DIALOGUES WITH DARWIN

Darwin in Scotland

David Fergusson



Institute for Advanced Studies in the Humanities
The University of Edinburgh

Darwin's bicentenary

2009 marks the bicentenary of Charles Darwin's birth on 12 February 1809, and the 150th anniversary of the publication of *On The Origin of Species*, on 24 November 1859. Darwin's student years in Edinburgh were an important period in his intellectual formation: here he encountered the fruits of the Scottish Enlightenment, from the revolutionary geological theories of James Hutton to important advances in medical theory and practice, and adventurous developments in theological and philosophical thought fostered in the University and the City.

In conjunction with the University of Edinburgh and other Scottish and UK-wide academic and scholarly institutions, the Institute for Advanced Studies in the Humanities (IASH) joined the Edinburgh celebrations for the bicentenary by organising a series of "Dialogues with Darwin: Darwin and Edinburgh". The five symposia, held in the spring of 2009, explored aspects of his work in Scottish contexts including circumnavigation, anatomy, theology, and evolution itself. Together, these talks and discussions led by a series of international and local experts offer new angles for understanding Darwin as both a catalyst in the broader Enlightenment project and a model for its subsequent impact. From Patrick Geddes to Charles Bell to James Crichton-Browne, the Edinburgh connection offers a rich kaleidoscope of historical and intellectual links.

The speakers in the series were Professor Ian Duncan (University of California, Berkeley) on "Darwin, Circumnavigation, and the Aesthetics of World History"; Professor David Fergusson (University of Edinburgh) on "Darwin in Scotland";
Dr. Walter M. Stephen (former Chairman of the Sir Patrick Geddes Memorial Trust) on "Charles Darwin: Some Scottish Connections"; Dr. Gregory Radick (University of Leeds) on "Edinburgh, Enlightenment and Darwin's *Expression of the Emotions*"; and Revd. Dr. John Polkinghorne (St. Edmunds College, Cambridge) on "Evolving Creation". Each paper is published separately in this series of IASH Occasional Papers.

Darwin in Scotland

by

David Fergusson

Institute for Advanced Studies in the Humanities

The University of Edinburgh

2009

Fergusson, David

Darwin in Scotland

This series of occasional papers is published by

The Institute for Advanced Studies in the Humanities

The University of Edinburgh

2 Hope Park Square

Edinburgh EH8 9NW

Published November 2009

Copyright © David Fergusson 2009

All rights reserved. No part of this publication may be reproduced, stored, or transmitted in any form without the express written permission of the author.

ISSN 2041-8817

ISBN 978-0-9532713-5-1

IASH Occasional Papers, 11

About the Author

David Fergusson is Professor of Divinity and Principal of New College at the University of Edinburgh. Educated in philosophy and theology, he worked for several years as a parish minister in the Church of Scotland. Before returning to Edinburgh to his present position, he was Professor of Systematic Theology in the University of Aberdeen from 1990-2000. His research interests include issues in Christian doctrine, theological ethics and the history of Reformed theology, especially in its Scottish context. He has served as President of the Society for the Study of Theology (2000-2002) and is a director and editorial board member of the Scottish Journal of Theology. He has delivered the Cunningham Lectures in Edinburgh (1996), the Bampton Lectures in Oxford (2001), the Gifford Lectures in Glasgow (2008) and the Warfield Lectures (2009) in Princeton. He has also lectured in USA, Korea, Hong Kong and Japan, and served as President of the UK Association of University Departments of Theology and Religious Studies (AUDTRS) from 2005-8.

His publications include: *Blackwell Companion to 19th Century Theology* (Oxford: Blackwell, forthcoming); *Faith and Its Critics* (Oxford: Oxford University Press, 2009); *Scottish Philosophical Theology* (Exeter: Imprint Academic Press, 2007); *Church, State and Civil Society* (Cambridge: Cambridge University Press, 2004); *John Macmurray: Critical Perspectives* (New York: Peter Lang, 2002), co-edited with Nigel Dower; and *The Cosmos and the Creator: Introduction to the Theology of Creation* (London: SPCK, 1998)

Synopsis

Despite some strident voices on both sides of the debate, a consensus emerged amongst Scottish theologians in the last quarter of the 19th century that Darwinian evolution was consistent with a Christian account of the cosmos. Writers such as Robert Rainy, Principal at New College in Edinburgh, argued that the world was endowed by its Maker with a fruitfulness that enabled the emergence of increasingly complex states. This could be viewed in providential terms compatible with Scriptural themes of creation and redemption. In the theology of the ensuing years, a clearer delineation of the separate provinces of science and faith emerged. This was accompanied by more modest strategies of explaining evil and suffering in the world, alongside a turn to moral capacities as a distinguishing feature of human existence. What is perhaps surprising is that while evolution arrived without much fuss in late Victorian Scotland, there was a raging controversy over the application of methods of historical criticism to the Bible.

