

Thomas Henry Huxley: lessons from Darwin's frontman



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When *On the Origin of Species* was first published in November 1859, Thomas Henry Huxley immediately came forward as 'chief defender of the faith therein set forth', as one of his biographers has put it (Huxley and Snell, 1909, p.vii). The young man – he was 34 years old, Darwin was 50 – was at the core of a campaign to win popular approval for the new 'faith'. In an important paper, Edward Caudhill (1994) has described how it was Darwin who generated and directed the extensive publicity campaign from the comfort of his house at Downe, where he lived by inherited wealth and investments. Huxley, on the other hand, was forced by circumstances to earn a living and always resented the fact that to succeed in science 'one had to be a man of independent means' (Caudhill, 1994). Darwin encouraged and directed this gifted and talented scientist, an expert in anatomy and palaeontology, into a lifelong commitment to promoting Darwinism.

Huxley is converted

Caudhill's paper describes how Huxley was ready and waiting for a theory such as Darwin's to come along:

Huxley believed early in his career that science must be independent of theology. He was dissatisfied with creationism but found it difficult to support evolutionary ideas because there was no good explanation for how evolution worked. When natural selection solved that problem for him, he became a lifelong proponent of Darwinism. In public lectures and

reviews, Huxley thrived in a glare of publicity that would have withered Darwin. He was Victorian England's foremost public advocate of science. He was also anti-clerical, and he found that Darwin's theory of evolution supported his anti-clerical beliefs (page 443).

Huxley's own account of his 'conversion' to belief in evolution is interesting (Huxley, 2007, pp 204-215). He says:

I was not brought into serious contact with the 'Species' question until after 1850. At that time, I had long done with the Pentateuchal cosmogony, which had been impressed upon my childish understanding as Divine truth, with all the authority of parents and instructors, and from which it had cost me many a struggle to get free... I confine myself to what must be regarded as a modest and reasonable request for some particle of evidence that the existing species of animals and plants did originate in that way, as a condition of my belief in a statement which appears to me highly improbable. And, by way of being perfectly fair, I had exactly the same answer to give to the evolutionists of 1851-8 (p.204).

Huxley goes on to explain that with very few exceptions, biologists in the 1850s did not have a good word to say about evolution. The only thorough-going evolutionist he knew and respected was Herbert Spencer, who he first met in 1852 and with whom he had many debates:

Many and prolonged were the battles

we fought on this topic... I took my stand upon two grounds: firstly, that up to that time, the evidence in favour of transmutation was wholly insufficient and secondly, that no suggestion respecting the causes of the transmutation assumed, which had been made, was in any way adequate to explain the phenomena (p.205).

During this period, Huxley had debates with Darwin himself:

I remember in the course of my first interview with Mr. Darwin, expressing my belief in the sharpness of the lines of demarcation between natural groups and in the absence of transitional forms (p.212).

Huxley speculates that most of his contemporaries at this time were in a similar state of mind, in that they were rejecting both the Biblical account of creation and the ideas of evolutionists. He openly admits that he, along with others, was looking for a way to avoid belief in creation:

That which we were looking for, and could not find, was a hypothesis respecting the origin of known organic forms which assumed the operation of no causes but such as could be proved to be actually at work... The 'Origin' provided us with the working hypothesis we sought. Moreover, it did the immense service of freeing us forever from the dilemma – refuse to accept the creation hypothesis, and what have you to propose that can be



accepted by any cautious reasoner (p.213)?

Although Huxley claimed to be only interested in evidence, it is quite plain that he would not have been the least bit interested in any evidence for creation and that religious motives lay behind his acceptance of Darwinism and his life-long campaign to promote it.

