Thomas Henry Huxley at 200

FROM UNDER DARWIN'S SHADOW

by John van Wyhe FLS

RIGHT: Thomas Henry Huxley as President of the British Association for the Advancement of Science (BAAS). (Chromolithograph, 1870.)

Image: Wellcome Collection

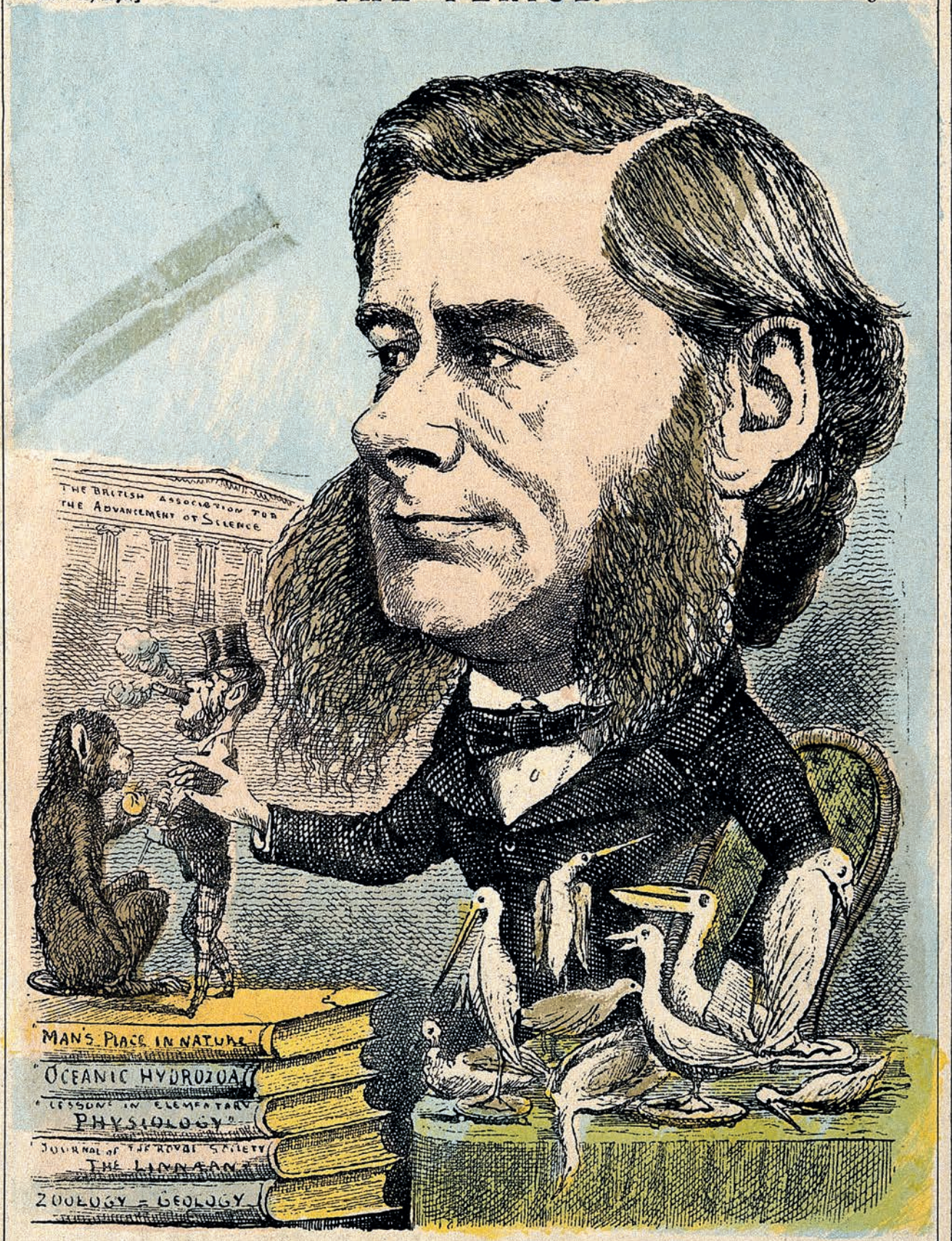
The year 2025 is the bicentenary of the birth of the charismatic Victorian comparative anatomist and science reformer Thomas Henry Huxley (1825–1895). His face remains instantly recognisable with his deep-set eyes, mutton chop sideburns and narrow lips. As countless modern publications tell us, he was widely known at the time as 'Darwin's bulldog', based on his championing of Charles Darwin's (1809–1882) theory of evolution. John van Wyhe FLS takes a closer look at Huxley's life and some of the misconceptions that have arisen over time.