Darwin in Scotland

In assessing the impact of Darwinism upon Scottish intellectual and ecclesiastical life in the Victorian period, we need to reckon with the fact that it was only one of several issues that preoccupied scholars. Within the churches themselves there were more controversial issues such as biblical criticism, the problems surrounding establishment, liturgical reform, challenges to the authority of the Westminster Confession, and the emergence of a more progressive politics. Darwinian science was of course part of the mix, but we should not overestimate it in light of today's culture wars as the single big issue that dominated debate or haunted the public mind. In this essay, I shall tentatively argue the following.

First, Scottish theologians and philosophers were well positioned before 1859 to respond positively to the leading claims of Darwin's *Origin of Species,* especially the evangelical scholars who went out at the Disruption of 1843 to become a part of the Free Church. In particular, their awareness of trends in geology already disposed them to new scientific insights and to revisionist, symbolic readings of the Book of Genesis.

Second, despite some early signs of scepticism, incredulity and outright hostility, Darwinism quickly became accommodated by the leading theologians of Victorian and Edwardian Scotland,

numerous books being written around the subject. The same applies *a fortiori* to Scottish philosophers, whether they belonged to the older common-sense tradition or to the newer idealist school.

Third, what we find in all this is a cautious acceptance of some standard evolutionary claims circumscribed within a broader theological framework. The arguments presented here by Scottish writers can also be identified amongst Anglican scholars at the same time. For the most part, there is little difference discernible in the reception across the UK churches. Indeed, the connections that were made between theology and evolution in the period after 1859 are broadly similar to the standard moves on the science-religion interface today.

Several subsidiary claims also emerge from all this, although I shall have less to say about these. One such is a confirmation of James Moore's claim that there is no such thing as an essential Darwinism during the late 19th century. We have instead different readings of what constitutes Darwinism – Moore himself detects five possible constructions.[1] This might explain why some believed theology and evolution to be compatible while others, on both sides indeed, rejected this outright. A further result of the accommodation with Darwinism was that the domains of scientific and theological explanation were more sharply distinguished, with a clearer division of labour thereafter. The subsequent integration of science and theology is no longer as close as for

example in the early 19th-century worldview of Archdeacon William Paley.

Finally, following the lead of David Livingstone, I shall reflect on the lack of any major public spectacle surrounding Darwinism and what this entailed.[2] Scottish theology was consumed for much of the 1870s and 1880s by the William Robertson Smith controversy. This was primarily concerned with historical criticism of the Bible, rather than the challenge of evolutionary theory. There is a wonderful irony here. Robertson Smith's dismissal from his chair of OT in the Free Church College of Aberdeen enabled him to pursue with greater vigour his pioneering work in social anthropology. Partly as a result of this, evolutionary types of explanation were now attempted in the field of religion itself by scholars such as Tyler, Frazer and Müller – this was to have much greater ramifications for the claims of orthodox theology than many of the earlier accommodationist strategies realised. Had the Presbyterian scholars of Victorian Scotland then welcomed a Trojan horse into their midst?

The publication of *The Origin of Species* in 1859 is often represented as a watershed in the history of relations between science and religion. With the explanatory mechanism of natural selection, much that had previously been attributed to the operation of divine design could now be explained by purely natural causes. Almost overnight, God had become otiose.

Although not put about by Darwin himself, this view was encouraged by some of his followers most notably T. H. Huxley, famously dubbed 'Darwin's bulldog'. For Huxley, the teleology favoured by Paley, in which there was an adaptation of means to ends throughout creation could now be given a natural explanation. Organs had evolved with greater complexity, species had adapted to the environment, and changes had taken place in life forms under the pressure of natural selection rather than divine design. According to Huxley, what theology once assigned to providence, science now perceived only as natural order.[3] This fundamental opposition was affirmed also by some early voices on the theological side. John Duns, who taught natural science at New College in Edinburgh from 1864, scornfully dismissed the idea that one species could evolve from another. The evidence of geology as well as Genesis, he insisted, pointed to species having existed from the beginning of the world as distinct and separate.[4]