An aggressive campaign

The very fact that Darwin needed an anti-religious ‘front man’, someone to promote his contentious theory to the general public while he remained safely behind the scenes, also says a lot about the status of Darwinism. Pasteur needed to do no such thing when, at about the same time, he made his ground-breaking discoveries and established the germ theory of disease. With Pasteur, it was the evidence that convinced; with Darwin, it was public rhetoric and persuasion that won over the public while many scientists remained unconvinced by the evidence. In fact, it even seems that Huxley himself eventually rejected the idea of natural selection. This is the view held by Hiram Caton and articulated in his article *Getting our History Right: six errors about Darwin and his influence* where he says:

Many leading naturalists and biologists made significant criticisms of Darwin’s work. This includes Gregor Mendel, who believed that his discoveries refuted Darwin’s premises about the heritability of traits, and Thomas Huxley, who rejected natural selection (page 59).

Caton goes on to maintain that Huxley rejected natural selection because it denied saltation events, which today would be called macromutations, and because it was inconsistent with the fossil record, something that Darwin himself admits in the *Origin*.

We therefore get the picture of a gifted communicator, determined for religious reasons to use his skills to promote Darwinism, while disagreeing with its most fundamental tenets. After all,

the idea of evolution had been around for millennia before Darwin, as Huxley himself readily admitted (Huxley, 2007, 44-46). Darwin’s main contribution was a supposed mechanism for it – natural selection – and this was the very thing that Huxley had been waiting for and that had apparently convinced him to take up the Darwinist cause in the first place. It seems that later doubts about the role of natural selection in evolution no longer had the power to trouble him; he was on a crusade to establish Darwinism and to discredit the church and the lack of a credible mechanism was not going to stop him. Today a similar situation prevails. Many present-day biologists doubt that natural selection plays much of a role in evolution and yet they vehemently maintain that evolution itself, in the sense of molecules to man, has happened.

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Thomas Huxley, encouraged by Darwin, was very successful in his campaign to influence public opinion. He loved the fight and by the end of the 1860s he had won, in that many (though by no means all) had accepted Darwinism. The battle had served him well and in 1870 he became president of the British Association for the

Advancement of Science. His career has parallels with that of Richard Dawkins who has also achieved fame and success, not because of scientific achievements, but because of the aggressive popularising of an atheistic approach to the science of origins.

Some interesting views

Thomas Huxley, surprisingly, held a number of views in common with modern-day creationists and intelligent design theorists. If he was alive today he could be called to give evidence on the creationism/intelligent design side of the debate in several areas, three of which will now be examined.

The teaching of evolution in schools

First, Huxley was opposed to the teaching of evolution to school children. In this he was much more radical than modern-day creationists and intelligent design theorists who are simply advocating that both sides of the debate should be presented in schools. Huxley’s views can be found in the preface to Ernst Haeckel’s *Freedom in Science and Teaching*, published in 1879. He writes there of how Professor Virchow has raised the question of whether ‘the doctrine of evolution should be generally taught in schools or not’. He agrees with Virchow that ‘things that are not proven should not be instilled into the minds of young people’ so long as Virchow ‘will agree to make this excellent rule absolute and applicable to all subjects that are taught in schools’, especially, of course, special creation. Huxley then goes on to argue:

Far be it from me to suggest that it is desirable that the inculcation of the doctrine of evolution should be made a prominent feature of general education... I doubt whether it is the business of a teacher to plunge the young mind into difficult problems concerning the origin of the existing condition of things. I am disposed to think that the brief period of school-life would be better spent in obtaining an acquaintance with nature, as it is; in fact in laying a firm foundation for the

further knowledge which is needed for the critical examination of the dogmas, whether scientific or anti-scientific, which are presented to the adult mind. At present, education proceeds in the reverse way; the teacher makes the most confident assertions on precisely those subjects of which he knows least; while the habit of weighing evidence is discouraged, and the means of forming a sound judgement are carefully withheld from the pupil (Huxley, 1879).

It is interesting to reflect on what Huxley would have made of the situation today, whereby the exact reverse situation now prevails; children are force-fed evolution in schools and the weighing of evidence in this particular matter is often not just discouraged but actually forbidden.

Professor Steve Fuller has commented on this reluctance of Huxley's to see evolution taught in schools (Fuller, 2008, p 94). He speculates that the reason might be that Huxley secretly agreed with those of his critics who maintained that there is no point in studying pure science if there is no divine plan to uncover and no human mind made in the image of God to discover it with, as the following section will elaborate.

