

Editorial: On Darwin anniversaries

In this bicentennial year of Darwin's birth and the 150th anniversary of the publication of "On the Origin of Species", it is appropriate to reflect on the way occasions for celebration have been marked.

First we look at a lecture delivered by Thomas Huxley to the Royal Institution on March 19, 1880. This was to mark 21 years since the publication of Darwin's *magnum opus* and it establishes a standard for rhetoric and polemic for all subsequent celebrations. From our vantage point of history, we have to interpret Huxley's words as a combination of wishful thinking and spin. He passes over those aspects of evolutionary theory that were problematic (Darwinism had no theory of inheritance, natural selection as a creative force was still controversial, the fossil record provides evidence of animal radiations from an ancestral population – but this does not confirm Darwinian gradualism nor does it explain the origin of those ancestral populations). Huxley's willingness to elevate evolution to "historical fact" should be interpreted as a deduction from his own atheistic worldview, which makes evolution a necessity.

The title of the lecture was "The coming of age of the Origin of Species". Huxley drew attention to the way Darwin's approach was much more than a scientific theory about origins: it was a conceptual framework for science in general, with impacts everywhere:

"In fact, those who have watched the progress of science within the last ten years will bear me out to the full when I assert that there is no field of biological inquiry in which the influences of the "Origin of Species" is not traceable; [...] and the general doctrine of Evolution, to one side of which it gives expression, finds in the phenomena of biology a firm base of operations whence it may conduct its conquest of the whole realm of nature."

Huxley pointed out that Darwinism affects the way science is done: it comes with a philosophical approach that changes the research orientation of scholars. This is a theme that has resurfaced regularly through the past 150 years. The most widely cited is Theodosius Dobzhansky's title of an article published in the *American Biology Teacher* (1973): "Nothing in biology makes sense except in the light of evolution". It is as though acceptance of evolution has become the hallmark of any serious thinker and certainly of anyone responsible for the education of the next generation of scientists.

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Huxley develops his presentation by seeming to put the Theory of Evolution to the test. He claims it stands up to criticism very well: "But the progress of knowledge has justified Mr. Darwin to an extent which could hardly have been anticipated." He refers to dramatic fossil discoveries, notably of *Archaeopteryx* in 1862, that have filled in the gaps between major groups of organisms:

"Thus it will be observed that the whole tendency of biological investigation since 1859 has been in the direction of removing the difficulties which the apparent breaks in the series created at that time and the recognition of gradation is the first step towards the acceptance of evolution."

"Astonishing progress" has been made in embryology, according to Huxley. "And the results of these embryological investigations are in complete harmony with the requirements of the doctrine of evolution." These advances in knowledge made all previous objections to biological evolution "appear childish". Those who have studied embryological development are considered to have all the evidence they need:

"Any one who has watched the gradual formation of a complicated animal from the protoplasmic mass which constitutes the essential element of a frog's or a hen's egg has had under his eyes sufficient evidence that a similar evolution of the animal world from the like foundation is, at any rate, possible."

Embryology was actually in its infancy, and it can be argued that Huxley's view of the egg as a "protoplasmic mass" actually impeded the progress of science. More recent knowledge of development has revealed the profound discontinuities that exist between basic types of organisms.

The above evidences were considered by Huxley to remove dissent, but not to compel assent. For that, he said, we must turn to palaeontology. Darwin is acknowledged to have struggled with this, pointing to the impoverishment of the fossil record and predicting that future discoveries would yield evidence favouring his theory. Two decades later, Huxley considered the situation transformed. Fossils from the Tertiary had increased knowledge fifty-fold: "Simply this, that if the doctrine of Evolution has not existed palaeontologists must have invented it."

With a sense of triumph, Huxley contrasted the claims of “wild speculation”, which greeted the *“Origin of Species”* in 1859, with the “sober statement of conclusions” warranted 21 years later:

“I venture to repeat what I have said before, that, so far as the animal world is concerned, Evolution is no longer a speculation, but a statement of historical fact. It takes its place alongside those accepted truths which must be taken into account by philosophers of all schools.”

In the following years, acceptance of evolution did not mean acceptance of Darwinism. Some actually describe this period as the eclipse of Darwinism. Mendelian genetics explained all Darwin’s examples of variation resulting from artificial selection as due to innate, rather than novel, factors (see Marc Surtees’ article in this issue). The 100th anniversary of Darwin’s birth was not the event some hoped it to be, because many scholars were lukewarm about his significance.

Then came the birth of Neo-Darwinism and the “Modern Synthesis”. Darwinian gradualism and Mendelian genetics were harmonised and many scholars considered the big questions about evolutionary transformation to be answered. The centennial of the publication of *“The Origin of Species”* was marked by numerous events. George Gaylord Simpson (1960), professor of vertebrate palaeontology at Harvard University, said that the “centennial has been most elaborately celebrated by conferences, symposia, all manner of meetings and oratory, and a veritable spate of publications.” Simpson’s main concern in his contribution to these proceedings was to explain the conceptual revolution brought by Darwin:

“At this point there is reason for a summing up not so much about Darwin himself as about the continuing impact on the revolution of which he was the chief instigator.”

