ON CHRISTIAN SCHOLARSHIP

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Our general question is: how can our university be a proper Catholic or Christian university? What would such a university be like? This question is a really tough one in three ways. First, as Chuck Wilber and others have pointed out, we have no contemporary**[**1**]** models here. We can't look at Princeton (much as we love and admire it), to see how *they* do things, as a pattern for us. Indeed, the truth is just the reverse. One lesson to be learned from George Marsden's talk last time is that Princeton is in an important way a *failed* project: at one time it was or aimed to be or continues to be a Christian university, just as we do; that aim, sadly enough, was not accomplished. Hence we can't take Princeton as a model; instead, we must try to learn from its mistakes. Second, if what we want is a Catholic or Christian university, we must, as Nathan Hatch pointed out, dare to be different, to pursue our own path, to take the risks involved in venturing into unmapped and unexplored territory. That isn't easy; there are enormous pressures towards conformity. (But it is our university, after all, and we don't *have* to follow the common herd.) And thirdly, this is a multifarious, many-sided question; it has to be thought about in connection with graduate education as well as undergraduate education; we must think about the need for the kind of conversation mentioned by Craig Lent--both about the *need* for such a conversation, and about the appropriate *topics*; we have to think about curricula, about relationships with other universities aimed in the same direction as we, as well as about relationships with universities aimed in different directions; we have to think about how all this bears on hiring policies; we must think about these things and a thousand others.

I want to consider just one question out of this vast horde of questions: how should a Christian university and how should the Christian intellectual community think about scholarship and science? Should the kind of scholarship and science that go on at a Catholic university differ from the sort that goes on elsewhere? If so, in what way? I want to present one sort of view--not with the thought that this is the whole and unvarnished truth, but as a contribution to our conversation.

Christian thinkers going back at least to Augustine have seen human history as involving a sort of contest, or battle, or struggle between two implacably opposed spiritual forces. Augustine spoke of the City of God and the Earthly City or City of the World: the *Civitas Dei* and the *Civitas Mundi* .**[**2**]** The former is dedicated, in principle, to God and to his will and to his glory. The latter is dedicated to something wholly different.

Augustine, l think, is right, but l want to develop his insights in my own way.[3] Indeed, we *must* do this in our own way and from our own historical perspective. The precise relationship between the City of God and the Earthly City constantly changes; the form the Earthly City itself takes constantly changes; an account of the fundamental loyalties and commitments of the Earthly City that was correct in Augustine's day, now some 15 centuries ago, does not directly apply now.

Augustine was right; and the contemporary western intellectual world, like the world of his times, is a battleground or arena in which rages a battle for our souls. This battle, I believe, is a three-way contest. There are three main contestants, in the contemporary western intellectual world, and I want to try to characterize them. Of course an undertaking like this is at best fraught with peril (and at worst arrogantly presumptuous); the contemporary western world is a vast and amorphous affair, including an enormous variety of people, in an enormous variety of places, with enormously different cultural backgrounds and traditions. We all know how hard it is to get a real sense of the intellectual climate of a *past* era--the Enlightenment, say, or 13th century Europe, or 19th century America. It is clearly much*more* difficult to come to a solid understanding of one's own time. For these general reasons, real trepidation is very much in order. There are also less universally applicable reasons for trepidation: wouldn't it be the *historians* , not the philosophers, whose job it is to figure out intellectual trends, take the intellectual pulse of the time, ferret out underlying presuppositions of the whole contemporary era? So here I should defer to the historians present, who are my betters, if not my elders.

As I see it, therefore, there are at present three main competitors vying for spiritual supremacy: three fundamental perspectives or ways of thinking about what the world is like, what we ourselves are like, what is most important about the world, what our place in it is, and what we must do to live the good life. The first of these perspectives is Christianity or Christian theism, or Judeo-Christian theism; here I need say little about that. I do want to remind you, however, that this theistic perspective has been very much on the defensive (at least in the West) ever since the Enlightenment.

In addition to the theistic perspective, then, there are fundamentally two others. Both of these other pictures have been with us since the ancient world; but each has received much more powerful expression in modern times. According to the first perspective, there is no God, and we human beings are insignificant parts of a giant cosmic machine that proceeds in majestic indifference to us, our hopes and aspirations, our needs and desires, our sense of fairness or fittingness. This picture is eloquently if a bit floridly expressed in Bertrand Russell's "A Free Man's Worship"; it goes back to Epicurus, Democritus, and others in the Ancient world and finds magnificent expression in Lucretius' poem, *De Rerum Natura* : call it `perennial Naturalism'. It is the perspective of Carl Sagan, with his portentous incantation: "The cosmos is all there is, or has been or will be." According to the second perspective, on the other hand, it is we ourselves--we human beings--who are responsible for the basic structure of the world. This notion goes back to

Porthagorus, in the ancient world, with his claim that man is the measure of all things; it finds enormously more powerful expression in modern times in Immanuel Kant's *Critque of Pure Reason* . Call it `enlightenment humanism', or `enlightenment subjectivism', or, more descriptively, `creative anti-realism'. These two perspectives or pictures are very different indeed; I shall say something about each.

A. PERENNIAL NATURALISM

Perennial naturalism (`naturalism' for short), as I say, goes back to the ancient world; naturalism is also to be found in somewhat muted form in the medieval world (among some of the Averroists, for example). But it was left to modernity and to contemporary times to display the most complete and thorough manifestations of this perspective. Thomas Hobbes, the Enlightenment Encyclopedists, and Baron D'Holbach are early modern exponents of this picture; among our contemporaries and near contemporaries there are John Dewey, Willard van Orman Quine, Bertrand Russell, Carl Sagan, a quite astounding number of liberal theologians, and a host of others in and out of academia. It is especially prevalent among those who nail their banners to the mast of science. From this perspective, there is no God, and human beings are properly seen as parts of nature. The way to understand what is most distinctive about us, our ability to love, to act, to think, to use language, our humor and playacting, our art, philosophy, literature, history, our morality, our religion, our tendency to enlist in sometimes unlikely causes and devote our lives to them--the fundamental way to understand all this is in terms of our community with (non human) nature. We are best seen as parts of nature and are to be understood in terms of our place in the natural world.**[**4**]**

First, a trivial example. Those who endorse this view often seem to think the way to find out how we human beings should live is to see how the other animals manage things; this is the naturalistic equivalent of the Biblical "Go to the ant, thou sluggard." I recently heard a TV talk show in which a scientist was belittling traditional sexual ethics and mores--"heterosexual pair bonding," he called it--on the grounds that only three percent of the other animals do things this way. He didn't say anything about plants, but no doubt even more interesting conclusions could be drawn there. In another recent talk show, the interviewee said that she had observed (on an unscientific day-to-day pragmatic and anecdotal level) that cousins are often romantically attracted to each other, she then added that she had recently discovered scientific confirmation of this observation: human beings, she said, resemble *quail* (not the former vice-president, but the bird) along these lines, and indeed quail cousins are often attracted to each other.

A second more serious example: a couple of years ago I heard a distinguished contemporary American philosopher reflecting on knowledge, belief, and the whole human cognitive enterprise. The way to understand this whole situation, he said--the way to see what is most basic and important about it--is not, of course,

to see it as one of the manifestations of the image of God, a way in which we resemble the Lord, who is the prime knower, and who has created us in such a way as to be finite and limited mirrors of his infinite and unlimited perfection. This philosopher took quite a different line. Human beings, he said, hold beliefs (and so far there is little to object to); and these beliefs can cause them to act in certain ways. Put in more sophisticated if less insightful terms, a person's beliefs can be part of a causal explanation of her actions. Now how can this be? How does it happen, how can it be that human beings are such that they can be caused to do certain things by what they believe? How does my believing there is a beer in the refrigerator cause or partly cause this largish, lumpy and increasingly lethargic physical object which is my body to heave itself out of a comfortable armchair, amble over to the refrigerator and open its door?

The answer: think of a thermostat: it too has beliefs--simpleminded beliefs, no doubt, but still beliefs. What it believes are such things as *it's getting too hot in here* , or *it's too cold in here* , or *it's just right in here* ; and it is easy to see how its having those `beliefs' causes the furnace or the air conditioning to go on. And now the basic idea: we should see human thinking and its connection with action as a rather more complicated case of what goes on in the thermostat. The idea was that if we think about how it goes with the thermostat, we will have the key to understanding how it goes with human beings. Others suggest computers: human thought is really a form of the sort of computation done by computers. And of course this is just one example of a much broader project: the project of seeing all that is distinctive about us--literature, art, play, humor, music, morality, religion, science, scholarship, those tendencies to enlist in improbable causes, even at serious cost to ourselves--the project is to explain *all* of these things in terms of our community with non human nature.