This ubiquitous nickname bothered me a little for many years because I never encountered it in contemporary sources. A radical difference between what modern sources say and what the historical sources contain needed to be scrutinised. And so, it was revealed in *The Linnean* that every publication on Huxley in the last 100 years was incorrectly repeating that Huxley was known in his own time as 'Darwin's bulldog' (van Wyhe 2019). He wasn't—it is a posthumous nickname.

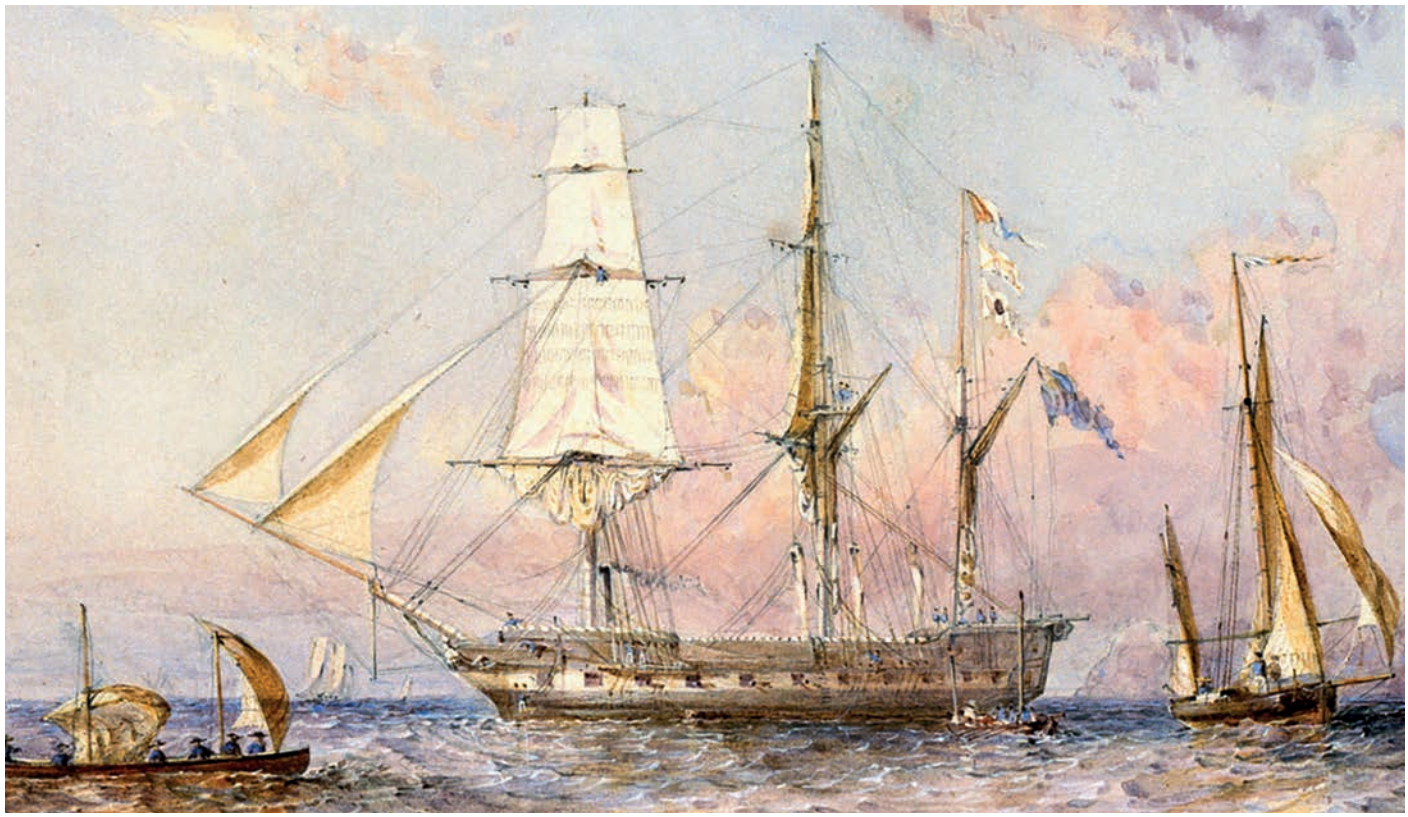
One of the things that specialists and professionals from within the study of the history of science can reveal is how our histories evolve over time. The differences between what people believe today and what the historical evidence reveals can be surprising, even shocking.

