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Evangelicals and Evolution: Retrospect and Prospect



by David N. Livingstone

The relationship between *evangelical* Christianity and *evolutionary* theory has been conceptualized in a number of ways. Reviewing several major *historiographical models* reveals the real complexity of evangelical encounters with evolution. This review paves the way for considering certain key topics arising from the evolutionary paradigm that challenge evangelical theology. I suggest that these *philosophical challenges* arise from the transforma-

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tion of Darwin's *scientific metaphor* into a modern cosmological *myth*.¹

Ludwig Wittgenstein is famed for the dictum that we shall make more progress in philosophical investigation if we look at how words are *used* rather than trying to solve problems by static definitions. Dictionaries are good philological servants, but bad philosophical masters. There is little doubt that the Wittgensteinian linguistic turn added a thoroughly antirealist voice to modern philosophy, because for Wittgenstein our words do not hook up to, or lasso, entities in the world. One does not have to adopt Wittgenstein's relativist epistemology wholesale, however, to see that his insights are valuable in our thinking about the myriad "isms" that clutter intellectual and social history. So we might well pause at the outset to consider whether the incipient "isms" lurking just beneath the surface of my title—evangelicalism and evolutionism, even Darwinism—track any real essence in the theological, social, or scientific worlds. At the very least the wide-ranging *uses* of these labels in religious, scientific, political, and a host of other discourses, alert us to the fact that in speaking of the relationships between "evangelicals" and "evolution" we are handling two rather tricky bundles of ideas. The labels just are not transparent; rather they are problematic.

Some of the problems we encounter in our efforts to get a handle on this topic, both for the historical and contemporary scenes, surface when we try to get clear in our minds just what the Darwinian claim amounts to. We now know, of course, that Darwin did not create the idea of evolution; indeed, for long

enough, conventional historians of science have told us that Darwin's achievement lay in his isolation of a mechanism by which evolutionary transformism could be effected, namely natural selection. But as soon as we identify evolution by natural selection alone as the kernel of Darwinism we face difficulties, not the least of which is the fact that Darwin himself also accepted evolution by family selection, use-inheritance, sexual selection, correlative variation and so on. In the light of this problem some have fastened on the idea of evolutionary *gradualism* as the king-pin of the piece. The trouble here is that this definition rules out not only T.H. Huxley, but also modern evolutionists like Stephen Jay Gould. What then about metaphysical naturalism as a candidate? Well, if we follow that route, key figures in the Darwinian drama like Wallace, Romanes, Lyell, Baldwin, Gray and many others would be ruled out. Yet surely all of these *thought* of themselves as Darwinians. In truth, it looks as though seeking for an essential definition of Darwinism may not prove to be a valuable exercise. Perhaps, as David Hull has suggested, we should consider Darwinism as a sort of conceptual "species" that evolves, even transforms, over time.² At any rate it would be better to consider Darwinism as a group or system of ideas more related by family resemblance than by genetic identity; for the Darwinians, like other families, have more first and second cousins, than identical twins.

The reason that I have begun with these reflections on definitional difficulties is to alert us to the dangers of speaking too loosely about *the* evangelical encounter with evolution. Clearly we will be well advised to confine our comments on such a topic to what certain evangelicals thought or think about certain evolutionary claims. Moreover, to rule out as somehow illegitimate particular alignments *on definitional terms*, like those who describe themselves as evangelical evolutionists, is not going to get us very far. It is clearly more helpful to look at what was meant by such claims.³ So what I propose to do here is to look at how certain evangelicals approached evolution and to specify the issues felt to be of crucial importance, then to say something about some of the extensions of the Darwinian metaphor into other discourses and what challenge they pose to evangelical theologies.

Contexts

Before turning to the specific engagement of evangelical Christians with evolutionary theory, we

would be well advised to pause and reflect on the more general encounter between science and Christianity. As I see it there have been, broadly speaking, four interpretative models, four ways of thinking about how this encounter can best be conceptualized.

Conventionally, and no doubt still popularly, the relationship between Christianity and science has been seen in terms of *conflict*.⁴ Metaphors of warfare and struggle have been common currency at least since the mid-nineteenth century writings of Andrew Dixon White, and the supposed fracas between Samuel Wilberforce and Thomas Henry Huxley at the 1860 Oxford meeting of the British

When people during the Victorian era encountered problems they increasingly turned to the scientific "experts," rather than to prayer or the church.

Association for the Advancement of Science—a symbolic encounter which occupies a strategic place in the iconography of the conflict interpretation. This legend, however, has been demythologized as historians have raked over the ashes of that particular prize-fight, and the conflict model more generally has crumbled as it has come under the searchlight of historical scrutiny. *God and Nature*, the collection of essays gathered together by David Lindberg and Ronald Numbers, constitutes perhaps the best exposé of the inadequacies of the warfare thesis.⁵

Indeed we might well ask why it was that the conflict model flourished as it did for so long, and wonder whether there were not social interests being served by its adoption. A fuller understanding of which individuals and groups constructed the warfare model, and why, would certainly be enlightening.⁶ Of course the disintegration of the conflict interpretation does not mean that there have never been conflicts between Christianity and science; the latter-day feuds between creationists and evolutionists should put "paid" to that suggestion. No; the point is, rather, that the warfare metaphor does not give us a fine enough tool for doing good historiographical work; more, it actually gives a distorted view of the relationship.