The form this perspective takes in our own day is broadly evolutionary: we are to try to understand basic human phenomena by way of their origin in random genetic mutation or some other source of variability, and their perpetuation by way of natural selection. Consider sociobiological explanations of love, for example: love between men and women, between parents and children, love for one's friends, of one's students, love of church, college, country--love in all its diverse manifestations and infinite variety. Taken thus broadly, love is a most significant human phenomenon and an enormously powerful force in our lives. And how are we to think of love on the sort of evolutionary account in question? Well, the basic idea is that love arose, ultimately and originally, by way of some source of genetic variability (random genetic mutation, maybe); it persisted via natural selection because it has or had survival value. Male and female human beings, like male and female hippopotami, get together to have children (colts) and stay together to raise them; this has survival value. Once we see that point, we understand that sort of love and see its basic significance and the same goes for these other varieties and manifestations of love. And that, fundamentally, is what there is to say about love.

From a theistic or Christian perspective, of course, this is hopelessly inadequate as an account of the significance and place of love in the world. The fact is love reflects the basic structure and nature of the universe; for God himself, the first being of the universe, is love, and we love because he has created us in his image. From the naturalistic perspective, furthermore, what goes for love goes for those other distinctively human phenomena: art, literature, music; play and humor; science, philosophy and mathematics; our tendency to see the world from a religious perspective, our inclinations towards morality, and so on. All these things are to be understood in terms of our community with non human nature. All of these are to be seen as arising, finally, by way of the mechanisms driving evolution, and are to be understood in terms of their place in evolutionary history.

Perennial naturalism has made enormous inroads into Western culture; indeed, Oxford philosopher John Lucas thinks that it is the contemporary orthodoxy. In support of Lucas' claim, we might note, as I mentioned above, the astonishing fact that perennial naturalism has a considerable following among allegedly Christian theologians. Thus Harvard theologian Gordon Kaufman suggests that in this modern nuclear age, we can no longer think of God as the transcendent creator of the heavens and the earth; we must think of Him instead, says Kaufman, as "the historical evolutionary force that has brought us all into being."**[**5**]** (Perhaps one may be pardoned for wondering what the nuclear age has to do with whether God is the transcendent creator, or just an historical evolutionary force; we can imagine an earlier village skeptic making a similar remark about, say, the invention of the steam engine, or perhaps the long bow, or the catapult, or the wheel.)

Perennial naturalism is particularly popular among those--scientists or others--who take a high view of modern science. Perennial naturalism also constantly influences and, as I see it, corrupts Christian thinking. Christians who think about science, for example, sometimes say that science can't take any account of God in giving its explanations; science is necessarily restricted, both in its subject matter and in its explanations and accounts, to the natural world. But why think a thing like that? Of course the claim might be merely verbal: "the word `science,'" it might be said, "is to be defined as an empirical and experimental account of the natural world that is restricted, both in its subject matter and its conclusions, to the natural world." But then the question would be: should Christians engage in science? Or more exactly, in trying to understand ourselves and our world should they engage *only* in science, so defined? Why shouldn't they instead or in addition engage in a parallel explanatory activity that takes account of *all* that we know, including such facts as that human beings were created by the Lord in his image, that they have fallen into sin, and the like? Presumably these truths will be important with respect to empirical studies of humanity, in thinking, for example, about aggression, altruism, and other topics studied in the human sciences.

It is hard to overestimate the dominance and influence of perennial naturalism in our universities. Yet I think Lucas errs in promoting it to the status of the contemporary orthodoxy although it is indeed orthodoxy among those who put

their trust in science. But there is another basic way of looking at the world that is, I think, nearly as influential--and just as antithetical to Christianity. Perennial naturalism gets fierce competition from Enlightenment humanism, or, as I shall call it, creative anti-realism.

B. CREATIVE ANTI-REALISM

Here the fundamental idea--in sharp contrast to naturalism--is that we human beings, in some deep and important way, are *ourselves* responsible for the structure and nature of the world; it is *we* , fundamentally, who are the architects of the universe. This view received magnificent if obscure expression in Immanuel Kant's *Critique of Pure Reason* . Kant did not deny, of course, that there really are such things as mountains, horses, planets and stars. Instead, his characteristic claim is that their existence and their fundamental structure have been conferred upon them by the conceptual activity of persons--not by the conceptual activity of a personal God, but by *our* conceptual activity, the conceptual activity of us human beings. According to this view, the whole world of experience-- the world of trees and planets and dinosaurs and stars--receives its basic structure from the constituting activity of mind. Such fundamental structures of the world as those of space and time, object and property, number, truth and falsehood, possibility and necessity and even existence and nonexistence--these are not to be found in the world as such (do not characterize those *dinge an sich*), but are somehow constituted by our own mental or conceptual activity. They are contributions from our side; they are not to be found in the things in themselves. We *impose* them on the world; we do not discover them there. Were there no persons like ourselves engaging in conceptual, noetic activities, there would be nothing in space and time, nothing displaying object-property structure, nothing that is true or false, possible or impossible, no kinds of things coming in a certain number--nothing like this at all.

We might think it impossible that the things we know--houses and horses, cabbages and kings, planets and stars--should be there at all but fail to be in space-time, fail to display object property structure, and fail to conform to the category of existence; indeed, we may think it impossible that there be a thing of *any* sort that doesn't have properties and doesn't exist. If so, then Kant's view implies that there would be nothing at all if it weren't for the creative structuring activity of persons like us. Of course, I don't say Kant clearly *drew* this conclusion; indeed, he may have obscurely drawn the opposite conclusion: that is part of his charm. But the fundamental *thrust* of Kant's self-styled Copernican Revolution is that the things in the world owe their basic structure and perhaps their very existence to the noetic activity of our minds. Or perhaps I should say not minds but *mind* ; for whether, on Kant's view, there is just one transcendental ego or several is, of course, a vexed question, as are most questions of Kantian exegesis. Indeed, this question is more than vexed; given Kant's view that quantity, number, is a human category imposed on the world, there is presumably

no number **n**, finite or infinite, such that the answer to the question "How many of those transcendental egos are there?" is **n**.

Until you feel the grip of this sort of way of looking at things, it can seem a bit presumptuous, not to say preposterous. Did we structure or create the heavens and the earth? Some of us think there were animals--dinosaurs, let's say--roaming the earth before human beings had so much as put in an appearance; how could it be that those dinosaurs owed their structure to our noetic activity? What did we do to give *them* the structure they enjoyed? And what about all those stars and planets we have never so much as heard of: how have we managed to structure them? When did we do all this? Did we structure ourselves in this way too? And if the way things are is thus up to us and our structuring activity, why don't we improve things a bit?

Creative anti-realism can seem a bit hard to swallow; nevertheless it is widely accepted and an astonishingly important force in the contemporary western intellectual world. Vast stretches of contemporary Continental philosophy, for example, are anti-realist. There is Existentialism, according to which, at least in its Sartian varieties, each of us structures or creates the world by way of her own decisions. There is also contemporary Heideggerian hermeneutical philosophy of various stripes; there is contemporary French philosophy, much of which beggars description, but insofar as anything at all is clear about it, is clearly anti-realist. In Anglo-American philosophy, there is the creative anti-realism of Hilary Putnam and Nelson Goodman and their followers; there is the reflection of continental anti-realism in such American philosophers as Richard Rorty; and perhaps most important, there is the linguistic anti-realism of Wittgenstein and his many followers. It is characteristic of all of these to hold that we human beings are somehow responsible for the way the world is--by way of our linguistic or more broadly symbolic activity, or by way of our decisions, or in some other way. And of course creative anti-realism is not limited to philosophy; it has made deep inroads in many areas of the humanities and even into law.**[**6**]**

Like perennial naturalism, creative anti-realism is to be found even in theology, which is heavily under the influence of Kant. Indeed, it is a bit naive to say that it is found *even* in theology; in the sort of theology that, according to its exponents, is the most up to date and *au courant* , these notions run absolutely riot. Creative anti-realism is developed (if I may speak loosely) in theological fashion in Don Cupitt's book *Creation out of Nothing* . The blurb on the back of the book nicely sums up its main claim:

> The consequence of all this is that divine and human creativity come to be seen as coinciding in the present moment. The creation of the world happens all of the time, in and through us, as language surges up within us and pours out of us to form and reform the world of experience. Reality ... is effected by language ....

This is said to be "a philosophy of religion for the future" (we may hope the very distant future) and "a genuine alternative to pietism and fundamentalism" (as well, we might add, as to any other form of Christianity). The same view has made its way into physics or at least the philosophy of physics. It is said that there is no reality until we make the requisite observations; there is no such thing as reality in itself and unobserved, or if there is, it is nothing at all like anything we can make sense of. In ethics, this view takes the form of the idea that no moral law can be binding on me unless I myself (or perhaps my society) issue or set that law.