Of course, this was a tactical error of monumental proportions. The force of Darwin's long argument could not be resisted by such lampooning or a lazy appeal to a literal interpretation of Scripture. What Darwin had seen by 1859 was that his theory was a high-level hypothesis that formed a 'consilience of inductions', a notion articulated earlier by William Whewell, the Cambridge scientist. According to Whewell, the most powerful scientific theories are those that are confirmed by a

wide range of phenomena and which in turn can provide a single, elegant explanation of the same. Darwin's theory functions in this way. It is not a low-level hypothesis that offers an explanation of one type of phenomena. Instead, it connects with other assumptions about the age of the earth, changes in the earth's surface, the formation of rocks, the appearance of different sets of fossils in different strata, the physiological variations and similarities across species and so on. As a consilience of inductions, *Origin of Species* develops one long, extended argument across a wide range of phenomena, all of which eventually confirm a single unfolding story. Its simplicity and explanatory power quite quickly swayed the vast majority within the scientific community.

However, given the ways in which Darwin's theory of evolution built upon a significant body of scientific discovery in the first half of the 19th century, we should not be surprised to discover that theologians were already somewhat prepared for the subsequent debate. Charles Lyell's work in geology had persuaded many that the earth must be millions of years older than the traditional dating of 4004 BCE established by Archbishop Ussher on the basis of the Biblical record. By the early 19th century, geologists could show that through 'uniformitarian' processes the formation of rocks and changes to the earth's surface could be explained by natural causes such as volcanoes, glaciers, sedimentation and erosion by water. These processes, however,

required a great deal of time and only a much older universe than the one posited by Ussher would fit the bill. Before 1820, therefore, we find many theological writers denying a young universe that had been decisively shaped by a catastrophic event, i.e. the flood. The capacity to interpret Genesis 1-11 in non-literal ways was already apparent.[5] As always, the intellectual causes for a sudden shift in perspective are complex and multiple. A good example of this is the work of Hugh Miller, the stonemason from Cromarty, and leading figure in the Ten Years' Controversy that precipitated the Disruption. In his *Testimony of the Rocks* (1856) he argues that the facts of geology are such that a revised interpretation of Genesis is now required. The days of creation must represent vast periods of geological time rather than 24-hour intervals. Miller saw himself both as an earnest scientific enquirer and orthodox Christian believer, and in this respect he believed that he was in the good company of leading churchmen and scientists throughout the UK.

All this is not to say that Miller or any of his associates were proto-Darwinians. But it does point to a scientific literacy within the churches, a willingness to revise earlier opinions on Scripture in face of new evidence, and the development of accommodationist strategies around the age of the earth. Much of the earlier moderate confidence in reason persisted, even amongst more evangelical writers. Several of the leading exponents of

natural theology in the first half of the 19th century were evangelical churchmen. They had studied under some of the most eminent thinkers of the Scottish Enlightenment but were determined to show that the best learning was consistent with evangelical teaching.[6] This group included Thomas Chalmers, David Brewster, and John Fleming. Having abandoned his intention to enter the ministry, Brewster dedicated himself to scientific research and writing. In 1838 he became Principal of the United Colleges in St Andrews and in 1859 of the University of Edinburgh. The inventor of the kaleidoscope and an authority on optics, he was highly critical of the wave theory of light. Brewster's writings offered an account of the ethical and religious context of scientific discovery, tending towards the confirmation of strong evangelical convictions. Initially a parish minister, John Fleming was appointed in 1834 to a chair in natural philosophy in Aberdeen. His writings on zoology were widely regarded, and like Miller he argued strongly for uniformitarianism (against catastrophism) in geological enquiry. Although wary of theories that speculated beyond the available evidence, Fleming was persuaded that modern science could confirm a grand scheme of providence. After the Disruption, he was appointed in 1845 to the Chair of Natural Science at New College, Edinburgh.[7] As an exponent of natural theology and author of one of the *Bridgewater Treatises*, the great Chalmers also displayed a firm confidence in

the power of the design argument to overcome scepticism and confirm fundamental beliefs in the providential order of the cosmos and the role assigned to human beings.[8] Although more conservative than Miller or Fleming with respect to the interpretation of Genesis, he believed in the essential harmony of science and theology.