The inadequacies of the conflict model notwithstanding, there have been those who remain loathe to abandon the language of antagonism altogether. Neil Gillespie, for instance, suggests that the history of nineteenth century science must be interpreted in the context of a conflict between two philosophical systems or *epistemes*, as he calls them, namely, between creationism and positivism. At the heart of the issue, therefore, was a philosophical engagement between those advocating a naturalistic scientific methodology and those retaining ideas of supernatural intervention.⁷ Thus Frank Miller Turner has urged that we must retain the notion of *competition* if we are to understand the nineteenth century debates.⁸ His argument is that there was a competition for cultural power in society between the old-fashioned clerical sage and the new thrustful scientific professional; in other words a conflict not between science and theology, but between scientists and theologians.

The idea is that during the Victorian era cultural power progressively passed out of the hands of one elite—the clergy, and into the hands of a newer elite—the professional scientist. When people encountered agricultural or medical or social problems they progressively turned to the scientific “experts,” rather than to prayer or the church. So scientific discourse became just one more arena in which cultural, rather than cognitive, interests were fought out. What this exegesis does for us then, is to focus our attention on the social dimensions of the encounter and if it perhaps treats “knowledge claims” as rather too much an epiphenomenon of society, it does nonetheless provide a helpful corrective to overly intellectualist analyses.

While the social struggles of scientists and clergymen have thus attracted historical attention, there have been those appealing for the expunging of violent talk altogether and calling attention to the *cooperation* science received from theology. Those sharing this version of the story look to such commentators as Hooykaas, Dillenberger, Hill, Mer-ton, Foster, and Russell, to name but a few, as laying out the basic historical and philosophical groundwork. For the nineteenth century, Jim Moore’s monumental treatise, *The Post-Darwinian Controversies*, drew attention to the ease with which those of a Calvinist disposition absorbed the Darwinian shock waves.⁹ Indeed Moore went so far as to claim that the theologically orthodox imbibed more pure Darwin than did those of liberal doctrinal

persuasion because, among other things, their benign social philosophies supposedly lacked the harsher tones of Calvinism. Calvinists, the argument goes, found the vocabulary of selection and struggle less unnerving than did liberals. Whether evangelical benediction on evolution was quite so exclusively restricted to those of Calvinist outlook is, I think, perhaps less certain than has been thought; but for the moment I merely want to observe that the language of cooperation has been engaged as providing another route into the territorial zone between science and Christianity.

Despite the different emphases that each of these historiographic perspectives has brought they are united in speaking of an encounter or a relationship between two different spheres of thought and action, namely the religious and the scientific. It is precisely the questioning of this sort of conventional bifurcation that lies at the heart of the final historiographic strategy that I want to itemize. This is the idea of *continuity* between scientific and religious belief-systems that has been the subject of numerous articles from the pen of Robert M. Young.¹⁰ Young’s thoroughly Marxist conviction is simply that both science and religion are socially sanctioned ideologies. In his reading, the nineteenth century debate about man’s place in nature is fundamentally the story of the substitution of a religious theodicy by a scientific one; in both, the status quo is legitimated, first by talk of divine law or natural theology, and then by the language of natural law or natural selection. Science, like religion, merely acts to support principles of social conformity.

Indeed when one looks at the rhetoric on the lips of leading scientific publicists like Huxley with talk of “lay sermons,” “scientific priesthood,” “the church scientific,” and “molecular teleology,” Young’s arguments seem to have much to commend them. Science here seems to occupy the role of a naturalized natural theology. Values are earthed no longer in the supernatural realm but in the all too mundane world of nature. And this naturalization of values is achieved through the sacralization of science. Certainly Young’s thesis is open to criticism on several grounds: natural theology, for example, was far from a coherent, unified context and its advocates used it for a diverse range of social prescriptions.¹¹ But Young’s portrait does, nevertheless, direct our attention to the socio-political uses to which both science and religion can be put. Readers of the contemporary debates between crea-

tionists and evolutionists cannot fail to notice how frequently social, moral and political agendas feature in the rhetoric.

It is plain, then, that a variety of interpretative models have been advanced to conceptualize the historical relations between science and Christianity. In my view no one of them has finally sewn up the case. Rather, it seems to me that each of them has something to tell us. For it would be just as foolish to interpret the relations between science and Christianity as solely antagonistic as it would be to deny that there have been skirmishes, or to assume that cognitive claims are entirely reducible to society as to ignore the social dimension altogether.¹²

Encounters

Evaluations of the more specific relationship between evangelicals and evolution theory are many and diverse. Some see opposition to the Darwinian formula as the typical evangelical response. Indeed Jon Roberts significantly entitles the relevant chapter of his recent excellent survey, *Darwinism and the Divine in America*, "Get thee hence, Satan."¹³ By contrast I have found what I consider to be vibrant traditions of evangelical evolutionism on both sides of the Atlantic. In all probability these differing judgments reflect the samples we each have chosen to illustrate the case. Still, evolution theory found both supporters and detractors within the evangelical community. What value there would be in embarking on a head count to quantify these diversities I leave for others to judge. Of course most of the writing on this topic has focused on evangelical intellectuals, and I shall say something about this in due course. But for the present it might help to illustrate the range of reaction by looking briefly at some examples.