In his address, Simpson contrasted the “sway of superstition” that preceded Darwin with the “rational universe” he ushered in. In this, he echoed Huxley’s claim that Darwin changed the way we think about science and knowledge.

“Evolution is, then, a completely general principle of life. [...] Evolution is a fully natural process, inherent in the physical properties of the universe, by which life arose in the first place and by which all living things, past or present, have since developed, divergently and progressively. This world into which Darwin led us is certainly very different from the world of higher superstition.”

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Other contributors to the Centennial celebrations claimed that evolutionary theory was well-grounded on data, that science was continually confirming the essential features of Darwinism, and that the theory should be regarded as a historical fact. The next 50 years was marked by a continuing stream of similar affirmations.

The current anniversary has exceeded all those that have gone before, and the public has been left in no doubt about the

robustness of evolutionary thinking. As an example of an academic contribution, I have selected an article by Professor Peter Bowler, author of many relevant books on the history of Darwinism, including one with the title *“The Eclipse of Darwinism”* (1992). His bicentennial essay (2009) has the title “Darwin’s originality”. Like the earlier testimonials, Darwin is held in high esteem for ushering in a worldview characterised by undirected natural processes in opposition to plan and purpose in the natural world.

“But the non-Darwinian vision of evolution unfolding to an orderly, predictable plan has been essentially marginalized by acceptance of the key insights on which Darwin based his theory of natural selection.”

Bowler goes further than many of his predecessors in making explicit the tension between Darwin’s worldview and the Christian conception of a benevolent Creator. If God is responsible for creation, then the means He chooses to turn design concept into reality reflects on His character.

“One of the most disturbing aspects of Darwin’s theory was its appeal to the struggle for existence as the natural process that equates with the breeder’s activity as a selecting agent. This very harsh vision of nature certainly threatened the traditional belief in a benevolent Creator. [...] It has to be admitted that, by making death itself a creative force in nature, Darwin introduced a new and profoundly disturbing insight into the world.”

This point has not escaped the attention of people who use Darwinism as an argument against believing in God. Such people argue that if God were to have used the evolutionary process, he would be malevolent and not worthy of worship. This makes it easy for them to choose the other option of saying that there is no God. The Theistic Evolution stance, that God brought His creation into existence

via the process of evolution, is regarded as incoherent. In this, they follow the same path as Charles Darwin. His theological views changed with time, pushed relentlessly by his inability to reconcile Theism with his evolutionary thinking. On May 22, 1860, Darwin wrote to the American botanist Asa Gray to explain why he tended towards Deism:

"With respect to the theological view of the question. This is always painful to me. I am bewildered. I had no intention to write atheistically. But I own that I cannot see as plainly as others do, and as I should wish to do, evidence of design and beneficence on all sides of us. There seems to me too much misery in the world. I cannot persuade myself that a beneficent and omnipotent God would have designedly created the *Ichneumonidae* [wasps] with the express intention of their [larva] feeding within the living bodies of Caterpillars, or that a cat should play with mice. Not believing this, I see no necessity in the belief that the eye was expressly designed. On the other, I cannot anyhow be contented to view this wonderful universe, and especially the nature of man, and to conclude that everything is the result of brute force. I am inclined to look at everything as resulting from designed laws, with the details, whether good or bad, left to the working out of what we may call chance. Not that this notion at all satisfies me. I feel most deeply that the whole subject is too profound for the human intellect. A dog might as well speculate on the mind of Newton. Let each man hope and believe what he can. [...] But the more I think the more bewildered I become; as indeed I probably have shown by this letter."

Asa Gray was an enthusiastic supporter of Darwin, but he always sought to reinterpret the theory in terms of God's purposeful activity in the world. For him, evolution had a goal and a direction.

This should have alerted Gray to the fact that he was playing with fire, but it did not. Endorsement of Darwinism ultimately means assenting to Darwin's worldview. Every anniversary of Darwin has emphasised the essential element of the undirected, purposeless operation of natural law and chance as the underpinning philosophy. Yet many continue to imagine that they can treat Darwinism as objective, value-free science. As an example, this year, some have set themselves the task of "Reclaiming Darwin" from the atheists. Such a stance fails to acknowledge that the methodology adopted by Darwin could never discern the presence of a Creator because it has an inbuilt epistemological veto. This topic is developed in this issue by several authors, notably Ray Trainer, Sylvia Baker on Thomas Henry Huxley, and myself on Darwin's mentors.

This special issue of *Origins* is not just to critique Darwinism – we have a vision of moving forward. We want to see science built on a more robust foundation than atheism can provide. This means developing a science that is consistent with Christian theism. It means changing the way these issues are debated in the public arena. This is the vision shared in Sylvia Baker's personal plea for dialog. This is a burden for all of us to bring to God in prayer. ■

David Tyler

Articles Cited

Bowler, P. J. (2009) Darwin's Originality. *Science*, 323: 223-226.

Dobzhansky, T. (1973) Nothing in Biology Makes Sense Except in the Light of Evolution", *The American Biology Teacher*, 35: 125-129.

Huxley, T. H. (1880) The Coming of Age of *The Origin Of Species*. *Science* OS-1: (2)15-20.

Simpson, G. G. (1960) The World into which Darwin Led Us. *Science* 131: 966-974.

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