Perennial naturalism and creative anti-realism are related in an interesting manner: the first vastly underestimates the place of human beings in the universe, and the second vastly overestimates it. According to the first, human beings are essentially no more than complicated machines, with no real creativity, in an important sense we can't really act at all, any more than can a spark plug, or coffee grinder, or a tractor. We are not ourselves the origin of any causal chains. According to the second, by contrast, we human beings, insofar as we confer its basic structure upon the world, really take the place of God. What there is and what it is like is really up to us, and a result of our activity.

C. RELATIVISM

In addition to theism, then, the two basic pictures or perspectives at present and in the West, as I see it, are naturalism and creative anti-realism. But here I must call attention to a couple of important complications. First, I say that on these anti-realist views, it is we, we the speakers of language, or the users of symbols, or the thinkers of categorizing thoughts, or the makers of basic decisions, who are responsible for the fundamental lineaments of reality; in the words of Protagoras, "Man is the measure of all things." But often a rather different moral is drawn from some of the same considerations. Suppose you think our world is somehow created or structured by human beings. You may then note that human beings apparently do not all construct the *same* worlds. Your *Lebenswelt* may be quite different from mine; Jerry Falwell, Carl Sagan and Richard Rorty don't seem to inhabit the same *Lebenswelt* at all; they think very differently about the world; which one, then (if any), represents the world as it really is, i.e., as we have really constructed it?

Here it is an easy step to another characteristically contemporary thought: the thought that there simply *isn't* any such thing as *the* way the world is, no such thing as objective truth, or a way the world is that is the same for all of us. Rather, there is my version of reality, the way I've somehow structured things, and your version, and many other versions: and what is true in one version need not be true in another. As Marlowe's Dr. Faustus says, "Man is the measure of all things; I am a man; therefore I am the measure of all things."**[**7**]** But then there isn't any such thing as truth *simpliciter* . There is no such thing as *the* way the world is; there are instead many different versions, perhaps as many different versions as there are persons; and each at bottom is as acceptable as any other. (From a Christian

perspective, part of what is involved here, of course, is the age-old drive on the part of fallen humankind for autonomy and independence: autonomy and independence, among other things, with respect to the demands of God.) Thus a proposition really *could* be, as our students are fond of saying, true for me but false for you. Perhaps you have always thought of this notion as a peculiarly sophomoric confusion; but in fact it fits well with this formidable and important if lamentable way of thinking. The whole idea of an objective truth, the same for all of us, on this view, is an illusion, or a bourgeois plot, or a sexist imposition, or a silly mistake. Thus does anti-realism breed relativism. And this relativism is perhaps the most prominent form, nowadays, of creative anti-realism.

In some ways this seems quite a comedown from the view that there is indeed a way the world is, and its being that way is owing to our activity. Still, there is a deep connection: on each view, whatever there is by way of truth is of our own making. The same ambiguity is to be found in Protagoras himself. "Man is the measure of all things": we can take this as the thought that there is a certain way the world is, and it is that way because of what we human beings--all human beings--do, or we can take it as the idea that each of some more limited group of persons--perhaps even each individual person--is the measure of all things. Then there would be no one way everything is, but only different versions for different individuals. This form of creative antirealism, like the previous ones, suffers, I think, from deep problems with self-referential incoherence; but I don't here have the time to explain why I think so.

A second complication: Alasdair MacIntyre pointed out (personal communication) that my account here omits a very important cadre of contemporary academics and intellectuals. There are many intellectuals who think of themselves as having no firm commitments at all; they float free of all commitment and intellectual allegiance. They are like people without a country, without a settled or established home or neighborhood; in Kant's figure, they are like roaming nomads, a threat to settled and civilized ways of intellectual life. Not only don't they display commitment; they disdain commitment as naive or ill-informed, a failure to understand, a foolish failure to see something obvious and important. So, said MacIntyre, they aren't committed either to the perennial naturalism of which I spoke, or to one or another form of anti-realism; they aren't committed to anything at all. But they are nonetheless a most important part of the contemporary picture.

This is both true and important. MacIntyre is quite right; the attitude he describes is indeed common among intellectuals and in academia. As a matter of fact, there is a deep connection between anti-realism and relativism, on the one hand, and this intellectual *anomie* or nomadism (or whatever we propose to call it), on the other. Maybe it goes as follows. The dialectic begins with some version of Kantian anti-realism: the fundamental lineaments of the world are due to us and our structuring activity and are not pant of the *dinge an sich* . The next step is relativism: it is noted that different people hold very different views as to what the world is like; the result is the notion that there isn't any *one* way things are like (a

way which is due somehow to our noetic activity) but a whole host of different *versions* (as Nelson Goodman calls them), perhaps as many as there are persons. On this view there isn't any such thing as a proposition's being true *simpliciter* : what there is is a proposition's being true *in a version* or from a perspective. (And so what is true for me might not be true for you.)

To `see' this point, however, is, in a way, to see through any sort of *commitment* with respect to intellectual life. Commitment goes with the idea that there really is such a thing as truth; to be committed to something is to hold that it is true, not just in some version, but *simpliciter* or absolutely--i.e., not merely true with respect to some other discourse or version, or with respect to what one or another group of human beings think or do. To be committed to something is to think it is *true* , not just true relative to what you or someone believes. But once you `see' (as you think) that there isn't any such thing as truth as such, then you are likely to think you also see the futility, the foolishness, the pitiable self-deluded nature of intellectual commitment. You will then think the only path of wisdom is that of the roaming, free-floating intellectual who has seen through the pretensions or naiveté of those who do make serious intellectual and moral commitments. (And you may indeed go so far as to join Richard Rorty in thinking such people *insane* --in which case, presumably, they ought not to be allowed to vote or take full part in the liberal society, and perhaps should be confined to its Gulags pending `recovery' from the seizure.) As MacIntyre observes, this lack of commitment, this seeing through the pitiful self-delusion of commitment is rampant in academia; it is, I think, close to the beating heart (or perhaps the central mushy core) of contemporary deconstruction.

So we have, as I said, three major perspectives, three wholly different and deeply opposed perspectives: Christian theism, perennial naturalism, and creative anti-realism with its progeny of relativism and anti-commitment. But of course what we also have, as William James said in a different connection, is a blooming, buzzing confusion. The above description is only a first approximation, accurate only within an order or two of magnitude; much fine tuning is necessary. These perspectives flow together and mingle in a thousand different ways. Each calls out a sort of reaction to itself; there can very well be a sort of dialectic or development within a given paradigm or way of thinking; there are of course channels of influence flowing between them. These three main perspectives or total ways of looking at man and the world can be found in every conceivable and inconceivable sort of combination and mixture. There are many crosscurrents and eddies and halfway houses; people think and act in accordance with these basic ways of looking at things without being at all clearly aware of them, having at best a sort of dim apprehension of them. Thus, for example, those who adopt this skeptical, ironic, detached anti-commitment with respect to the great questions, don't all themselves do so out of the motivation I suggest as to what really underlies it--i.e., that "seeing through" the more committed stances. It can be or start as simple imitation of one's elders and betters; this is the cool way to think, or the way the second year grad students think, or the way my teachers or the

people at Harvard think. Our ways of thinking are as much arrived at by imitation of those we admire as by reasoned reflection.

As we saw above, ironically enough, both perennial naturalism and creative anti-realism (with its progeny of relativism and anti-commitment) find contemporary expression in allegedly Christian theology. These ways of thinking are touted as the truly up-to-date and with-it way to look at these matters, and as the up-to-date way of being a Christian. It is indeed a common human characteristic to claim that now finally we have achieved the truth (or the correct attitude to take, given that there is no truth) denied our fathers. But here there is another sort of irony: these positions go back, clearly enough, all the way to the ancient world; as a matter of fact they antedate classical Christianity. What is new and with-it about them is only the attempt to palm them off as developments or forms--indeed, the intellectually most viable forms--of *Christianity* . This is new and with-it, all right, but it is also preposterous. It is about as sensible as trying to palm off say the Nicene Creed, say, or the Heidelberg Catechism as the newest and most with-it way of being an atheist.

I trust it unnecessary to point out that these ways of thinking are not just *alternatives* to Christianity; they run profoundly *counter* to it. From a Christian perspective the naturalist is, of course, deeply mistaken in rejecting or ignoring God. That is bad enough; but in so doing he also cuts himself off from the possibility of properly understanding ourselves and the world. And as for creative anti-realism the idea that it is really we human beings who have made or structured the world, from a Christian perspective, is no more than a piece of silly foolishness, less heroically Promethean than laughably Quixotic;**[**8**]** and the idea that there is no truth here is no less absurd from a Christian perspective. These ways of thinking, then, are predominant, pervasive, and deeply ingrained in our culture; they are also deeply antagonistic to a Christian way of looking at the world. And the sad truth is that these ways of thinking, at the moment, have the upper hand in our universities and in intellectual culture generally.