Undoubtedly the best-known evangelical opponent of the Darwinian formula when it first appeared was Charles Hodge who roundly condemned Darwinism as atheism.¹⁴ As I see it, Hodge came to this judgment on the basis of a specific *definition* of Darwinism. For him it was neither evolutionary change, nor species transformation, nor a long earth history; rather it was an anti-teleological account of organic history. So it was because Darwin had had no recourse to design, not because evolution contravened a literal reading of the early Genesis narratives, that Hodge condemned his theory as tantamount to atheism. Accordingly, Hodge could—

quite consistently in his own terms—describe the Harvard botanist Asa Gray as an evolutionist, but deny that he was a Darwinian because of his Christian commitment to a designed universe. On this basis, to reject Darwinism certainly did not mean to oppose evolution.

Hodge's repudiation of the Darwinian theory was thus, I believe, on philosophical grounds rather than on exegetical considerations. Indeed it may well be that Hodge's anti-Darwinian stance was actually much closer cognitively to the pro-evolutionary teleology of figures like James McCosh and B.B. Warfield than might at first be imagined. Either way, because the design argument was part of the

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very fabric of evangelical theology in the period, any perceived assault on this doctrine would be condemned. Thus in the writings of Robert Dabney from the Southern Presbyterians, the same Hodge-like arguments were clearly heard. So even if, as Roberts argues, the inerrancy of scripture was the key issue for many, it is equally true that among both opponents and defenders of evolutionary theory, the question of design was crucial.¹⁵

The Idea of Design

When we turn to those conservative Protestants who felt that they could marry their evangelical faith to some version of evolution, we find that it was their capacity to reconceptualize the idea of design on more holistic, idealist terms that was significant. For if indeed Darwin had dealt the death-blow to natural theology in the Paley mold, that certainly did not mean that other less utilitarian versions were unable to withstand the challenge. Accordingly we find a broader conception of teleology in the writings of figures like James McCosh, B.B. Warfield, A.A. Hodge, and others in the Princeton succession who, with varying degrees of enthusiasm, supported evolution. Warfield was crucial, particularly in view of his architectonic defense of biblical inerrancy. For Warfield, there just was no

inconsistency between defending the propriety of evolution, with minimal divine intervention, and adhering to an inerrantist biblical theology. Too often commentators approach historical documents assuming that such an alignment is just impossible and thereby issue *a priori* judgments with little historical warrant.

These conceptual drifts, it should be said, were not restricted either to Princeton theology or to America. Beyond the confines of New Jersey, George Frederick Wright, at least in his early days,¹⁶ and Asa Gray both sought for ways of preserving teleology in the wake of the Darwinian assault, as did James Dana at Yale. Certainly the strategies they followed were diverse; but their statements reveal nonetheless how crucial the design argument was within evangelical ranks. In Britain support for the renovation of the design argument was to be found among such Scottish theologians as James Orr, James Iverach, Henry Drummond, and George Matheson, all of whom looked for an evolutionary teleology. In some ways the title of A.B. Bruce's book, *The Providential Order*, exemplified this intellectual trajectory within Scottish theology.

From my comments thus far it might well seem that my examples, drawn as they are largely from the Reformed tradition, support the contention that Calvinists found it easier than other evangelical groups to make their peace with Darwin. And indeed, as I have already said, this view has of late achieved something of the status of conventional wisdom. But this judgment ignores the not insubstantial body of Wesleyan support for evolution. Important here are the writings of the Michigan geologist Alexander Winchell who assumed the role of purveyor of science to the Methodist fraternity in the northern states through his contributions to the *Methodist Quarterly Review*. Here, and elsewhere, Winchell made it plain that he espoused the theory of evolution albeit in its Neo-Lamarckian guise, and that he was convinced that it strengthened the teleological argument in its homological form. Nor was Winchell a lone voice among Wesleyans. The distinguished editor of the journal, Daniel Whedon, did much to keep the Wesleyan fraternity abreast of the latest findings of science and philosophy and kept an open mind on evolution.¹⁷

Having suggested the range of responses to Darwin's theory in the decades after it first appeared, I should pause to comment. Mention of Winchell's

views provides a useful point of departure. For while Winchell enjoyed a distinguished career in American science and religion, his curriculum vitae was not without its black spots. In 1876 he had accepted a position at Vanderbilt that enabled him to teach there for three months of the year while retaining his links with Syracuse University. But there he ruffled the feathers of Bishop Holland McTyeire, chairman of the board of trustees, and was summarily dismissed from his post. Whether his departure was because of his advocacy of evolution or because of his espousal of the Pre-adamite theory in which he suggested that Adam was descended from black forebears, it is clear that some scientific-religious issue was at the heart of it. And this episode serves to remind us of the regional geography of American Christianity. For while Winchell could not be tolerated in Southern Wesleyanism (nor indeed could James Woodrow whose evolutionary views were outlawed by the Southern Presbyterian General Assembly), he was allowed much greater freedom of expression among his Northern coreligionists. So in our endeavor to understand "the" evangelical encounter with evolution theory, we should remember the regional factor. No doubt a biblical literalism among Southern evangelicals defending the holding of slaves had a part to play in the story.

