we support just access for all to dignified, quality palliative care.¹

We see the provision of such care as an intrinsic human responsibility toward the suffering person because of the inestimable worth and dignity of every human being, created as we are in the image of God, and because of Jesus' command to care for the sick (Mt 25:36). All life is sacred,² but all earthly life must end. When an illness cannot be cured or when natural life draws to a close, it is essential to offer relief of pain and suffering.

The provision of palliative care surrounds the dying person with compassion and enables this person, and her or his family, to prepare for death while living life as fully as possible. Palliative care "places the priority on the worth and dignity of the whole person and their biological, emotional, physical, environmental, social and spiritual needs wherever they may be in Canada."³ It embraces concern for the well-being and comfort of all in the process of dying, regardless of the cause of death. Access to palliative care should be universal, that is, available to all the dying in our country in accordance with their particular needs and wherever they reside.

Providing palliative care to all in need of it is the joint responsibility of all members of society including private caregivers, the health care system, and government. We understand that dignified palliative care need not always occur in hospital or hospice, but may well happen at home. But in any case, mutual support between government-supplied health care workers, family, friends and others is the foundation of any experience of palliative care. Our churches are committed to participating in this work, and to collaborating wherever possible to ensure that no one in Canada need face death and dying without the dignity and support of quality palliative care. We rely upon all levels of government to accept and support their necessary role in this key aspect of universal health care.

The World Health Organization provides the following definition:

Palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Palliative care

- provides relief from pain and other distressing symptoms;
- affirms life and regards dying as a normal process;
- intends neither to hasten nor postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patients live as actively as possible until death;
- offers a support system to help the family cope during the patient's illness and in their own bereavement;
- uses a team approach to address the needs of patients and their families, including bereavement counseling, if indicated;
- will enhance the quality of life, and may also positively influence the course of illness;
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications. http://www.who.int/cancer/palliative/definition/en