D. ARE SCIENCE AND SCHOLARSHIP NEUTRAL?

The first thing to see is that the answer is No; science and scholarship are not neutral with respect to this struggle for our souls. It isn't as if the main areas of scholarship are neutral with respect to this struggle, with religious or spiritual disagreement rearing its ugly head only when it comes, say, to religion itself. The facts are very different: the world of scholarship is intimately involved in the battle between these opposing views; contemporary scholarship is rife with projects, doctrines, and research programs that reflect one or another of these ways of thinking. At present, the sad fact is that very many of these projects reflect the fundamentally nonChristian ways of thinking I have been mentioning. There are hundreds of examples: I shall give just a few, and each of you can add your own.

First, creative anti-realism, with its accompanying entourage of relativism and anticommitment, is a dominating force in the humanities. Contemporary philosophy, for example, is overrun with varieties of relativism and anti-realism. One widely popular version of relativism is Richard Rorty's notion that truth is what *my* peers will let *me* get away with saying. On this view what is true for me, naturally enough, might be false for you; *my* peers might let *me* get away with saying something that *your* peers won't let *you* get away with saying: for we may have different peers. (And even if we had the *same* peers, there is no reason why they would be obliged to let you and me get away with saying the same things.) Although this view is extremely influential and very much *au courant* and up-to-date, it has consequences that are, to put it mildly, peculiar. For example, most of us think the Chinese authorities did something monstrous in murdering those hundreds of young people in Tienanmen Square; they then compounded their wickedness by denying that they had done it. On Rorty's view, however, this is perhaps an uncharitable misunderstanding. What the authorities were really doing, in denying that they had murdered those students, was something wholly praiseworthy: they were trying to bring it about that the alleged massacre never happened. For they were trying to see to it that their peers would let them get away with saying that the massacre never happened; if they were successful, then (on the Rortian view) it would have been *true* that it never happened, in which case, of course, it would never have happened. So in denying that they did this horrifying thing, they were trying to make it *true* that it had never happened; and who can fault them for that? The same goes for those contemporary neo-Nazis who claim that there was no holocaust; from a Rortian perspective, they are only trying to see to it that such an appalling event never happened; why should we hold *that* against them? Instead of blaming them, we should cheer them on.

This way of thinking has real possibilities for dealing with poverty and disease: if only we let each other get away with saying that there isn't any poverty and disease--no cancer or AIDS, let's say--then it would be *true* that there isn't any; and if it were true that there isn't any, then of course there wouldn't *be* any. That seems vastly cheaper and less cumbersome than the conventional methods of fighting poverty and disease. At a more personal level, if you have done something wrong, it is not too late: lie about it, thus bringing it about that your peers will let you get away with saying that you didn't do it; then it will be true both that you didn't do it, and, as an added bonus, that you didn't even lie about it. One hopes Rorty is just joshing the rest of us. (But he isn't.)

As you would expect, there are very many examples of this sort in philosophy. But the main point to see here is that this isn't just a problem for philosophers and maybe theologians: examples of these kinds can be found across most of the intellectual and disciplinary spectrum, and I shall give some examples from other fields. Here, of course I run a risk; I am reasonably well acquainted with philosophy (and even that is less than wholly uncontroversial among my colleagues), but am venturing out on an interdisciplinary limb in mentioning examples from other fields. Still, it needs to be done. So my second example is presented by structuralism, poststructuralism and deconstructionism in literary

studies. All of these, at bottom, pay homage to the notion that we human beings are the source of truth, the source of the way the world is, if indeed there is any such thing as truth or the way the world is. Sometimes this is explicit and clear, as in Roland Barthes:

> Once the Author is removed, the claim to decipher a text becomes quite futile. To give a text an Author is to impose a limit on that text, to furnish it with a final signified, to close the writing.... In precisely this way literature (it would be better from now on to say *writing*) by refusing to assign a secret, an ultimate meaning, to the text (and to the world as text) liberates what may be called an antitheological activity, an activity that is truly revolutionary since to refuse to fix meaning is, in the end, to refuse God and his hypostases--reason, science, law.**[**9**]**

The move from structuralism to post-structuralism and deconstruction, furthermore, nicely recapitulates the move from Kantian anti-realism to relativism. According to the structuralist, we human beings constitute and structure the world by language, and do so *communally* ; there are deep common structures involved in us all by which we structure our world. The poststructuralists and deconstructionists, noting in their incisive way that different people structure the world differently, insist that there aren't any such common structures; it is every woman for herself; each of us structures her own world her own way. Put thus baldly and held up to the clear light of day, these views may seem to be hard to take seriously. But the fact is they can be deeply seductive: for first, they ordinarily aren't put clearly and usually aren't held up to the clear light of day; and second, they come in versions--Wittgensteinian anti-realism, for example--that are vastly more subtle and thus vastly more enticing.

A third example is from science more narrowly so called. Consider The Grand Evolutionary Myth (GEM). According to this story, organic life somehow arose from nonliving matter by way of purely natural means and by virtue of the workings of the fundamental regularities of physics and chemistry. Once life began, all the vast profusion of contemporary flora and fauna arose from those early ancestors by way of common descent. The enormous contemporary variety of life arose through such processes as natural selection operating on such sources of genetic variability as random genetic mutation, genetic drift and the like. I call this story a myth not because I do not believe it (although I do not believe it) but because it plays a certain kind of quasi-religious role in contemporary culture: it is a shared way of understanding ourselves at the deep level of religion, a deep interpretation of ourselves to ourselves, a way of telling us why we are here, where we come from, and where we are going.

Now it is certainly possible--epistemically possible,**[**10**]** anyway,--that GEM is true; God could have done things in this way. Certain parts of this story, however, are to say the least epistemically shaky. For example, we hardly have so much as decent hints as to how life could have arisen from inorganic matter just by way of

the regularities known to physics and chemistry.**[**11**]** (Darwin found this question deeply troubling;**[**12**]** at present the problem is vastly more difficult than it was in Darwin's day, now that some of the stunning complexity of even the simplest forms of life has been revealed.) No doubt God could have done things that way if he had chosen to; but at present it looks as if he didn't choose to.

So suppose we separate off this thesis about the origin of life. Suppose we use the term `evolution' to denote the much weaker claim that all contemporary forms of life are genealogically related. According to this claim, you and the flowers in your garden share common ancestors, though we may have to go back quite a ways to find them. (So perhaps herbicide is a sort of fratricide.) Many contemporary experts and spokespersons--Francisco Ayala, Richard Dawkins, Stephen Gould, William Provine, and Philip Spieth, for example--unite in declaring that evolution is no mere theory, but established fact. According to them, this story is not just a *virtual* certainty, but a *real* certainty.**[**13**]** This is as solid and firmly established, they say, as that the earth is round and revolves around the sun. (All of those I mentioned explicitly make the comparison with that astronomical fact.) Not only is it declared to be wholly certain; if you venture to suggest that it *isn't* absolutely certain, if you raise doubts or call it into question, or are less than certain about it, you are likely to be howled down; you will probably be declared an ignorant fundamentalist obscurantist or worse. In fact, this isn't merely *probable* ; you have already *been* so-called: in a recent review in the *New York Times* , Richard Dawkins, an Oxford biologist of impeccable credentials, claims that "It is absolutely safe to say that if you meet someone who claims nor to believe in evolution, that person is ignorant, stupid or insane (or wicked, but I'd rather not consider that)." (Dawkins indulgently adds that "You are probably not stupid, insane or wicked, and ignorance is not a crime . . . .")

Now what is the source of these strident declarations of certainty, these animadversions on the character or sanity of those who think otherwise? Given the spotty character of the evidence--a fossil record displaying sudden appearance and subsequent stasis and few if any genuine examples of macroevolution--these claims of certainty seem at best wildly excessive. From a Christian perspective, evolution isn't remotely as certain as all that. Take as evidence what the Christian knows as a Christian together with the scientific evidence--the fossil evidence, the experimental evidence, and the like: it is at best absurd exaggeration to say that, relative to that evidence, evolution is as certain as that the earth is round. The theist knows that God created the heavens and the earth and all that they contain; she knows, therefore, that in one way or another God has created all the vast diversity of contemporary plant and animal life. But of course she isn't thereby committed to any particular *way* in which God did this. He could have done it by broadly evolutionary means; but on the other hand he could have done it in some totally different way. For example, he could have done it by *directly* creating certain kinds of creatures--human beings, or bacteria, or for that matter sparrows and houseflies--as many Christians over the centuries have thought. Alternatively, he could have done it the way Augustine suggests: by implanting, seeds,

potentialities of various kinds in the world, so that the various kinds of creatures would later arise, although not by way of genealogical interrelatedness. Both of these suggestions are incompatible with the evolutionary story. And given theism and the evidence it is absurd to say that evolution (understood as above) is a rock-ribbed certainty, so that only a fool or a knave could reject it.