The centrality of design arguments in these late nineteenth century debates also needs further elaboration. Because the language of "providence," "technology," and "design" so regularly appear in evangelical assessments of evolution, it has been widely assumed that the preservation of natural theology, perhaps for its potential social agenda, was the chief concern of those evangelicals keen to offer the hand of friendship to evolution. A more careful scrutiny of the data, however, reveals that the design argument manifested itself in two distinctive modes. Natural theology, as conventionally deployed, was essentially the argument *from* design, namely a foundationalist attempt to base knowledge of the existence of God on rational, empirical foundations. From observed design, in the world, apologists would argue to divine existence. By contrast there were those who advanced an argument *to* design, namely that belief in a designed world was a consequence of a prior belief in God. In this case the idea of design was rather more a *confessional* claim than a *philosophical* argument, and this

urges on us a greater awareness of the different theological uses to which the vocabulary of design could be put.¹⁸

A greater awareness of the fine structure of teleological discourse may help us understand evangelical reactions to evolution theory for two different sets of reasons, one cognitive, the other social. First, the contrasting philosophical stances that underlay design arguments reveal just how crucial teleological thinking was to doctrinally diverse evangelicals. If they disagreed on apologetic strategy and on the soteriological potential of natural theology, they could still agree on the necessity of retaining the notion of a designed world. Moreover, we can now see how those unsympathetic to the traditional natural theology task could yet remain committed to the argument *to* design, and thereby hold that assaulting design was tantamount to assaulting Scripture. Too many commentators have assumed that when evangelical opponents of Darwin described the theory as unscriptural, they were motivated by exegetical rather than philosophical considerations. In fact, many described the theory as unscriptural just because it opposed design. Whichever, I have the suspicion that how evangelicals thought about design conditioned their responses to Darwin far more than whether their theology was Calvinist or not.

The Privatization of Providence

The changing fortunes of the idea of design needs to be interrogated for a second set of reasons, namely, changing social conditions. So, when the irrepressible optimism of the nineteenth century evaporated before the chilly winds of early twentieth century pessimism, the doctrine of Providence could scarcely survive unimpaired. To be sure, the vocabulary of Providence survived in the more *intimate* world of the individual's spiritual life; Christians still felt that their personal biographies were controlled by God's providential care. But it was far harder to detect the *public* hand of Providence in the increasingly godless and chaotic world of post-war America. So might it not be that with the decline in the doctrine of Providence, the idea of the divine superintendence of evolutionary history receded before a more supernaturalist emphasis on miraculous intervention? At the very least it would seem worthwhile asking whether the vicissitudes of providential theology had any influence on the

changing evangelical response to evolutionary biology.

By focusing on the significance of the doctrine of Providence I certainly do not mean to imply that this was the only theological factor in the debate. And yet because ideas about Providence are implicated in both the cognitive and the social domains, they provide an especially useful arena in which to apply the insights of the different historiographical models we earlier examined. How individuals thought of design determined whether their encounter with evolution would be hostile or cooperative; the kinds of social policy that different theological groups distilled from the doctrine of Pro-

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vidence conditioned whether they were in cultural competition with, or enjoyed ideological continuity with, the prevailing scientific culture.

Eschatology

How evangelicals conceived of the doctrine of providence and the sorts of social philosophy they espoused were also bound up with a closely related set of doctrines going under the rubric of "eschatology." And here I want to suggest that responses to evolution theory were conditioned by the eschatological stance adopted by commentators. Postmillennialists, like Warfield, with their exuberant confidence in social progress, were sympathetic to the idea of a gradual transformation of society, and so it is not surprising that they would find the transformism of evolution theory congenial. By contrast, the resurgence of premillennialism, at least in its dispensationalist form, introduced a much narrower literalism into biblical hermeneutic and a more somber note of social pessimism into evangelical rhetoric; the outcome was a theology with a far more robust emphasis on intervention than on providential superintendence of the world order. Accordingly premillennialists, like George McCready Price, found ideas of evolutionary transformism repugnant on almost every front:

social, scriptural, and scientific. Thus his pamphlet on "Poisoning Democracy: A Study of Present-Day Socialism" was described by one partisan as showing "that the conditions prevailing today are due largely to the acceptance of various socialistic and evolutionary theories termed 'New Theology.'" ¹⁹ And if here we find displayed Price's twin political and scientific phobias, it is not surprising that they were all-of-a-piece with his eschatological emphases:

The most timely truth for our day is a reform which will point this generation of evolutionists back to Creation, and to the worship of Him who made the heaven and the earth. Other reforms in other days have been based upon various parts of the Bible here and there. The reform most needed in our day is one based on the first part of the Bible—and upon the last part also. For he who is looking for the return of his Lord, and for the imminent ushering in of the new heaven and the new earth, must necessarily believe in the record of the first part of the Bible, which tells of the Creation of the earth. Surely it is useless to expect people to believe in the predictions given in the last chapters of the Bible, if they do not believe in the record of the events described in its first chapters. ²⁰

If my suspicions are correct, it seems that attitudes about the end times had a greater impact on thinking about origins than beliefs about election or divine sovereignty or any of the doctrinal particulars generally associated with Calvinism. And this is further confirmed, I believe, in the following words published by the dispensationalist theologian John F. Walvoord in 1975:

In the last quarter of the nineteenth century, Darwinian evolution began to penetrate the ranks of postmillenarians. Liberals hailed the theory of evolution, with its easygoing optimism, as the true divine method for bringing in the predicted golden age. Recognizing this as a departure from the faith, more conservative postmillenarians and amillenarians attempted to refute the new evolutionary concept. One of the means used was the calling of great prophetic conferences which were held in the last part of the nineteenth century and continued into the twentieth.