All historical figures written about repeatedly over a long period accrue myths and mistakes, becoming more numerous as time marches on. Exposing the inaccuracy of stories we have come to believe and enjoy can be very unpopular.

The story of Alfred Russel Wallace (1823–1913), for example, has changed radically since the 1960s into a victim-hero (van Wyhe 2013a). The historical Wallace was not working-class or forced to leave school, did not go on a quest to solve the problem of the origin of species, and he is no more 'forgotten' than his scientific contemporaries (van Wyhe 2020).



People of the Period.—PROFESSOR HUXLEY.



Above: HMS *Rattlesnake* painted in 1853 by Sir Oswald Walter Brierly.

Image: National Maritime Museum, Greenwich, London

Modern myths

What about Huxley—has his story changed beyond recognition? For starters, the main 'fact' everyone knows about him (Darwin's bulldog) is not true. So, what about the rest? Like his contemporary Alfred Russel Wallace, Huxley came from a literate middle-class family fallen on hard times. Indeed, the recent Wallace trope that he was blocked from advancement by a Victorian social class glass ceiling is shattered by the fact that Huxley's background was far more humble, and yet he reached the pinnacle of scientific status. Wallace was educated at a grammar school for the sons of gentlemen (van Wyhe 2013a), but Huxley actually did have to abandon his schooling, aged 10, after only two years. However, his extraordinary drive and intelligence led him to teach himself German, Latin and Greek. He became an apprentice to several medical men before proceeding through a budget anatomy school, then Charing Cross Hospital and passing his first Bachelor of Medicine exam at UCL. This was sufficient qualification to enlist, aged 20, in the Royal Navy as an assistant surgeon and join HMS *Rattlesnake* on a voyage to Australia.

Another modern myth is that a ships' surgeon was the default naturalist on Royal Navy ships. Not so. Despite the modern 'correction' that Charles Darwin was the 'companion' of the *Beagle*'s captain, Darwin actually was the official naturalist (van Wyhe 2013b). Huxley's *Rattlesnake* surveyed the coast of northern Australia from 1846–1850. The *Rattlesnake* too had a civilian naturalist, John MacGillivray (1821–1867), but Huxley was one of those ship's surgeons who was a naturalist by inclination and passion. He made the study of marine invertebrates his area of growing expertise. In Australia he also met the love of his life, Henrietta Heathorn (1825–1914), though they had to wait five years before his scientific career was secure enough to allow them to marry. They would go on to have five daughters and three sons.

Even before the voyage ended, Huxley began to write seminal works on marine invertebrates. He proposed a new class he called Hydrozoa. Historian Randolph Cock has argued that Huxley

exaggerated the difficulties he had to struggle against to emphasise his own importance, giving the false impression of the Admiralty resisting science (Cock 2003). Huxley was elected a Fellow of the Royal Society in 1851, and in 1854 he was appointed professor of natural history at the Royal School of Mines. Later he was naturalist to the British Geological Survey, Fullerian Professor at the Royal Institution and Hunterian Professor at the Royal College of Surgeons. In December 1858 he was elected a Fellow of the Linnean Society and became president of the British Association (1869–1870) and the Royal Society (1883–1885). From the 1870s he worked on eight Royal Commissions and lobbied tirelessly to make science a recognised and respected profession. In short, his career ran the familiar arc from discoveries and innovations, struggle for advancement to success and influence, and a shift to administration and public engagement.