So why that insistence on certainty and the refusal to tolerate any dissent? The answer can be seen, I think, when we realize that what you properly think about these claims of certainty depends in part on how you think about theism. If you reject theism in favor of naturalism, this evolutionary story is the only visible answer to the question, "Where did all this enormous variety of flora and fauna come from? How did it get here?" Even if the fossil record is at best spotty and at worst disconfirming, even if there are anomalies of other sorts, this story is the only answer on offer (from a naturalistic perspective) to these questions; so objections will not be brooked.

A Christian, therefore, has a certain freedom denied her naturalist counterpart: she can follow the evidence**[**14**]** where it leads. If it seems to suggest that God did something special in creating human beings (in such a way that they are not genealogically related to the rest of creation**[**15**]**), or reptiles or whatever, then there is nothing to prevent her from believing that God did just that. From a naturalistic perspective, on the other hand, evolution is vastly more likely and has vastly more to be said for it. First, there is the evaluation of the scientific evidence itself some of this evidence is much stronger taken within a naturalistic context than taken within a theistic context. For example, *given* that life arose by chance, without direction by God, the fact that all living creatures employ the same genetic code strongly suggests a common origin for all living creatures. Again, given the enormous difficulty of seeing how life could have arisen even *once* by natural, nonteleological means, it is vastly unlikely that it arose in that way more than once; but if it arose only once, then the thesis of common ancestry follows.

But second, from a naturalistic perspective evolution is the only game in town. It is the only available answer to the question, "How did it all happen? How did all of these forms of life get here? Where did this vast profusion of life come from? And what accounts for the apparent design (Hume's "nice adjustment of means to ends") to be found throughout all of living nature ?" A Christian has an easy answer to those questions: The Lord has created life in all its forms, and they got here by way of his creative activity; and as for the appearance of design, that is only to be expected, since living creatures are, in fact, designed. But the naturalist has a vastly more difficult row to hoe. How did life get started and how did it come to assume its present multifarious forms? It is monumentally implausible to think these forms just popped into existence; that goes contrary to all our experience. So how did it happen? The evolutionary story gives the answer. Somehow life arose from nonliving matter by way of purely natural means, without the direction of God or anyone else; and once life started, all the vast profusion of contemporary plant and animal life arose from those early ancestors

by way of common descent, driven by random variation and natural selection. To return to Richard Dawkins:

> All appearances to the contrary, the only watchmaker in nature is the blind forces of physics, albeit deployed in a very special way. A true watchmaker has foresight: he designs his cogs and springs, and plans their interconnections, with a future purpose in his mind's eye. Natural selection, the blind, unconscious automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind's eye. It does not plan for the future. It has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the *blind* watchmaker.**[**16**]**

Here we have a nice summary (complete with the obligatory bit of as-we-now-knowism) of the role played by evolution in naturalistic thought. Dawkins once made a telling remark to A. J. Ayer at one of those candle-lit, elegant and bibulous Oxford dinners: "Although atheism might have been logically tenable before Darwin," said he, "Darwin made it possible to be an intellectually fulfilled atheist."**[**17**]** And here Dawkins seems to me to be quite correct. I don't mean to endorse his claim that it is possible to be an intellectually fulfilled atheist; I myself believe that claim to be false. The point about evolution, however, is that it is a plausible effort to remove one of the major embarrassments for the atheist. Evolution *is* an essential part of any reasonably complete naturalistic way of thinking; it plugs a very large gap in such ways of thinking; hence the pious devotion to it, the suggestions that doubts about it should not be aired in public, and the venom and abuse with which dissent is greeted. In contemporary academia, evolution has become an idol of the tribe; it serves as a shibboleth, a litmus test distinguishing the benighted fundamentalist goats from the enlightened and properly acculturated sheep. It plays that mythic role.

The point here can be put like this: the probability of the whole grand evolutionary story is quite different for the theist than for the naturalist. The probability of this story with respect to the evidence together with the views a *theist* typically holds, is much lower than its probability with respect to evidence together with the views the *naturalist* typically holds. So the way in which evolution is not religiously neutral is not that it is incompatible with Christian teaching; it is rather that it is much more probable with respect to naturalism and the evidence than it is with respect to theism and that evidence.**[**18**]** And my point: the Christian community must recognize that there is vastly more to the role played by evolution in contemporary academia than a sort of straightforward science which has the same credentials viewed from any perspective.**[**19**]**

A third example from the same area, but with a different twist: prominent writers on evolution--for example, Dawkins, Futuyma , Gould, Provine and Simpson, unite in declaring that evolutionary biology shows that human beings are the

result of chance processes, and hence have not been designed, by God or anyone else. Gould writes: "Before Darwin, we thought that a benevolent God had created us." After Darwin, though, says Gould, we realize that "No intervening spirit watches lovingly over the affairs of nature (though Newton's clock-winding god might have set up the machinery at the beginning of time and then let it run). No vital forces propel evolutionary change. And whatever we think of God, his existence is not manifest in the products of nature." Gould's sentiments are stated more clearly by Futuyma:

> By coupling undirected, purposeless variation to the blind, uncaring process of natural selection, Darwin made theological or spiritual explanations of the life processes superfluous. Together with Marx's materialistic theory of history and society and Freud's attribution of human behavior to processes over which we have little control, Darwin's theory of evolution was a crucial plank in the platform of mechanism and materialism--of much of science, in short--that has since been the stage of most Western thought.**[**20**]**

Clearer yet, perhaps, is George Gaylord Simpson:

> Although many details remain to be worked out, it is already evident that all the objective phenomena of the history of life can be explained by purely naturalistic or, in a proper sense of the sometimes abused word, materialistic factors. They are readily explicable on the basis of differential reproduction in populations (the main factor in the modern conception of natural selection) and of the mainly random interplay of the known processes of heredity.... Man is the result of a purposeless and natural process that did not have him in mind.**[**21**]**

These prominent scientists unite in declaring that modern evolutionary thought has shown or given us reason to believe that human beings are in an important way, merely accidental; there wasn't any plan, any foresight, any mind, any mind's eye involved in their coming into being. But of course no Christian theist could take that seriously for a moment. Human beings have been created, and created in the image of God. No doubt God could have created us via evolutionary processes; if he did it that way however, then he must have guided, orchestrated, directed the processes by which he brought about his designs. We might say, of course, that strictly speaking, when these people make these declarations, they are not speaking as scientists and are not doing science. Perhaps so, perhaps not (it has become increasingly difficult to draw a line between science and other activities); in either case we have deep involvement of the science in question with the spiritual struggle Augustine points out; in either case that involvement must be noted and dealt with by the Christian intellectual community, and in particular by the part of the Christian intellectual community involved in the science in question.

Another example. Herbert Simian won a Nobel Prize in economics, but is currently professor of computer studies and psychology at Carnegie-Mellon. In a recent article, "A Mechanism for Social Selection and Successful Altruism,"**[**22**]** he addresses the topic of altruism: why, he asks, do people like Mother Teresa, or the Scottish missionary, Eric Liddel, or the Little Sisters of the Poor, or the Jesuit missionaries of the 17th century, or the Methodist missionaries of the 19th--why do these people do the things that they do? Why do they devote their time, and energy, and indeed their entire lives to the welfare of other people? Of course, it isn't only the great saints of the world that display this impulse; most of us do so to one degree or another. Many of us give money to help feed and clothe people we have never met; we support missionaries in foreign countries; we try, perhaps in feckless and fumbling ways, to do what we can to help the widow and orphan.

Now how, says Simian, can we account for this kind of behavior? The *rational* way to behave, he says, is to act or try to act in such a way as to increase one's personal fitness, i.e., to act so as to increase the probability that one's genes will be widely disseminated in the next and subsequent generation, thus doing well in the evolutionary derby.**[**23**]** A paradigm of rational behavior, conceived Simon's way, was reported in the *South Bend Tribune* of December 21, 1991 (dateline Alexandria (Va.)): "Cecil B. Jacobson, an infertility specialist, was accused of using his own sperm to impregnate his patients; he may have fathered as many as 75 children, a prosecutor said Friday." Unlike Jacobson, however, such people as Mother Teresa and Thomas Aquinas cheerfully ignore the short or long-term fate of their genes; what is the explanation of this bizarre behavior?

The answer, says Simian, is two mechanisms: "docility" and "bounded rationality":

> Docile persons tend to learn and believe what they perceive others in the society want them to learn and believe. Thus the content of what is learned will not be fully screened for its contribution to personal fitness (p. 1666).
>
> Because of bounded rationality, the docile individual will often be unable to distinguish socially prescribed behavior that contributes to fitness from altruistic behavior [i.e., socially prescribed behavior that does not contribute to fitness--AP]. In fact, docility will reduce the inclination to evaluate independently the contributions of behavior to fitness. . . . By virtue of bounded rationality, the docile person cannot acquire the personally advantageous learning that provides the increment, *d* , of fitness without acquiring also the altruistic behaviors that cost the decrement, *c* (p. 1667).