As amillennialism and postmillennialism have little to offer by way of refutation of the concept of evolutionary progress, these prophecy conferences soon became dominated by premillennial interpreters. Many of the doctrines which

later became an essential part of premillennial theology were introduced into the discussion ²¹

The Popular Response

From what I have been saying so far, it seems that evangelical encounter with evolution was bound up with geographical location, social philosophy, providential outlook, and eschatological stance. At the same time, these assessments are based rather exclusively on the intellectual response to the theory. At most we know how perhaps a few dozen evangelical intellectuals felt about Darwinism. A thorough study of the popular literature, therefore, would certainly be enlightening. Still, my impression is that many churchgoers were spooked by evolution talk as they imbibed with the rest of popular culture the notion that "Darwinian man, though well behaved, At best is only a monkey shaved."

If this is so, it raises fundamental questions about the relationship between evangelicalism's intellectual leadership and its popular base. Why was it that on *this* issue laymen and women failed to listen to their own theological spokesmen? Was it that the anti-religious rhetoric of certain scientific publicists was just too persuasive? After all, as often as not, when battle was engaged it was initiated by those who wanted to wield science in the service of secularism. Huxley and others were only too ready to tell Christians what they could and could not believe about evolution, and were on occasion the first to raise cries of heresy. ²² Or was there a more fundamental breach between the sophisticated theologizing of the "experts" and the humble faith of ordinary churchgoers? Whichever, it is precisely this sort of dislocation that has led some to question the value of the label "evangelical" not only to bridge the chasm between the popular and the scholarly, but also to describe such widely diverse Protestant groups as Reformed Calvinists and Premillennial pietists. Certainly the differences between Warfield and, say, Luther T. Townsend on the evolution question make facile talk about *the* evangelical angle on evolution theory more than a little problematic.

The relative importance of these diverse factors—geographical, sociological, theological—cannot be adjudicated here. But certainly in the wake of the demise of Providential theology, the spread of social pessimism, and the rise of a populist fundamentalism, a more militant anti-evolution crusade

emerged among conservative Protestants during the early decades of the twentieth century. A full history of the creationist movement is, of course, a real *desideratum*, and to speculate about the early sources of the movement is only to invite censure.²³ Still, as I see it, the anti-evolution crusade of the 1920s emerged from two rather different sources. Initially there was the role played by George McCready Price, a Seventh-day Adventist whose creationist science was born principally of his strongly literalistic, premillennialist, and inerrantist biblical hermeneutic.²⁴ Not surprisingly, the movement gained most ground among Missouri-Synod Lutherans, Seventh-day Adventists, Jehovah's Witnesses, and various dispensationalist groups.²⁵

But there was another source of dissatisfaction with evolution. William Jennings Bryan, famous for his participation in the Scopes monkey trial and three-times Democratic candidate for the United States presidency, basically objected to Darwinism because of its repugnant moral implications. Accordingly he urged that "tax-payers should prevent the teaching in the public schools of atheism, agnosticism, Darwinism, or any other hypothesis that links man in blood relationship with the brutes If it is contended that an instructor has a right to teach anything he likes, I reply that the tax-payers must decide what shall be taught. The hand that writes the pay check rules the school."²⁶ Darwinism, he maintained, removed any stimulus to righteous living. Moreover, he was revolted by the Social Darwinism that he believed he could detect among the German National Socialists. Disturbed by Germanic jingoism and militarism, and profoundly committed to Democratic politics, Bryan was happy to throw his weight behind the fundamentalist *cause célèbre*, and so found himself reflecting grass roots opinion when he acted for the prosecution in Dayton, Tennessee.²⁷ In private, we now know, he confessed that he had no objection to evolution *before* the advent of the first human pair.²⁸

There is clearly insufficient space here to continue the story through the reaches of the twentieth century. All that needs to be said is that the anti-evolution sentiments aired in the 1920s, along with their diverse ideological motivations, were to come to full fruition with the emergence of the various creationist movements that have mushroomed in our own day. The internal feuds between various crea-

tionist factions on scientific, social, strategic, and other grounds have been explored in various publications. At the same time the older tradition of evangelical rapprochement with evolution has continued to flow in several tributaries, notably within the American Scientific Affiliation and the Research Scientists' Christian Fellowship (now Christians in Science) of the British U.C.C.F., and with the blessing of such elder statesmen as John Stott. Yet for all the differences these evangelicals display in their assessment of evolution as a scientific theory, they are substantially united in their uneasiness about the extensions of Darwinian thinking into social, ethical and philosophical discourse.

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that can be paid for the
abuse of metaphor.*

Accordingly I propose to conclude with some observations on these matters.

Metaphors And Myths

So far I have reflected on some evangelical attitudes to evolution. This has been, essentially, a historical exercise. Whether or not there *actually* are conflicts between evangelical theology and Darwinian claims is an entirely different question. Indeed it should perhaps be noted that some historians who have attacked the conflict interpretation of the history of the encounter—like Bob Young—readily concede that in fact there are many points of conflict between Christianity and the Darwinian *Weltanschauung*. Whether or not this is so depends very largely, if I might return to my initial point of departure, on just what is meant by Darwinism. If, as Bowler has it, Darwinism entails materialism, then friction with the Christian religion is surely bound to arise; if, to adopt the language of the neo-Darwinian synthesis, it is no more than a calculus for quantifying the relative reproductive success of populations, conflict with theology would hardly seem to be inevitable here. But rather than pursue this definitional task, an endeavor with which I have already expressed dissatisfaction, and thereby make sweeping judgments, I will consider some *particular* claims made by evolutionary partisans that seem to jar with Christian commitments.