Why then did Darwin's theory seem to cause such an intellectual upheaval for religion? At least, four reasons are apparent – each of these will be explored. They provide us with a set of foci for the reception of his work.

i) God now appeared to be remote from the cosmos. The natural theology that had dominated British theology until the early 19th century was epitomised by William Paley. Here the evidence of divine design was everywhere manifest, so much so that little credence was given to Hume's earlier scepticism; the evidence of design was simply too compelling. Successive contributions to the *Bridgewater Treatises*, including that of the aforementioned Chalmers in 1833, confirmed this confidence in the design argument. So much of the natural world was inexplicable without appeal to the God-hypothesis that it was assumed that a greater understanding of its workings would only confirm the intuitive impression of design. However, if natural selection could explain

what had formerly been assigned to the mechanism of supernatural design then the latter might become redundant. This was undoubtedly a fear in some theological quarters matched by the hopes of Huxley et al. on the secular side. Yet, this placing of God on the unemployment register was much too hasty. Since at least the time of Newton, scientists and theologians, impressed by the explanatory power of scientific law, had seen its rational operation as evidence of the majesty of the Creator. Already we see here a conviction about the consistency of belief in a divine Creator with explanation according to scientific law. If the laws of nature could explain the formation of rocks then this merely registered the power of the Creator who had ordained those laws.[9] So in the case of evolution according to Darwinian principles, it was open to theologians to see these as laws similarly ordained by God.

One way of understanding this theological appropriation of natural science is to note how what was formerly attributed to the working of special providence was now assigned to a general providence. God was not required occasionally or frequently to intervene in the cosmic process in order to achieve the intended results. Instead, the manner in which the world had been established under the general working of natural law was itself sufficient to realise those creaturely states and entities desired by God. Not surprisingly, this move was to adumbrate a stock

response to Darwinian theory. If evolution is how states of greater complexity emerge in the history of the cosmos, then it is open to the theologian to claim that this is how God does it. In his 1884 Bampton Lectures in Oxford, we find Frederick Temple adopting this strategy. In an oft-quoted passage, he writes that God 'did not make the things, we may say: no, but He made them make themselves.'[10] This was teleology at one distance removed and offered a different account of design to Paley. Indeed in an important respect, Temple sees his view as improving upon Paley. Instead of an Artificer who has to interject at regular intervals to bring about the intended effects in the production of life forms, we have a Creator who has from the very beginning endowed the creation with sufficient natural powers to evolve as intended.

This argument had already been employed by Principal Robert Rainy in his inaugural address at New College, Edinburgh in 1874.[11] According to Rainy, the patterns of an evolving world require to be explained by reference to divine design. All that has changed is our conception of a world that is originally endowed with sufficient fruitfulness to yield these emergent patterns. Rainy notes that there may be some loss 'of the argumentative benefit of pleading earlier interpositions as analogical instances' of divine revelation in history. A God who regularly intervenes to direct the course of history might be expected to do the same in the natural world. However, this assumption can be yielded, he thinks, in

favour of an evolutionary world-view. While expressing some reservations about Darwinism, he seeks to distinguish the approach of the natural scientist from that of the theologian. These different forms of understanding occupy separate domains allowing a relative independence within each but a complementarity when viewed in conjunction. One upshot of all this is a clearer delineation of the disciplinary boundaries between theology, philosophy and the natural sciences. This remains in my view the only proper theological response to evolutionary theory, and it requires the dismissal of creation science and ID theory as religiously mistaken and scientifically impossible.

ii) *The role of chance and loss of providential control*. Much theological anxiety can be detected around the role assigned to 'chance' by Darwinian science. Even amongst writers in search of an alliance with evolutionary theory, we find attempts to replace the function of chance with a more deterministic mechanism. Of course, for Darwinian theory, 'chance' does not refer to the inexplicable or the uncaused. Instead, it is the denial of a single deterministic trajectory followed by the evolution of life forms. There seem to be two types of process that are characterised by the language of chance. One of these concerns the minor physiological variations that are evident through the reproduction of species, and the other is in the intersection of unrelated causal systems, e.g. the impact of

a sudden change in climate upon the development of species in a hitherto stable ecological niche. The mechanism governing physiological variation was not understood until the later development of genetics, and many informed critics of Darwin in the 19th century recognised this lacuna in his theory. Later developments in genetics provided the neo-Darwinism synthesis with its twin principles of natural selection and genetic mutation that dominate explanatory theories.