Communicating ambitions

Like many up-and-coming, ambitious young men, bashing the unorthodox may have been a good way to establish his own respectability. In an 1854 review of the popular science best-seller *Vestiges,* he was famously scathing of ideas of evolution (Huxley 1854). Two years later he met Darwin with whom he had corresponded. Huxley recalled, 'I remember […] expressing my belief in the sharpness of the lines of demarcation between natural groups and in the absence of transitional forms, with all the confidence of youth and imperfect knowledge […] the humorous smile which accompanied his gentle answer, that such was not altogether his view, long haunted and puzzled me' (F. Darwin 1887).

Huxley was eventually brought around to evolution by Darwin, a respected senior figure with a mountain of evidence and arguments. When Darwin's *On the Origin of Species* appeared in 1859, Huxley managed to write an anonymous review for conservative paper *The Times* (Huxley 1859). This did not declare that Darwin was right (something Huxley himself was not yet fully convinced of) but that descent with modification was a plausible hypothesis, a fair question for scientific discussion and that religious authority had no say in adjudicating scientific fact. Historian of science Joe Cain made the suggestion that a motive for Huxley publicly attaching himself to Darwin may have been self-promotion (Cain 2009). If it was, the strategy worked.

Huxley famously said of first mastering *On the Origin of Species*: 'How extremely stupid not to have thought of that!' However, this is a retrospective remark written in 1887 and therefore not a record of what Huxley thought at the time of the book's publication (Huxley 1887). It's also not clear if he was referring to natural selection or common descent in general, though most citations of it claim he said this specifically about natural selection at the time it first appeared.

Clashes, *Creation* and misinterpretations

The British Association meeting in Oxford in 1860 at which Huxley famously clashed with Bishop Samuel Wilberforce (1805–1873) has received a dizzying amount of attention. It was not, as is commonly thought, a 'debate'. The Scottish physicist J. D. Forbes (1809–1868) wrote to William Whewell (1794–1866), Master of Trinity College, Cambridge, that he had 'heard that Huxley's attack on the Bishop of Oxford in re Darwin was most indecent' (Forbes 1860). The 1860 Oxford incident was only retrospectively elevated into a pivotal event; Huxley's remark promoting descent from an ape was no milestone in his own life.

In the wake of *On the Origin of Species*, Huxley published *Man's Place in Nature* in 1863, the first book on human evolution[1] (Huxley 1863). In it many readers first heard of the recently discovered 'Neanderthal man'. Huxley's famous 1868 lecture 'On a piece of chalk', delivered at 'a BAAS fringe meeting' (Desmond 1997) was a tour de force in science communication—taking the mundane and

1 Darwin's presentation copy is in Cambridge University Library. We can now see that Darwin had in his personal library at Down House more than 50 publications by Huxley and about an equal number about him. John van Wyhe ed., *The Complete Work of Charles Darwin Online*. https://darwin-online.org.uk/Complete_Library_of_Charles_Darwin.html

familiar and showing how it can reveal the profound. The evidence of the immense age and extent of this formation could be plainly worked out and understood by anyone—revealing the power of science.

Famously, Huxley also coined the term 'agnostic'. The Oxford English Dictionary quotes from an 1881 letter by journalist R. H. Hutton (1826–1897) who recalled that the term was: 'Suggested by Prof. Huxley at a party…one evening in 1869, in my hearing. He took it from St. Paul's mention of the altar to "the Unknown God."' It was an inspired solution to avoid the dirtiest word in the English language at the time—atheist. At the same time, it allowed Huxley to claim the moral and intellectual high ground.