In my view at least some of these philosophical

extensions of the evolutionary idea arise from the structure of Darwin's own theory. A moment's reflection on the very term "natural selection" suggests that there is a metaphor hiding somewhere in the very notion. Does nature select? As it turns out, Darwin's theory—in keeping with scientific theories in general—was based on metaphorical thinking.²⁹ It was indeed Darwin's lifelong study of pigeon breeding that had brought him to see that new variations could easily be produced under the control of a talented breeder. Here was his metaphor. He looked at nature *as if* it were a breeder, and thereby developed an analogy between the breeder's selective activity and natural selection. It certainly was a potent analogy and as long as Darwin could remember that he was comparing an *artificial* process with a *natural* one, it had great explanatory power. Soon, however, for all his undoubted terminological care, Darwin himself began to slip away from the metaphorical underpinning of the mechanism and to speak of Natural Selection (with the capital N) in thoroughly anthropomorphic terms. "Natural Selection," he avowed, was "daily and hourly scrutinizing, throughout the world, every variation... rejecting that which is bad, preserving and adding up all that is good."³⁰ And herein, I believe, is one of the mainsprings of the later personifying, even deifying, of natural selection.

History shows, I think, the high price that can be paid for the abuse of metaphor. Allow me to add that this is not meant to deny the cognitive fertility of metaphor in science. Indeed it is questionable whether scientific models are not intrinsically metaphorical. The problem arises, however, when their metaphorical status is mistaken for literal truth. To use a metaphor is to *make believe* that something is the case; to use literal talk is to *believe* that it is; to confuse these vocabularies is to mistake the model for the thing modeled, the theory for the fact, the myth for history. And in the present case, Darwin's metaphor has given birth to a number of "myths" that have enjoyed the support of prestigious scientific names. Let me itemize just a few of these.

The first is what is conventionally termed "evolutionary ethics."³¹ The argument here is that the concept of survival can provide a creed by which moral conduct may be judged; behavior which tends towards survival is good, the converse bad. Such schemes sometimes explain the qualities of altruism, self-sacrifice, and cooperation by regarding the

group rather than the individual as the basic unit of evolutionary selection and argue that gregarious animals practicing mutual aid stand a much better chance of corporate survival. The standard argument against this interpretation is, of course, that it commits the naturalistic fallacy, namely that it moves from an *is* to an *ought*, from the descriptive to the prescriptive, from the indicative to the imperative. Even if we humans have evolved by a process of mutation and selection, and even if our ethical behavior has an evolutionary history, these processes in themselves do not tell us what it *means* to be an ethical animal. Evolution at most can only be a description of the mechanism by which creatures displaying moral behavior arrived on the scene; it can hardly provide a code by which their moral choices can be governed.

Recently, however, Robert Richards, believing that natural selection is the underwriter of morality, has set out to re-formulate an evolutionary account of ethics that escapes the naturalistic fallacy.³² His strategy therefore merits closer scrutiny. Richards' proposal goes something like this. From the proposition "x causes y" we can legitimately infer a second proposition "since x, y ought to occur." Thus one could assert that "If I am a member of the university I ought to prepare classes adequately" and thereby derive an "ought" from an empirical state of affairs. This procedure might be termed, I think, an argument from proper function. A university teacher who is functioning properly will prepare lectures well. If human beings have evolved to behave altruistically—which Darwinians claim can be empirically established—well then, to function properly as humans they ought to behave altruistically.

To me, this whole way of proceeding looks suspiciously like verbal sleight of hand. For the "ought" in question here seems more a functional redescription than a moral prescription. On Richards' reading it would seem that the statement "dogs ought to bark" is fundamentally as much a moral judgment as a description of the canine condition. Whichever, one thing is clear: a malfunctioning (in this case selfish) human cannot be held blameworthy for his or her state. Richards indeed acknowledges as much when he concedes that "an individual . . . cannot be held responsible for his actions"; a murderer is no more guilty it seems than a human born without sight. To scrub out notions

of responsibility and accountability, it seems to me, is to extract the teeth of moral discourse altogether.

A similar propensity to mystify nature is evident in the humanistic celebration of what can be called evolutionary progressivism—the idea, now expanded into a comprehensive philosophy of history, that evolution somehow guarantees bio-social progress. Pierre Teilhard de Chardin and Julian Huxley, for example, postulated an internal telos intrinsic to the evolutionary process that is moving irresistibly toward some grand cosmic goal. This self-same idea is dramatically revealed in the speculations of the geneticist Theodosius Dobzhansky for whom natural selection is a fully creative agency just like the composer of a symphony or the writer of a poem. The philosopher Marjorie Grene has not minced her words in describing such conceptions as nonsense. To compare the selective processes in nature with the composition of Milton's *Paradise Lost* or Beethoven's *Eroica*, she says, is to get into a dreadful muddle. Selection, being opportunistic on every occasion, may explain the survival of whatever survives; but it can hardly be seen as contriving to move towards a goal in anything like the way an artist's creativity lies behind the creation of a work of art.³³