Yet it was the random course of evolution, as described by Darwin, that most offended Charles Hodge, the great Princeton theologian, in his long essay *What is Darwinism?* in 1874.[12] He regarded this as practically atheistic since there could be no governing purpose or overriding control exercised over the direction of nature. What was under threat here was not so much the doctrine of creation – a transcendent origination of the whole scheme could still be conceived – as the doctrine of providence. If God were no longer in control of the course of life on earth, then it could not be perceived as proceeding towards an appointed end. For a Reformed theologian such as Hodge, this was tantamount to a practical atheism. Nevertheless, within that same Reformed tradition, different conclusions could be reached by placing evolution within a wider context that was perceived to be providentially ordered. Natural selection was presented as a mechanism by which the universe produced its ever wondrous

variety, beauty and complexity. A leading apologist here was Robert Flint (1838–1910), Professor of Divinity in Edinburgh. At a time when the University Faculty was largely outshone by the brilliance of the scholars in the Free Church College, Flint emerged as a leading intellectual figure in the Auld Kirk. An important contributor to the ninth edition of the *Encyclopaedia Britannica*, Flint was well read in several fields, his work grappling with the phenomenon of secularisation, evolutionary science, the relationship of politics to religion, and the challenge of other faiths. Flint's competence extended even to mathematics and indeed he proof-read the books of his colleague in the Chair of Natural Philosophy. His best-known work *Theism*, the Baird lectures of 1876, was a popular apologetic work that ran to several editions. Here his interaction with Darwinism offers a set of responses that have become standard in theological appropriations of evolutionary science. The development from lower to higher organisms can be explained as a mark of design. The tendency towards improvement and progression requires explanation. Evolutionary process can be envisioned as a vast scheme of order and beauty, rather than a grim arena of conflict and waste. This more positive vision of evolutionary complexity would be later developed by J. Arthur Thomson and Patrick Geddes in their 1912 study.[13]

Princeton theology itself proved capable of simultaneously moving in the opposite direction to that of Hodge. James McCosh, a Free Church minister in Brechin and Professor of Logic and Metaphysics in Belfast had emigrated in 1868 to become President of Princeton College. An authority on Scottish philosophy, McCosh felt able to welcome key aspects of Darwinism, especially evolutionary descent, and to accommodate it within a wider teleological system. What it represented was the outworking of a vast orderly and regulated system that betokened divine design. The discernment of laws governing the evolutionary process together with the apparently inevitable rise of increasing complexity suggested for McCosh that Darwinian science and Christian theology could be reconciled.

That Darwinism perceived an order, regularity and lawfulness governing the seemingly haphazard history of life enabled theologians quite quickly to reach an accommodation and to maintain patterns of teleological explanation. This was the apologetic move argued against Huxley and Haeckel by writers such as Flint, Henry Drummond and also that distinguished polymath George Campbell, the Duke of Argyll. Darwin himself, they noted, had used the language of purpose in his descriptions of how natural selection operated. Although this may have been intended metaphorically, it showed how easy the reconciliation of evolution and theism could be. Aubrey Moore, Canon at Christ

Church, Oxford, expressed it succinctly in his remark that the 'belief in the universality of law and order is the scientific analogue of the Christian's belief in Providence.'[14]

Other theological responses after the publication of *Origin* offered a more immanent account of divine involvement in the evolutionary process. This suggests a different model of providence and again it is one that continues to attract defenders today. In his essay in *Lux Mundi* (1889), Aubrey Moore also wrote:

> The one absolutely impossible conception of God, in the present day, is that which represents him as an occasional visitor. Science has pushed the deist's God further and further away, and at that moment when it seemed as if He would be thrust out all together Darwinism appeared, and, under the disguise of a foe, did the work of a friend.[15]

Moore's claim is that Darwinism affords a positive opportunity for Christian theology to re-affirm its commitment to a perpetual involvement of the divine spirit in the natural world. Instead of the more remote and disengaged God of deism, we now have an immanent divine presence that is at work in the creative and open-ended processes of evolutionary history. Rather than posing a threat, therefore, the apparently free movement of natural forms is

consonant with a God who is present and active within the creative process in a manner analogous to God's same involvement with human history. This model of divine engagement resonated with the kenotic theologies that flourished in the late-19th century and it has exercised a particularly strong hold over Anglican thinkers to the present day. The model here is of God's 'letting the world become itself', not in such a way as to abandon it but in the interests of a patient accompanying that seeks to work within and alongside creative processes. A model of providence is thus suggested that avoids the determinism of much of the Augustinian tradition, but also the deism that has persisted from the early modern period. In Scotland, kenotic theology took hold from the 1880s onwards with writers like A. B. Bruce, the Glasgow Free Church theologian, stressing the immanent nature of divine involvement in the world.[16]

iii) *The intensification of the problem of evil*. A further recurrent concern in the theological reception of Darwin concerns the problem of evil. Of course, this was hardly a new challenge to confront Christian theology. The Book of Job already reveals a long history of reflection on this in Jewish traditions. And, in any case, the facts of disease, suffering and death were manifestly visible before any theory could explain their contribution to the evolutionary story. But what was striking in Darwin's description

of evolution was the extent to which suffering, waste and the competition for survival were the drivers of evolution. These were part of the 'design' that enabled the emergence of species, including human beings. Instead of Paley's notion of creatures living always in a state of equilibrium, their prosperity secured by a single divine blueprint, theologians now faced a bleaker scenario in which earlier species were driven to extinction in a perpetual warfare of life forms. How could this suggest a divine providence?