The idea is that a Mother Teresa or a Thomas Aquinas displays "bounded rationality"; they are unable to distinguish socially prescribed behavior that contributes to fitness from altruistic behavior (socially prescribed behavior which does not). As a result they fail to acquire the personally advantageous learning

that provides that increment *d* of fitness without, sadly enough, suffering that decrement *c* exacted by altruistic behavior. They acquiesce unthinkingly in what society tells them is the right way to behave; and they don't quite have the smarts needed to make their own independent evaluation of the likely bearing of such behavior on the fate of their genes. If they *did* make such an independent evaluation (and were rational enough to avoid silly mistakes) they would presumably see that this sort of behavior does not contribute to personal fitness, drop it like a hot potato, and get right to work on their expected number of progeny.

Clearly no Christian could accept this account as even a beginning of a viable explanation of the altruistic behavior of the Mother Teresas of this world. From a Christian perspective, this doesn't even miss the mark; it isn't close enough to be a miss. Behaving as Mother Teresa does is not a display of "bounded rationality"--as if, if she thought through the matter with greater clarity and penetration, she would cease this kind of behavior and instead turn her attention to her expected number of progeny. Her behavior displays a Christ-like spirit; she is reflecting in her limited human way the magnificent splendor of Christ's sacrificial action in the Atonement. (No doubt she is also laying up treasure in heaven.) Indeed, is there anything a human being can do that is *more* rational than what she does? From a Christian perspective, the idea that her behavior is irrational (and so irrational that it needs to be explained in terms of such mechanisms as unusual docility and limited rationality!) is hard to take seriously. First, from that perspective, behavior of the sort engaged in by Mother Teresa is anything but a manifestation of `limited rationality'. On the contrary: her behavior is vastly more rational than that of someone who, like Cecil Jacobson, devotes his best efforts to seeing to it that his genes are represented *in excelsis* in the next and subsequent generations. And second, the account of rationality--that an action is rational for me if and only if it increases my fitness--is also incompatible with Christian teaching.

So here is an example of a scientific theory that is clearly not neutral with respect to Christian commitment. Of course, someone might say that the sort of thing represented by Simon's article isn't really science; but can we sensibly make that claim in these post-Kuhnian days? It gets called `science' by scientists and others; it gets grants from the National Science Foundation; it involves experiments, mathematical models, and the attention, customary in science, to the fit between model and data; it is written in that stiff, impersonal style common to scientific writing; can we sensibly say, then, that it really isn't science?

A fifth example, this one from physics: `fine-tuning' in cosmology. Starting in the late sixties and early seventies, astrophysicists and others noted that several of the basic physical constants must fall within very narrow limits if there is to be the development of intelligent life--at any rate in a way anything like the way in which we think it actually happened. Thus Car and Rees:

> The basic features of galaxies, stars, planets and the everyday world are essentially determined by a few microphysical constants and by the effects of gravitation. . . . several aspects of our Universe--some which seem to be prerequisites for the evolution of any form of life--depend rather delicately on apparent `coincidences' among the physical constants.**[**24**]**

For example, if the force of gravity were even slightly stronger, all stars would be blue giants; if even slightly weaker, all would be red dwarfs; in neither case could life have developed.**[**25**]** The same goes for the weak and strong nuclear forces; if either had been even slightly different, life, at any rate life of the sort we have, could probably not have developed.

Even more interesting in this connection is the so-called *flatness* problem: the existence of life also seems to depend very delicately upon the rate at which the universe is expanding. Thus Stephen Hawking:

> ..reduction of the rate of expansion by one part in 10\12 at the time when the temperature of the Universe was 10\10 K would have resulted in the Universe's starting to recollapse when its radius was only 1/3000 of the present value and the temperature was still 10,000 K**[**26**]**

--much too warm for comfort. Hawking concludes that life is possible only because the universe is expanding at just the rate required to avoid recollapse. At an earlier time, the fine-tuning had to be even more remarkable:

> ...we know that there has to have been a very close balance between the competing effect of explosive expansion and gravitational contraction which, at the very earliest epoch about which we can even pretend to speak (called the Planck time, 10\-43 sec. after the big bang), would have corresponded to the incredible degree of accuracy represented by a deviation in their ratio from unity by only one part in 10 to the sixtieth.**[**27**]**

These are striking facts; one sympathizes with Paul Davies: "the fact that these relations are necessary for our existence is one of the most fascinating discoveries of modern science."**[**28**]**

Now one reaction to these apparent enormous coincidences is to see them as substantiating the theistic claim that the universe has been created by a personal God and as offering the material for a properly restrained theistic argument.**[**29**]** Another is to claim that none of this ought to be seen as requiring explanation: after all, no matter how things had been, it would have been exceedingly improbable that they be that way. Appropriately taken, that is perhaps right; but how is it relevant? We are playing poker, each time I deal I get four aces and one wild card; you get suspicious; I allay your suspicions by pointing out that my

> getting these cards each time I deal is no less probable than any other equally specific distribution over the relevant number of deals. Would that explanation play in Dodge City or Tombstone?
>
> Still another reaction is to invoke the *Anthropic Principle* , which is exceedingly hard to understand and comes in several varieties**[**30**]** but (in the version that makes most sense) seems to point out that a necessary condition of anyone observing these values of the cosmological constants is that those constants have very nearly the values they *do* have; we are here to observe these constants only because they have the values they do have. Again, this seems right, but what does it explain? It still seems puzzling that these values should have been just as they are. Why weren't they something quite different? One cannot explain this by pointing out that we are indeed here--anymore than I can "explain" the fact that God decided to create me (instead of passing me over in favor of someone else) by pointing out that if God had not thus decided, I wouldn't have been here to raise the question.
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> But the reaction that most interests me here is still different, and very striking: Spatially homogeneous models can be divided into three classes: those which have less than the escape velocity (i.e., those whose rate of expansion is insufficient to prevent them from recollapsing), those which have just the escape velocity, and those which have more than the escape velocity. Models of the first class exist only for a finite time, and therefore do not approach arbitrarily near to isotropy. We have shown that models of the third class do in general tend to isotropy at arbitrarily large times. Those models of the second class which are sufficiently near to the Robertson-Walker models do in general tend to isotropy, but this class is of measure zero in the space of all homogeneous models. It therefore seems that one cannot explain the isotropy of the universe without postulating special initial conditions....
>
> The most attractive answer would seem to come from the Dickie-Carter idea that there is a very large number of universes, with all possible combinations of initial data and values of the fundamental constants. In those universes with less than the escape velocity, small density perturbations will not have time to develop into galaxies and stars before the universe recollapses. In those universes with more than the escape velocity, small density perturbations would still have more than the escape velocity, and so would not form bound systems. It is only in those universes which have very nearly the escape velocity that one could expect galaxies to develop, and we have found that such universes will in general approach isotropy. Since it would seem that the existence of galaxies is a necessary condition for the development of intelligent life, the answer to the question "why is the universe isotropic?" is "because we are here."**[**31**]**

The idea here is clear: those values for the cosmological constants and the rate of expansion in *our* universe are indeed puzzling and in need of explanation. The

explanation is just that there are infinitely many different universes, displaying all possible combinations of initial conditions and values for the fundamental constants; and, of course, it is not surprising that we should occupy one of the universes in which these values permit the development of intelligent life.**[**32**]** I suppose there would have to be at least uncountably many such universes, on the Hawking hypothesis, since presumably there is a real interval about 1 such that for any real number *r* in that interval, the ratio between the effect of explosive expansion and gravitational contraction could have been *r* .

To make my point, I could stop here; but in the interests of being *au courant* and up-to-date, I mention a couple of further developments to this ongoing and fascinating story.**[**33**]** Beginning in 1980, Alan Guth suggested a solution to this alleged problem that is interestingly related to the Hawking-Collins many universe suggestion.**[**34**]** According to Guth, we needn't suppose there is more than one universe; that one universe, however, is enormously larger than the *observable* universe of some 10 billion light-years in diameter. The observable universe shrinks to a tiny, nearly minuscule corner of the whole universe. Guth's model, however, was subject to certain problems; a successor has been proposed by A. D. Linde.**[**35**]** In this model, the universe consists in a vast number of mini-universes; these mini-universes are enormously larger than our observable universe; and different mini-universes display different initial conditions; indeed, "the laws of low-energy physics and even the dimensionality of space-time may be different in each of many universes.

The point I'd like to make can be put as follows. Consider the 1973 Hawking-Collins suggestion, or the more recent Linde suggestion. Suppose, furthermore, that the principal motivation for putting forward such suggestions is that they avoid the cosmic coincidences; on these theories there is nothing noteworthy about our universe's displaying the values it does; all values get realized somewhere or other, and, of course, we human observers would be found only where the values are such as to permit life. In other words, suppose the motivation for putting forward these theories is what McMullin calls the "Principle of Indifference." This principle isn't easy to state exactly; but part of its basic idea is that physical theory should avoid anything like those cosmic coincidences, these apparent fine-tunings.