Then again some votaries of evolution have claimed that natural selection may serve as a paradigm for the growth of knowledge. Put simply, proponents of evolutionary epistemology argue that claims to knowledge may be judged by survival; the better a theory is, the more likely it is to survive. But surely this is not so. Bad theories frequently do survive for long periods. The ability of scientific methods to get at truth *in the long run* would seem to be a very different sort of process from the short-term mechanisms of natural selection. Moreover, if truth just *is* what the natural selection of ideas produces, namely what survives, problems loom larger and larger. For one thing, mutually exclusive ideas might be fitted for survival in different environments: what is fitted to the environment of evolutionary biologists is one thing, to the Institute for Creation Research quite another. Again the theories suited to the environment of voodoo practitioners is different, I dare say, from that of the American Medical Association. Is truth, then, just what is fitted to each environment? Surely not. As Marjorie Grene again puts it, "When we say we *know* something we are not saying it is true because

it will survive but contrariwise, it will survive because it is true." If anything survival is not the cause of truth but its condition.³⁴

Finally, there are those who maintain that everything in this multifaceted world can be reduced to its material constituents or genetic formula. When Julian Huxley tells us that in "the evolutionary pattern of thought there is no longer either need or room for the supernatural"; when G.G. Simpson affirms that "man is the result of a purposeless and materialistic process that did not have him in mind"; when Carl Sagan claims that the "cosmos is all there is or ever was or ever will be," we can be pretty sure we are talking philosophy of religion, not

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science. It's just hard to see how these claims can be tested by the normal procedures of scientific analysis. Here, I believe, as with the other "myths" I have just itemized, evangelicals and others, whether creationists or evolutionists, are quite within their epistemic rights to challenge the adequacy of the proposals on offer.

Conclusion

When we speak of the evangelical encounter with evolution it may well be that we are speaking of abstractions. In every case we need to ask what we mean by "evangelical." Do we mean the encounter between evangelical *theology* and evolution theory, and if so which brand? Again, do we mean evangelicals in the academy or in the pew, and is there a difference? And precisely the same questions apply to the idea of evolution. Do we mean species transformation, or naturalistic causal explanation in organic history, or natural selection, or a long-earth history, or goodness knows what? I have already mentioned that much ink has been spilt in the effort to eek out the essential nature of Darwinism. But even if that cognitive task could be satisfactorily resolved, we would be left with the historical question of what people *thought* Darwinism was. I have the suspicion that most religious writers on the subject in the late nineteenth and early

twentieth centuries, and perhaps still, just equated evolution with Darwinism, but as I have indicated, that doesn't help us much.

What we can conclude, however, is that there were a wide variety of evangelical reactions to evolutionary biology. And this should not only prevent evangelical triumphalizing of both the creationist and evolutionist variety, but also curb the secularist rhetoric of those who tell us that Christianity has always stood in the way of scientific progress.

END NOTES

- 1 This paper is based on a presentation made at the Consultation of Evangelicals and Public Life held in Philadelphia, May 1989 and sponsored by the Institute for the Study of American Evangelicals and the Pew Charitable Trust.
- 2 David L. Hull, "Darwinism as a Historical Entity: A Historiographic Proposal," in David Kohn (ed.), *The Darwinian Heritage* (Princeton, N.J.: Princeton University Press, 1985), 773-812.
- 3 This implies that from a historical point of view it is unhelpful to say that so and so can or cannot be described as a Darwinian or an evangelical because he or she held or didn't hold a particular view. Indeed too frequently those who pass such judgments have their own ideological interests to advance.
- 4 See the recent assessment in David C. Lindberg and Ronald L. Numbers, "Beyond War and Peace: A Reappraisal of the Encounter between Christianity and Science," *Church History*, 55 (1986): 338-354.
- 5 David C. Lindberg and Ronald L. Numbers (eds.), *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley: University of California Press, 1986). Recent reassessments of the Huxley-Wilberforce encounter are available in J.R. Lucas, "Wilberforce and Huxley: A Legendary Encounter," *The Historical Journal*, 22 (1979): 313-330; J. Vernon Jensen, "Return to the Wilberforce-Huxley Debate," *British Journal for the History of Science*, 21 (1988): 143-160.
- 6 See the valuable discussion in Colin A. Russell, "The Conflict Metaphor and Its Social Origins," *Science and Christian Belief*, 1 (1989): 3-26.
- 7 Neil Gillespie, *Charles Darwin and the Problem of Creation* (Chicago: University of Chicago Press, 1979).
- 8 Frank Miller Turner, "Rainfall, Plagues and the Prince of Wales: A Chapter in the Conflict of Religion and Science," *Journal of British Studies*, 13 (1974): 46-65; Frank Miller Turner, "The Victorian Conflict between Science and Religion: A Professional Dimension," *Isis*, 69 (1978): 356-76.
- 9 James R. Moore, *The Post-Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870-1900* (Cambridge: Cambridge University Press, 1979).
- 10 Young's major pronouncements on the theme are now drawn together in Robert M. Young, *Darwin's Metaphor. Nature's Place in Victorian Culture* (Cambridge: Cambridge University Press, 1979).
- 11 Thus, for example, John Hedley Brooke, "The Natural Theology of the Geologists: Some Theological Strata," in L.J. Jordanova and Roy Porter (eds.), *Images of the Earth: Essays in the History of the Environmental Sciences* (Chalfont St. Giles: British Society for the History of Science, 1979), 39-64.
- 12 I readily admit that each of these claims would have to be argued through in detail. My aim here, however, is just to declare my own historiographical stance.
- 13 Jon H. Roberts, *Darwinism and the Divine in America: Protestant Intellectuals and Organic Evolution, 1859-1900* (Madison, WI: University of Wisconsin Press, 1988).
- 14 See the discussion in David N. Livingstone, *Darwin's Forgotten Defenders: The Encounter between Evangelical Theology and Evolutionary Thought* (Grand Rapids: Eerdmans; Edinburgh: Scottish Academic Press, 1987).
- 15 See David N. Livingstone, "The Idea of Design: The Vicissitudes of a Key Concept in the Princeton Response to Darwin," *Scottish Journal of Theology*, 37 (1984): 329-357.
- 16 See Ronald L. Numbers, "George Frederick Wright: From Christian Darwinist to Fundamentalist," *Isis*, 79 (1988): 634-645.
- 17 In Britain precisely the same conceptual maneuvers are to be found in the work of another Wesleyan, William Henry Dallinger, a distinguished microscopist. Several contributors to the Methodist serial the *Northwestern Christian Advocate* deployed similar tactics. See *Darwin's Forgotten Defenders*, 135-137.
- 18 This distinction is crucial to the recent analysis by Jonathan Wells, *Charles Hodge's Critique of Darwinism: An Historical-Critical Analysis of Concepts Crucial to the 19th Century Debate* (Lewiston: Edwin Mellen Press, 1988).
- 19 Cited in advertisement appended to William Jennings Bryan, *In His Image* (New York: Fleming H. Revell Company, 1922).
- 20 George McCready Price, *Science and Religion in a Nutshell* (Washington, D.C.: Review & Herald Publishing Association, 1923), 13.
- 21 John F. Walvoord, "Posttribulationism Today," *Bibliotheca Sacra* (1975): 16-24. The recent association between creationism and postmillennial theonomism requires further investigation. Suffice to note that there are those who believe that the eschatological structure of theonomism is much closer to dispensationalism than to nineteenth century postmillennialism.
- 22 See, for example, Sheridan Gilley and Anne Loades, "Thomas Henry Huxley: The War between Science and Religion," *Journal of Religion*, 61 (1981): 285-308; Ruth Barton, "Evolution: the Whitworth Gun in Huxley's War for the Liberation of Science from Theology," in David Oldroyd and Ian Langham (eds.), *The Wider Domain of Evolutionary Thought* (Dordrecht: Reidel, 1983), 261-287.
- 23 Professor Ronald Numbers of the University of Wisconsin-Madison is preparing a full study of the creationist movement. It is certain to be the standard work on the subject for years to come.
- 24 By the mid 1920s Price had found his way into the pages of the *Princeton Theological Review* which had been under Warfield's editorial care until his death in 1921. Had Warfield still been alive in 1926 it is doubtful whether Price's truculently anti-Darwin piece would have appeared in that serial.