One type of theodicy that quite confidently took Darwinian explanation on board argued, more or less, that the end justified the means. Since evolution produced fitter and more advanced species, particularly *homo sapiens*, we could conclude that the laws of evolution were all part of a benevolent divine plan. The production of better adapted forms of life could thus be seen as an outworking of an overall teleology. This was the strategy pursued by the aforementioned Duke of Argyll and Henry Drummond in Scotland, and also Temple in his Bampton Lectures.[17] At the same time, these writers sought to introduce a different set of metaphors to overcome the prevailing sense of waste and random, meaningless suffering. Attention is drawn to the interdependence of species, the unity of the natural world, the long periods of relative equilibrium characterised in large measure by the enjoyment of life, and the beautiful harmony of flowers and insects. In his study *Christianity and Evolution*, the Aberdeen

theologian James Iverach noted in 1894 that the individual often sacrifices itself for the wellbeing of the species to the extent that something like a virtuous family life emerges naturally.[18] This different vision of Darwinism was already expressed by Temple:

> [T]he doctrine of Evolution binds all existing things on earth into one. Every mineral, every plant, every animal has such properties that it benefits other things beside itself and derives benefit in turn. The insect developes the plant, and the plant the insect; the brute aids in the evolution of the man, and the man in that of the brute. All things are embraced in one great design beginning with the very creation.[19]

Others would point to patterns of self-sacrifice in nature that adumbrated later Christian moral ideals.

By the later 19th century, this rather confident style of theodicy was being replaced by more reserved approaches to the problem of suffering. While a divine plan may be in a process of outworking, its meaning and significance are not yet discernible from a human vantage point. We simply cannot speculate on what purpose long aeons of animal suffering may serve. Again, however, a virtue can be made out of a necessity. The theologian has no business reading off the details of divine design from the

pages of natural history. The only index to providence is that of faith in Christ – more speculative and comprehensive accounts should be eschewed. At the same time, Darwinism may also helpfully save the theologian from embracing too narrow an anthropocentrism. Given the relatively late emergence of human beings and the extent to which animal life has evolved for much of the time with no reference to ourselves, we cannot assume that God's purposes are solely directed towards our own species. God must have more in mind than the evolution of humankind.[20].

iv) *Human significance in the cosmos*. This last point brings us to another hotly-debated topic emerging from Darwinism, namely the significance of human beings in creation. Much of the fear surrounding evolutionary theory was that it threatened to undermine our most fundamental convictions about the intellectual, moral and spiritual distinctiveness of being human. Indeed, this fear continues to infect much of the debate today. If human beings emerged from other mammals over millions of years of evolution, is their uniqueness thereby destroyed? Again a religious accommodation with Darwinism was proposed by successive writers, while also maintaining a traditional commitment to human distinctiveness. Scholars like Rainy and Temple argued again for a complementarity of explanations. It was open to the scientist to point to the ways in which human

beings had emerged from other primates while also displaying significant similarities to other species. Yet the theologian could also point to phenomena such as consciousness, our moral capacities, and spiritual discernment that demand different forms of explanation and understanding from those available to the natural sciences. Much of the late-19th and early-20th century literature was dominated by discussion of the faculty of conscience which seemed to require a non-natural transcendent explanation. In this domain, a careful distinction needs to be made between competitive and complementary forms of understanding. It is too tempting for the theologian to seek out a major lacuna in scientific explanation and then immediately to postulate God. If we cannot explain the evolution of consciousness, then God must be invoked. If we cannot discern obvious analogues of conscience in animal life, then there must be a transcendent cause. Yet these types of argument evidently give hostages to fortune. When science advances and starts to fill in the gaps, then religious explanation becomes squeezed to the margins. A better type of argument will insist upon complementarity. Even after science has done all its work, there will be ways of understanding and describing the phenomena that draw upon different conceptual resources. For example, Iverach argues that Huxley's moral commitments cannot be adequately characterised by natural science alone. Here is a strategy reminiscent of that employed by recent apologists against

Richard Dawkins. There are questions, commitments and insights that by their nature require description in terms that are not reducible to the methods of the natural sciences. No single discipline has an exhaustive or totalising role to play. If the engagement with Darwinism has taught theologians one thing it might be this. The sciences must be given their place freely to investigate and hypothesise according to their methods and findings. A clearer delineation of the differences with theology will result in a recognition of complementarity rather than a misplaced anxiety about the directions in which science might lead us.