In the maximally fictitious film *Creation* (2009), Huxley, portrayed by Toby Jones, twice utters the catchphrase to Darwin: 'You've killed God!' Thus contradicting decades of work by scholars of science and religion. Evidence suggests the real Huxley never said or even thought anything of the kind. This fits with the another mid-20th century accretion, the belief that Darwin was afraid to publish his theory of evolution and delayed it for many years (van Wyhe 2007, van Wyhe 2013a). Similarly mistaken accretions include the belief that the death of Darwin's daughter killed of his religious faith (van Wyhe & Pallen 2012) or that he was afraid that having married his first cousin would mean his children were genetically compromised. In fact, his faith was gone before his daughter was even born and Darwin worried that *his* unhealthy constitution was inherited by his children.

Huxley's clashes with his rival, comparative anatomist Richard Owen (1804–1892), are epic and well worth study. Human and ape comparative anatomy became the focus of Huxley's work. But caution is always necessary, as so much of what we believe about these figures has been coloured by posterity. Historian of science Nicolaas Rupke has shown how radically different the modern image of Owen is from the historical figure (Rupke 2009). Adrian Desmond has also tried to pop the myth of Owen the villain vs. the innocent truth-seeking Huxley (Desmond 1982). Historian of science Paul White has made the important correction that the conflict between Owen and Huxley was not insider vs. outsider since Owen was just as much a self-made man from the 'outside' as Huxley was. Indeed, White reminds us that that Huxley was pushy, competitive and very concerned with his own status and turf (White 2003). Palaeontologist Brian Switek argued that the modern belief that Huxley was the first to propose that birds evolved from dinosaurs is a misinterpretation of Huxley's original work (Switek 2010).