- 25 See the discussion in Ronald L. Numbers, "Creationism in 20th Century America," *Science*, 218 (1982): 538-544.
- 26 William Jennings Bryan, *In His Image*, 122.
- 27 See Ferenc Morton Szasz, *The Divided Mind of Protestant America* (University: University of Alabama Press, 1982), 106-135; John Durant, "Darwinism and Divinity: A Century of Debate," in John Durant (ed.), *Darwinism and Divinity* (Oxford: Basil Blackwell, 1985), 24, 26.
- 28 See Numbers, "Creationism" (note 25).
- 29 See David N. Livingstone, "Evolutions as Metaphor and Myth," *Christian Scholar's Review*, 12 (1983): 111-125; Young, *Darwin's Metaphor* (note 10); James A. Secord, "Nature's Fancy: Charles Darwin and the Breeding of Pigeons," *Isis*, 72 (1981): 163-186
- 30 This extract is quoted with a fuller discussion of Darwin's metaphors in my *Darwin's Forgotten Defenders*, 47.
- 31 See A.G.N. Flew, *Evolutionary Ethics* (London: Macmillan, 1967).
- 32 See Robert J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: University of Chicago Press, 1988), appendix 2. I have discussed this in more detail in my essay review, "The Darwinian Diffusion: Darwin and Darwinism, Divinity and Design," *Christian Scholar's Review*, 19 (1989): 186-199.
- 33 Marjorie Grene, "Darwin and Philosophy," *Connaissance Scientifique et Philosophie Colloque* (Brussels, 1975), 133-145.
- 34 Grene, 144. Since my own work falls squarely within the history of science I may perhaps be permitted to make some observations on the recent use of natural selection as historiography. This idea has recently found support from David Hull and Robert Richards. The heart of natural selection historiography lies in an extended analogy between biological species and conceptual systems: both emerge and develop in particular environments and their success or failure is contingent on their adaptedness to a host of enveloping factors. The parent metaphor moreover—perhaps all too appropriately—seems to have unlimited fecundity and it has given birth to notions like intellectual niche, cognitive migration, robust conceptual system and so forth. If the claim here is simply that historians of science should trace the changing fortunes of theories, both the successful and the unsuccessful, in a variety of intellectual and social contexts, then the natural selection model is decorative, illustrative even, but not foundational. I would go further and say that as an historiographic strategy, it has much to teach us. But if we have here a claim about knowledge and truth, as the evolutionary epistemologists would have us believe, that is a different story. In his most recent book on the subject, *Science as a Process: An Evolutionary Account of the Social and Conceptual Development of Science* (Chicago and London: University of Chicago Press, 1988), David Hull emphasizes that natural selection historiography is not to be construed as evolutionary epistemology.