It is clear that by the 1880s, theologians and especially philosophers in Scotland were using evolutionary concepts with a good deal of freedom and confidence. There were few signs of anything apologetic, defensive or nervous in their treatises. To give just two examples. Henry Calderwood, Professor of Moral Philosophy in Edinburgh and UP minister, produced a detailed study of the significance of evolution in 1893.[21] Calderwood is more a representative figure of the Scottish philosophical tradition than a philosopher of great originality, but he nonetheless provides an indication of the *Zeitgeist*. While revealing himself to be well-formed scientifically, his ruminations on evolution also reveal the absence of any religious or metaphysical anxieties around this theme. Meanwhile in Glasgow, Edward Caird, the distinguished idealist philosopher who would later move to

Bailliol College, produced a series of Gifford Lectures in 1890-92 in St Andrews on the subject to of the evolution of religion.[22] Although he had relatively little to say about Darwin, Caird is again quite comfortable with evolutionary concepts, these being pressed into the service of an idealism in which the infinite gradually comes to a consciousness of itself in and through evolving spiritual and religious concepts. The Gifford Lectures had of course got underway in 1888 with Max Müller's first series in Glasgow, and thereafter they would make their own contribution to the reconciliation of evolution and theism with an almost monotonous regularity.

This leads to my final point. The emergence of evolutionary theory impacted upon the study of religion more than many of the standard accounts acknowledge. The attempt to see religion itself as developing along evolutionary lines was a hallmark of much historical and social scientific study in the late 19th and early 20th centuries. Pioneer figures such as Robertson Smith, Frazer and Tyler sought to locate all religion in terms of a single evolutionary stream of development that could be discerned from the earliest available historical and anthropological evidence. This was to prove at least as important a development for Christian theology with its claims for divine revelation in history and its account of Scriptural authority. Having reached a relatively swift accommodation with Darwinism, Victorian Presbyterian Scotland

was shaken by the trials of Robertson Smith by the courts of the Free Church of Scotland. These ended in 1880 when he was removed from his chair in Aberdeen. These drew attention to those very claims for historical criticism of the Bible that the Free Church had sought to suppress in disciplining their gifted young Old Testament scholar. David Livingstone has pointed to the seeming disparity between the swift acceptance of Darwin within the Free Church and its simultaneous resistance to the kind of historical and anthropological work that Smith advocated.[23] At least, this must have been true of those sections of the church that opposed Smith. Much of this might be explained by the public controversy that Smith unwittingly created – there was nothing comparable with respect to Darwinism.

Smith pointed out in his article on the Bible in the 9th edition of *Encyclopaedia Britannica* that the writings of the prophets, the Pentateuch and the Gospels must be viewed in light of the historical circumstances in which these had emerged and the concerns they registered. This led to some startling though incontrovertible conclusions, which made Mosaic authorship of the Pentateuch impossible to defend, and attributed the formative influences to the Old Testament canon to events much later than those narrated in the texts themselves. In the case of the gospels, Smith pointed to the ways in which the reception and presentation of the story of Jesus were embedded in the historical circumstances

of first-century Christian communities. This work was to be extended in his short but brilliant career, particularly with reference to the religion of the Semites and his understanding of totemism. What emerged, at least in part, was a more scientific, more historical, more anthropological and more evolutionary account of religion itself.[24]

The theological ramifications of historical study for faith were most searchingly explored not in Scotland but in Germany by Ernst Troeltsch and others. All historical events must be understood relative to the circumstances and context in which these took place and with reference to our understanding of other events and epochs. How then can an absolute and unique significance be attached to any one single portion of history? This was the problem of the 'absoluteness of Christianity' with which Troeltsch wrestled. An evolutionary approach to history, as well as nature, requires us to understand each event with reference to what comes before and what arises after. The meaning of the event then resides in the place it occupies within a total series, rather than in any radically new and decisive character that is intrinsic to it. Here evolutionary solutions could at best deliver an account of Jesus and the Christian religion that was an improvement by several degrees upon what came before, but this was hardly sufficient for the kind of claims made in the Westminster Confession and adhered to by all the Presbyterian churches in

Scotland. Evolutionary approaches to the study of religion would thus set an agenda for much 20th century discussion. And recent trends in the cognitive study of religion continue to pose important Darwinian challenges for theology that were scarcely recognised in the 19th century, but which ironically can be traced to the kind of work that Robertson Smith pioneered. Somewhat ironically, therefore, it turned out that reconciling the evolution of species over millions of years with the Christian doctrine of creation was to prove easy work compared with the challenges posed for theologies of revelation by subsequent evolutionary accounts of religion.