Now a theist, so it seems to me, needn't be at all impressed by this principle. If God created the world, why shouldn't it display singularities or fine-tunings, or `coincidences' of that sort? Why think we don't have a proper physical theory until we get rid of such things? If there were two theories that were empirically equivalent or nearly so, one of them involving violations of the Principle of Indifference and the other involving the postulation of uncountably many other universes or an enormous number of mini-universes, the theist might well prefer the first on grounds of economy. Here again, there may well be a difference between the epistemic probability of a Hawking-like many universe theory on theism and the evidence on the one hand, and the epistemic probability of such a theory on naturalism and that evidence on the other.

So here we have some examples: each is an example showing that scientific theory and scholarly effort are often not, in the specified ways, religiously or metaphysically neutral. There will of course be many more (and they will be much more obvious and abundant in the humanities and human sciences than in physics and chemistry). Consider, for example, contemporary cognitive science: the area including cognitive psychology, artificial intelligence, and philosophy of mind. This is a whole congeries of research projects (or perhaps one vast research project with many subprojects) dedicated to the attempt to give a naturalistic account of the phenomena of mind: such mental phenomena as consciousness, desire, belief, intentionality, and the like. These research projects have turned up much that is fascinating and useful and informative. But the fundamental quest--the effort to give naturalistic accounts of mental phenomena--is at least questionable from a theistic perspective; the theist won't, of course, feel the need of a naturalistic account of mind. Or consider Jean Piaget (that great Swiss psychologist) and his claim that a seven-year-old child whose cognitive faculties are functioning properly will believe that everything in the universe has a purpose in some grand overarching plan or design; a mature person whose faculties are functioning properly, however, will learn to "think scientifically" and realize that everything has either a natural cause or happens by chance.**[**36**]** Or consider Biblical scholarship, surely an area where one would not expect issues of this sort to rear their ugly heads. That expectation, sadly enough", is disappointed. Many Scripture scholars tell us that a properly pursued project in this area must conform to certain standards of `objectivity'; this means that in pursuing such projects, the scholar must bracket or set aside any theological assumption--for example, the traditional Christian idea that the Bible has special divine authority, or is a revelation to mankind from the Lord. Thus, for example, John Collins, recently of Notre Dame: "Critical method is incompatible with confessional faith insofar as the latter requires us to accept specific conclusions on dogmatic grounds."**[**37**]** And Barnabas Lindars, a well-known New Testament scholar, seems to suggest that it is somehow wrong or improper to rely upon what one knows or believes by faith in Biblical interpretation:

> There are in fact two reasons why many scholars are very cautious about miracle stories. ..... The second reason is historical. The religious literature of the ancient world is full of miracle stories, and we cannot believe them all. It is not open to a scholar to decide that, just because he is a believing Christian, he will accept all the Gospel miracles at their face value, but at the same time he will repudiate miracles attributed to Isis. All such accounts have to be scrutinized with equal detachment.**[**38**]**

So many more examples could be given--from psychology, sociology, economics--across the length and breadth of the academic disciplines; and many of you are of course much better qualified than I to point them out. Scholarship and science are not neutral, but are deeply involved in the struggle between Christian theism, perennial naturalism and creative anti-realism. And the unhappy fact is that at

present (and in our part of the world) it is the latter two that are in the ascendancy. Christian theism has perhaps made some small steps back in recent years; but it is surely the minority opinion among our colleagues in Western universities.

E. WHAT SHOULD CHRISTIANS DO?

What must Christians do about this unhappy fact; how ought they to react to it? In many ways, no doubt; but I want to call brief attention to one of these ways. Christians, and especially Christian academics, must become very serious about Christian scholarship. Two kinds in particular are needed. First, we need consciousness raising, Christian cultural criticism. The Christian community as a whole must be aware of the facts I was arguing for above; it must be attuned to them, sensitive to them. We must see that intellectual culture is indeed involved in this contest for basic human allegiance. It isn't enough to make the occasional ceremonial reference (at opening convocations, perhaps) to Christian or Catholic intellectual life. We must really *understand* that there is a battle here, and we must know who and what the main contestants are and how this contest pervades the various scholarly disciplines. These perspectives are seductive; these are widespread; they are the majority views in the universities and in intellectual culture generally in the West. We live in a world dominated by them; we imbibe them with our mother's milk; it is easy to embrace them and their projects in a sort of unthoughtful, unselfconscious way, just because they *do* dominate our intellectual culture. But these perspectives are also deeply inimical to Christianity; these ways of thinking distort our views of ourselves and the world. To the degree that we are not aware of them and do not understand their allegiances, they make for confusion, and for lack of intellectual and spiritual wholeness and integrity among us Christians. Christians of all sorts, Catholic, Protestant, and Orthodox, must be aware of these things. Indeed, believers in God of all sorts--Christians, Jews, Muslims, and others--must be aware of these things.

And second, we must work at the various areas of science and scholarship in a way that is appropriate from a Christian or more broadly theistic point of view. We shouldn't assume, automatically, that it is appropriate for Christians to work at the disciplines in the same way as the rest of the academic world. Take a given area of scholarship: philosophy, let's say, or history, or psychology, or anthropology, or economics, or sociology; in working at these areas, shouldn't we take for granted the Christian answer to the large questions about God and creation, and then go on from that perspective to address the narrower questions of that discipline? Or is that somehow illicit or ill-advised? Put it another way: to what sort of premises can we properly appeal in working out the answers to the questions raised in a given area of scholarly or scientific inquiry? Can we properly appeal to what we know as Christians? In psychology (which I mention because it is an area in which I am unencumbered by a knowledge of the relevant facts): must the Christian community accept the basic structure and presuppositions of the contemporary practice of that discipline in trying to come to an understanding of its subject matter? Must Christian psychologists appeal

only to premises accepted by all parties to the discussion, whether Christian or not? I should think not. Why should we limit and handicap ourselves in this way?

Consider love, once more, love in all its multitudinous manifestations. When a Christian psychologist addresses this phenomenon, can she properly take into account what she knows as a Christian--that, for example, we are created in God's image, that God himself *is* love, that our loving is something like a reflection of his? Or how shall we understand the sense of beauty we human beings share? We exulted in those marvelous, golden, luminous days of autumn a few months ago; Kathleen Battles or a Mozart concerto can bring tears to our eyes. How shall we think about this sensitivity to beauty on our part? How shall we understand this phenomenon? No doubt some will tell us that it arose, somehow, by way of genetic mutation; its significance is to be seen in the fact that it turned out, somehow, to be adaptive, to contribute to fitness, or to be somehow connected with something that was adaptive. But if we take for granted a Christian explanatory background, we might come up with an entirely different view. What we need here is scholarship that takes account of all that we know, and thus takes account of what we know as Christians. The same holds for a Christian psychologist attempting to understand aggression and hate in all their forms: she should take account of the reality of sin.

Indeed, the same holds for a thousand different topics and concerns. If we need to understand love, or knowledge, or aggression, or our sense of beauty, or humor, or our moral sense, or our origins, or a thousand other things--if it is important to our intellectual and spiritual health to understand these things, then what we must do, obviously enough, is use *all* that we know, not just some limited segment of it. Why should we be buffaloed (or cowed) into trying to understand these things from a naturalistic perspective? So the central argument here is simplicity itself: as Christians we need and want answers to the sorts of questions that arise in the theoretical and interpretative disciplines; in an enormous number of such cases, what we know as Christians is crucially relevant to coming to a proper understanding; therefore we Christians should pursue these disciplines from a specifically Christian perspective.

By way of conclusion, then: contemporary scholarship is an arena in which a fundamentally religious conflict is being played out: the struggle is between a theistic perspective, on the one hand, and perennial naturalism and creative anti-realism (along with the relativism and anti-commitment it spawns) on the other. These last dominate contemporary scholarship; furthermore they are deeply opposed to the Christian perspective. What the Christian and theistic community needs, therefore, is first, Christian cultural criticism, and second, Christian scholarship.