Fuller himself takes a different view from Huxley on the question of what should be taught in schools while agreeing with him that without the concepts of God and design it would probably not be possible to conduct science at all. In the context of schooling and the desired content of textbooks, he urges intelligent design theorists and creationists to reclaim the history of biology, where:

they have been responsible for concepts in taxonomy, morphology, physiology, genetics and biochemistry that are still very much taken for granted *especially* at the level of the school biology textbook. In this respect, the 'track record' of Neo-Darwinism is parasitic on creationist breakthroughs over which Neo-Darwinists now claim sole ownership, and which creationists have yet to claim back as their own. Moreover,

the recovery of this history – ideally in textbook presentations of scientific reasoning – would demonstrate the power of creationist thought in what philosophers of science call the 'context of discovery', the source of scientific inspiration that should be the centre of gravity in science education. After all, theologically informed creationist premises have motivated the conduct of science, the results of which have been used and built upon by both theists and non-theists. Especially in a time when pure science departments are closing for lack of enrolments, this is a potentially powerful selling point (Fuller, 2008, pp233-4). (*Italics original*)

The history of science and the influence of Darwinism on future scientific endeavour

The second area where creationists would do well to pay attention to Huxley concerns this issue of the history of science. Huxley freely acknowledged that modern science owes its very existence to the Biblical view of the created order and of the people who inhabit it. Steve Fuller in his important book *Science vs Religion: Intelligent Design and the Problem of Evolution* (2007, p.23) describes how Huxley dealt with this issue in an 1893 lecture entitled *Evolution and Ethics*. Huxley could see that Darwinism's naturalistic world-view had been anticipated by Greek philosophers, Hindus and Buddhists but in none of these situations did science as we know it today emerge and he blames the naturalistic world-view itself for that. A view of humans as temporary arrangements of matter, not essentially different from any other such temporary arrangements, discourages further investigation. On the other hand, if humans are made in the "image and likeness of God" the picture is quite different and it is this view which prompted early scientists such as Newton to learn more of the mind of God by studying his creation. Huxley understood that the diminished view of humanity that is part and parcel of Darwinism could easily discourage the pursuit of science in the future as it had in the past. Fuller, himself

a secular humanist, concludes (p.23) that no discussion of the relationship between science and religion in contemporary society can be truly honest if it does not keep Huxley's concerns firmly in mind. Fuller sees this theme as so important that he returns to it later in his book:

Thomas Henry Huxley argued that, as a matter of historical fact, the triumph of modern science is indebted to the monotheistic religions, which elevate humans to "the image and likeness of God" capable of grasping in a detailed and comprehensive manner the unity of nature for the purposes of transforming it according to human needs and purposes. In contrast, the more naturalistic world-views that emerged from the Greco-Roman pagans and the great Eastern religions tended to promote a fatalism that discouraged the industry required for science. Huxley concluded by presenting his largely bewildered late-Victorian audience with a paradox: from a naturalistic standpoint, naturalism itself promotes science only after monotheism has inoculated enquirers against naturalism's own self-deflating tendencies. I believe that here Huxley was exactly right (pp98-99).

In a nut-shell, Huxley recognised that belief in a designed Universe, together with belief in a human mind capable of discerning and understanding that design, was what had motivated and driven the development of modern science. He could see that once you removed the Designer and the special nature of the human mind there was really no point in carrying science on and certainly no strong incentive to do so.

Theistic evolution

Third, Huxley had some comments and advice to offer to those who, in his day, liked to maintain that the theory of evolution was compatible with modern interpretations of the Bible. In a lecture entitled 'The three hypotheses respecting the history of nature', he explained at length why he likes to refer to the



Thomas Henry Huxley (1825–95), biologist, philosopher and educationalist, was one of the most influential scientists of the 19th century. His work on comparative anatomy brought the sciences to a wider audience and the vigorous defence of Darwin's theory of evolution earned him the nickname 'Darwin's Bulldog'.

Huxley was a great populariser of science and people flocked to hear him speak. His words inspired both boys and girls and his ideas on education were followed in schools and colleges throughout Britain.