NOTES

[1]James Moore, 'Deconstructing Darwinism: The Politics of Evolution in the 1860s', *Journal of the History of Biology*, 24 (1991), 353–408.

[2] David N. Livingstone, 'Public spectacle and scientific theory: William Robertson Smith and the reading of evolution in Victorian Scotland', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 35 (2004), 1–29.

[3] Cited by David N. Livingstone, *Darwin's Forgotten Defenders: The Encounter between Evangelical Theology and Evolutionary Thought* (Grand Rapids: Eerdmans, 1987), 49.

[4] 'The existence of specific character, as something fixed in the creative act, is clearly and most emphatically recognised in the Bible. The Scriptures thus decide the question of the *origin* of species.' John Duns, *Science and Christian Thought* (London: 1866), 205.

[5] Symbolic readings of the Genesis story were commonplace in the early church in any case, as is evident for example in Augustine's *Confessions*.

[6] The distinctive contribution of this group is explored by Paul Baxter, 'Deism and Development: Disruptive Forces in Scottish Natural Theology'*, Scotland in the Age of the Disruption*, Stewart J. Brown & Michael Fry (eds.), (Edinburgh: Edinburgh University Press, 1993), 98–112.

[7] The creation of the Free Church of Scotland, New College was originally intended to function as a multi-disciplinary university and not merely a theological seminary. The establishment of a chair in natural science was itself an indication of evangelical commitment to natural theology. See S. J. Brown, 'The Disruption and the Dream: The Making of New College 1843–1861', *Disruption to Diversity: Edinburgh Divinity 1846–1996*, David F. Wright & Gary D. Badcock (eds.), (Edinburgh: T&T Clark, 1996), 29–50.

[8] *On the power, wisdom and goodness of God: as manifested in the adaptation of external nature to the moral and intellectual constitution of man*, 4th ed. (Glasgow: Collins, 1835).

[9] See the argument of John Hedley Brooke, 'Natural Law in the Natural Sciences: the Origins of Modern Atheism?', *Science and Christian Belief*, 4:2 (1992), 83–103.

[10] Frederick Temple, *Religion and Science* (London: Macmillan, 1884), 115.

[11] Robert Rainy, *Evolution and Theology* (Edinburgh: 1874).

[12] Charles Hodge, *What is Darwinism?* (1874).

[13] J. Arthur Thomson & Patrick Geddes, *Evolution* (London, Williams & Norgate, 1912).

[14] Aubrey Moore, *Science and the Faith* (London: Kegan Paul, 1889), 197.

[15] Aubrey Moore, 'The Christian Doctrine of God' in *Lux Mundi*, Charles Gore (ed.), (London, 1889), 99.

[16] See A. B. Bruce, *The Providential Order* (London: Hodder & Stoughton, 1897).

[17] See the discussion in James C. Livingston, *Religious Thought in the Victorian Age* (London: T & T Clark International, 2006), 69ff. Others such as George Romanes were scandalised at this seemingly brutal theodicy.

[18] James Iverach, *Evolution and Christianity* (London: Hodder & Stoughton, 1894), 184.

[19] Temple, op. cit., 122.

[20] Aubrey Moore, op. cit., 108f.

[21] Henry Calderwood, *Evolution and Man's Place in Nature* (London: Macmillan, 1893).

[22] Edward Caird, *The Evolution of Religion*, 2 vols. (Glasgow: MacLehose, 1893).

[23] David C. Livingstone, 'Public spectacle and scientific theory', op. cit.

[24] For Smith's ambivalent position on this, see Joachim Schaper, 'William Robertson Smith's Early Work on Prophecy and the Beginnings of Social Anthropology', *Journal of Scottish Thought*, 1:2, 2008, 13–24.

Other publications in this series:

Professor Ian Duncan
'Darwin's Voyage: Circumnavigation, World History, and the Sublime'

Dr. Walter M. Stephen
'Charles Darwin: Some Scottish Connections'

Dr Gregory Radick
'Edinburgh, Enlightenment and Darwin's *Expression of the Emotions*'

Revd. Dr. John Polkinghorne
'Evolving Creation'

ISSN 2041-8817
ISBN 978-0-9532713-5-1

THE UNIVERSITY *of* EDINBURGH

The University of Edinburgh is a charitable body,
registered in Scotland, with registration number SC005336