Endnotes

[1]There are of course medieval models; but their circumstances were enormously different from ours, so different, indeed, as to make it impossible for us to learn much from them on this topic.
[2]See in particular book 14, chapter 28, of *The City of God.*
[3]My way of developing them has been influenced by the Dutch Augustinian tradition associated in particular with the work of Abraham Kuyper (the last prime minister who was also a really first-rate theologian). See his *Calvinism: Six Stone Foundation Lectures* (Grand Rapids: Eerdmans, 1943) and his *Encyclopedia of Sacred Theology* (New York: Charles Scribner's Sons, 1898), especially pp. 59-181.
[4]See J.J.C. Smart: *Our Place in the Universe* (Oxford: Blackwell, 1989) for a simple and clear statement of a naturalistic view.
[5]*Theology for a Nuclear Age* (Manchester: Manchester University Press, 1985), p. 43.
[6]See Philip Johnson's "Nihilism and the End of Law" in *First Things* , March 1993.
[7]Quoted in David Lyle Jeffrey "*Caveat Lector* : Structuralism, Deconstructionism, and Ideology", *The Christian Scholar's Review* , June, 1988.
[8]There are other important presuppositions of our age, and it isn't easy to see just how they fit with the above two. The Enlightenment demand for freedom and autonomy, of course, fits well with creative anti-realism; indeed the latter is just the former taken, as we sometimes say, to its logical conclusion. But what about such characteristically contemporary ideas as that religion is properly a private matter, and should not intrude into scholarship, politics, and the other important arenas? How does that fit in with either or both of the above two? Or is it simply another disconnected idea? And the positivistic idea that science is all there is to know: this goes, somehow, with naturalism, but how exactly? Furthermore, there are various halfway houses between the two main views. For example, there is fact, on the one hand, and value on the other. We are responsible for value: for interpretation, understanding, significance, and the like. On the other hand, there is the world of fact; this owes nothing to us and our activity. The humanities, then (broadly), are the realm of value and are such that what is true or right there is our own doing; the natural sciences, broadly, go the other way. A sort of truce, an uneasy compromise.
[9]Roland Barthes, *Image-Music Text* , Tr. Stephen Heath (New York: Hill and Wang, 1977), p. 147.
[10]Here I leave to one side the teachings of early Genesis, since I am not sure just how those teachings bear on the issue at hand. See my "When Faith and Reason Clash," p. 000, and "Evolution, Neutrality, and Antecedent Probability," p. 000.
[11]In the 60's Harold Urey showed that amino acids could arise under what may have been the conditions of earth before life; this generated a sizable but temporary burst of dithyrambic optimism. The optimism dissipated when the enormous distance between amino acids and the simplest forms of life sank in, and when there was little or no progress in showing how that distance could have been traversed.

[12]"It is mere rubbish, thinking at present of the origin of life; one might as well think of the origin of matter." Letter from Darwin to Hooker, *The Life and Letters of Charles Darwin* , vol. 2, ed. Francis Darwin (New York: Appleton, 1967), p. 202.
[13]Evolution, says Francisco J. Ayala, is as certain as "the roundness of the earth, the motions of the planets, and the molecular constitution of matter." "The Theory of Evolution: Recent Successes and Challenges," in *Evolution and Creation* , ed. Eman McMullin (Notre Dame: University of Notre Dame Press, 1985), p. 60. According to Stephen J. Gould, evolution is an established fact, not a mere theory; and no sensible person who was acquainted with the evidence could demur. "Evolution as Fact and Theory" in *Hen's Teeth and Horse's Toes* (New York: W.W. Norton and Company, 1980), pp. 254-55. According to Richard Dawkins, the theory of evolution is as certainly true as that the earth goes around the sun. This astronomical comparison apparently suggests itself to many; in "Evolutionary Biology and the Study of Human Nature" (presented at a consultation on Cosmology and Theology sponsored by the Presbyterian (USA) Church in Dec., 1987) Philip Spieth claims that "A century and a quarter after the publication of *The Origin of Species* , biologists can say with confidence that universal genealogical relatedness is a conclusion of science that is as firmly established as the revolution of the earth about the sun." And Michael Ruse adds his nuanced and modulated view that "evolution is Fact, **Fact, FACT!**."
[14]And, of course, part of the evidence, for a Christian, will be the Biblical evidence. I myself think that the Biblical evidence for a special creation of human beings is fairly strong.
[15]0f course, it is possible both that God both did something special in creating human beings*and* that they are genealogically related to the rest of the living world.
[16]*The Blind Watchmaker* (London and New York: W.W. Norton & Co. 1986), p. 5.
[17]Ibid., pp. 6 and 7.
[18]Another related issue here: George Gaylord Simpson (*The Meaning of Evolution* pp. 344-45 (rev. ea., 1967), Douglas Futuyma (*Evolutionary Biology* , p. 3 (2nd edition, 1986)), Richard Dawkins (*The Blind Watchmaker* , p. 21) Stephen Gould (*Wonderful Life: the Burgess Shale and the nature of history*) and many others unite in declaring that contemporary evolutionary biology shows that life generally and human life in particular are the upshots of processes involving a substantial degree of randomness or chance; hence they have not been designed by anyone, including God, if there is such a person. (Gould and Simpson suggest that possibly God started the whole process.) If this is indeed true, then the theories to which they refer would be straightforwardly incompatible with the Christian doctrine that God created man in his own image. Fortunately we need see no such conflict: the processes to which they refer, in particular random generic mutation, need not be seen as random in a sense that implies being unguided or unorchestrated by God. They can instead be random in the sense of unpredictable, or not a part of the organism's proper function.
[19]Of course, my point is not that you can't accept evolution without accepting

naturalism. Obviously you can; evolution doesn't *entail* naturalism; it is logically possible (obviously enough) that God should have created life in such a way that the thesis of universal common ancestry is true. My point is that the contemporary allegiance to evolution and the claims of certainty on its behalf arise out of its *mythic* function, rather than out of a sober inspection of evidence that has the same evidential bearing for a Christian as for someone committed to naturalism.
[20]Douglas Futuyma, *Evolutionary Biology* , (2nd edition, 1986), p. 3.
[21]George Gaylord Simpson, *The Meaning of Evolution* (rev. ea., 1967), pp. 344-45.
[22]*Science* vol. 250 (December, 1990), pp. 1665 ff.
[23]More simply, says Simian, "Fitness simply means expected number of progeny" (p. 1665). That this is the rational way to conduct one's life is somehow seen as a consequence of evolutionary theory. But even if evolutionary theory is in fact true, does this alleged consequence really follow? Perhaps my having lots of progeny is in some way best for my genes; but why should I be especially interested in that? Couldn't I sensibly be concerned with my welfare, not theirs?
[24]"The Anthropic Principle and the Structure of the Physical World" (*Nature* , 1979), p. 605.
[25]Brandon Carter, "Large Number Coincidences and the Anthropic Principle in Cosmology", in M. S. Longair, ed, *Confrontation of Cosmological Theories with Observational Data* , 1979, p. 72. Carter concludes that if the strength of gravity were even slightly different, habitable planets would not exist.
[26]"The Anisotropy of the Universe at Large Times" in Longair, p. 285.
[27]John Polkinghorne, *Science and Creation: the Search for Understanding* (Boston: New Science Library; New York: Random House, 1989), p. 22.
[28]P. C. W. Davies, *The Accidental Universe* , 1982, p. 111. Davies adds that

> All this prompts the question of why, from the infinite range of possible values that nature could have selected for the fundamental constants, and from the infinite variety of initial conditions that could have characterized the primeval universe, the actual values and conditions conspire to produce the particular range of very special features that we observe. For clearly the universe is a very special place: exceedingly uniform on a large scale, yet not so precisely uniform that galaxies could not form; ...an expansion rate tuned to the energy content to unbelievable accuracy; values for the strengths of its forces that permit nuclei to exist, yet do not burn up all the cosmic hydrogen, and many more apparent accidents of fortune.

[29]E.g., see Polkinghorne, p. 23.
[30]Martin Gardner distinguishes the Weak Anthropic Principle (WAP), the Strong Anthropic Principle (SAP), the Future Anthropic Principle (FAP), the Participatory Anthropic Principle (PAP), and the Completely Ridiculous Anthropic Principle; see his "WAP, SAP, FAP AND PAP," *New York Review of Books* , May 8, 1987.

[31]C. B. Colling and S. W. Hawking, "Why is the Universe Isotropic?" *The Astrophysical Journal* , March 1, 1973, p. 334.
[32]There is a hint of some of the confusion surrounding the anthropic principle in the last sentence: "Because we are here" isn't an answer to the question, "Why is the universe isotropic?" although "Only because the universe is isotropic" may be an answer to the question, "Why are we here?" There are other problems with this suggestion as an explanation: see John Earman "The Sap Also Rises: A Critical Examination of the Anthropic Principle *American Philosophical Quarterly* , October, 1987, pp. 314-l5.
[33]A story that is well told in Ernan McMullin's "Fine-tuning the Universe?" presently unpublished. In this and the next paragraph I am following McMullin's version of this story.
[34]Alan Guth, "Inflationary Universes: A Possible Solution to the Horizon and Flatness Problems", *Physical Review D* , 23, 1981, pp. 347-56.
[35]"The inflationary universe," *Reports on Progress in Physics* , vol. 47, pp. 925-86, and "Particle physics and inflationary cosmology," *Physics Today* , September 1987, pp. 61-68.
[36]*The Child's Conception of Physical Causality* (London: Kegan Paul, 1930).
[37]See his "Is Critical Biblical Theology Possible?" in *The Hebrew Bible and its Interpreters* , ed. William Henry Propp, Baruch Halpern, and David Freedman (Winona Lake, IN: Eisenbrauns, 1990), p. 1 ff.
[38]*Theology* , March, 1986, p. 91.

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