Statue of Thomas Henry Huxley in the British Museum of Natural History. © R. Cambridge.

creationist position, of creation in six days a relatively short time ago, as 'Milton's hypothesis' rather than the 'doctrine of creation' or the 'Biblical doctrine'. He said:

It is quite true that persons as diverse in their general views as Milton the Protestant and the celebrated Jesuit Father Suarez, each put upon the first chapter of Genesis the interpretation embodied in Milton's poem [Paradise Lost]. It is quite true that this interpretation is that which has been instilled into every one of us in our childhood; but I do not for one moment venture to say that it can properly be called the Biblical doctrine... If we are to listen to many expositors of no mean authority, *we must believe that what seems so clearly defined in Genesis – as if very great pains had been taken that there should be no possibility of mistake – is not the meaning of the text at all.* The account is divided into periods that we may make just as long or as short as convenience requires. We are also to understand that it is consistent with the original text to believe that the most complex animals and plants may have evolved by natural processes, lasting for millions of years, out of structureless rudiments. A person who is not a Hebrew scholar can only stand aside and admire the marvellous flexibility of a language which admits of such diverse interpretations (Huxley, 2007, pp117-8). (Italics mine)

To this, modern-day creationists might well respond that they couldn't have put it better themselves.

Writing in about 1885, Huxley reflected on the success of the 'philosophy of Evolution', considering its rise to dominance to be the most portentous event of the nineteenth century (Huxley, 2007, p.198). He goes on to say:

Even the theologians have almost ceased to pit the plain meaning of Scripture against the no less plain meaning of Nature. Their more candid, or more cautious, representatives have given up dealing with Evolution as if it were a damnable heresy, and have

taken refuge in one of two courses. Either they deny that Genesis was meant to teach scientific truth, and thus save the veracity of the record at the expense of its authority; or they expend their energies in devising the cruel ingenuities of the reconciler, and torture texts in the vain hope of making them confess the creed of Science (pp198-199).

That Huxley was not only anti-church but also anti-creation, anti-design in the natural world and anti the plain reading of the Bible, that his battle was primarily with the authority of the Bible, is crystal clear from his writings:

The doctrine of Evolution does not even come into contact with Theism, considered as a philosophical doctrine. That with which it does collide, and with which it is absolutely inconsistent, is the conception of creation, which theological speculators have based upon the history narrated in the opening of the book of Genesis...In respect of the great problems of Philosophy, the post-Darwinian generation is, in one sense, exactly where the pre-Darwinian generations were. They remain insoluble. But the present generation has the advantage of being better provided with the means of freeing itself from the tyranny of certain sham solutions (Huxley, 2007, 218-9).

Modern-day theistic evolutionists would do well to ponder the fact that Thomas Henry Huxley, the man mainly responsible for the success of the theory of evolution, had as his driving motive the freeing of his and subsequent generations from the tyranny of the 'sham' of Biblical authority. They would also do well to consider seriously secular humanist Steve Fuller's well-argued claim that 'a literal reading of the Bible has done more to help than hurt science over the centuries' (Fuller, 2008, p.211).

Conclusion

The Oxford English Dictionary provides two definitions of the word 'frontman':

1. The leader, or lead singer, of a band.
2. A person who represents an illegal

organization to give it an appearance of legitimacy.

Thomas Huxley fits the first definition. He was the lead singer of the band, conducted by Darwin behind the scenes, which performed to the ordinary Victorian people of Great Britain and persuaded them to accept a new view of reality.

The second definition at first sight seems too harsh to be applicable in any way to the Huxley/Darwin situation but the fact remains that 150 years after the publication of *On the Origin of Species* the criticisms of Darwin's theory that were made in the nineteenth century remain as valid as ever, while the evidence for intelligent design grows stronger and stronger. Despite Huxley's protestations to the contrary, he was not primarily interested in where the evidence led because he would not permit it to lead him to belief in design and in a Creator. That door for him was closed. Huxley was able to use his undoubted gifts to dazzle the Victorian public. The verdict of history may yet be that he also deceived them. ■

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