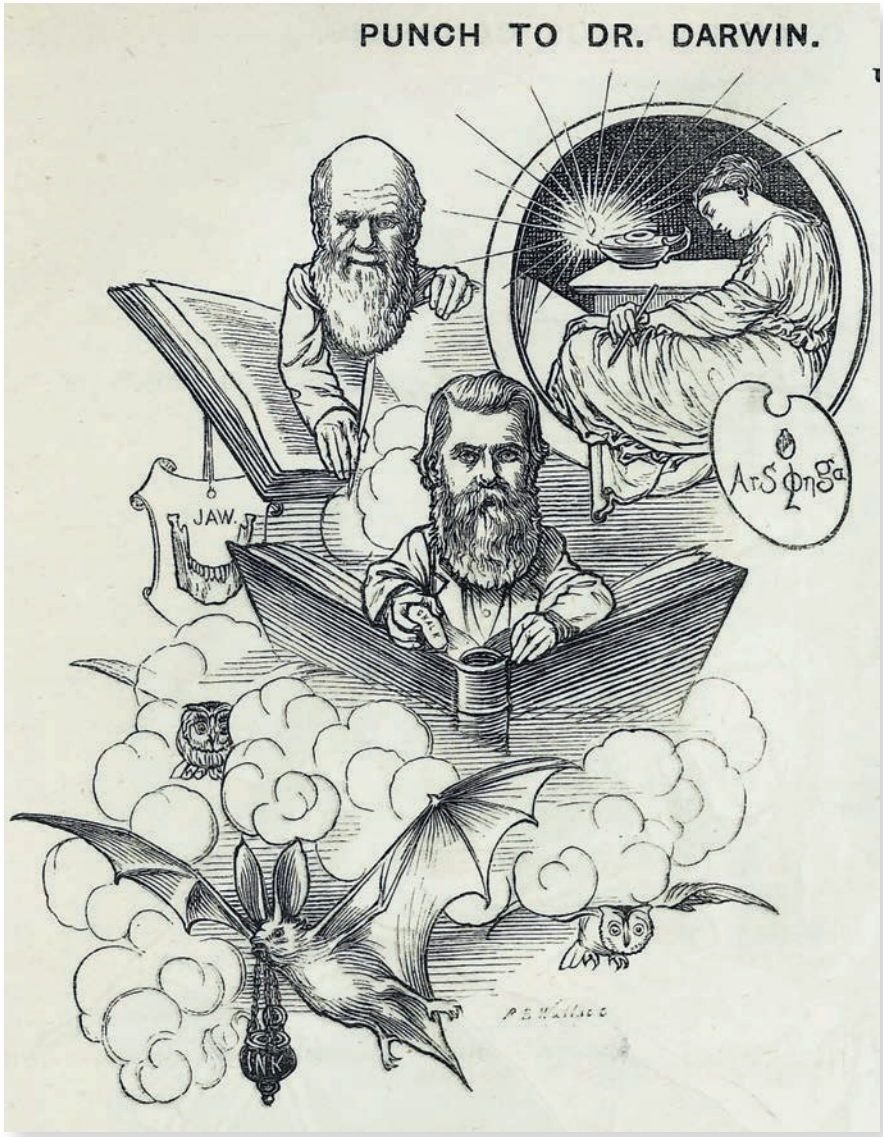
Fame and parody

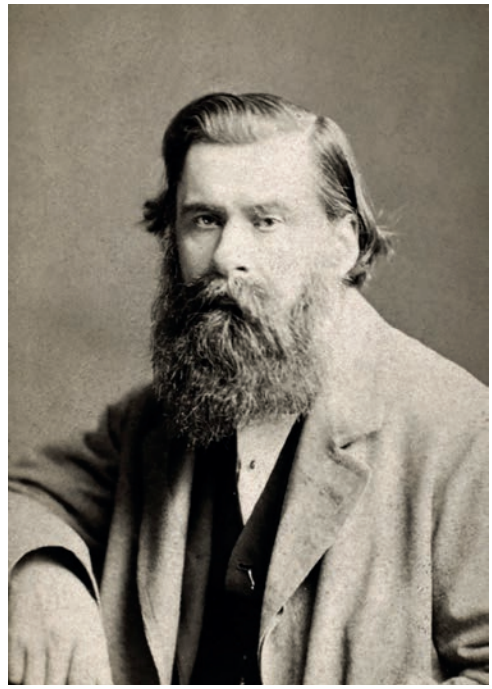
By the 1870s Huxley had become such a prominent figure that he was more recognisable and caricatured than Darwin[2] (van Helvert and van Wyhe 2021). For example, at the ceremony for Darwin's honorary LL.D. degree at Cambridge in 1877, Huxley's entrance was met with 'three resounding cheers' (according to the *Bedfordshire Mercury* on 1 December the same year.). Students in the gallery lowered stuffed monkeys over Darwin during the ceremony; the international media coverage of the degree and monkey prank would today be called 'viral'. The mere presence of Huxley, the science superstar, was part of the story in worldwide newspaper reports—satirical magazine *Punch* produced this caricature on the occasion of Darwin's degree.

We recognise Darwin in the top left, but the bearded figure in the middle has eluded modern commentators—it is Huxley, holding a piece of 'chalk'. His likeness is copied (in reverse) from a cabinet card of him with a full beard. The poem accompanying the caricature praises Darwin as the patient seeker of truth, 'content to leave the rest to blatant *Boanerges*'—the nickname given by Jesus to James and John in Mark 3:17—a vociferous, fiery preacher. Huxley to a tee. Ernst Haeckel (1834–1919), Darwin's German admirer and in some ways the German Huxley, was an absolute megastar on the continent, as historian of science Nick Hopwood highlights. But reputations change. How many people on the street would recognise a caricature of him today?

2 Previously unnoticed, caricatures of Darwin began only in 1871 after the publication of *Descent of Man*. A catalogue of Huxley caricatures would be extremely valuable and interesting. See the new online catalogue of Darwin caricatures:

https://darwin-online.org.uk/EditorialIntroductions/vanWyhe_Caricatures_of_Darwin.html





Left: 'Punch to Dr. Darwin' (produced on the occasion of his degree) from *Punch* (1 Dec. 1877).

Above: London Stereoscopic & Photographic Company cabinet card of Huxley—used for his likeness in the *Punch* caricature.

'The brilliant advocacy of Professor Huxley'

Huxley stood for liberalism, secularism, the progress of scientific knowledge, science professionalisation and the dissemination of these themes through scientific education. His fame and popularity are evident in sources of all kinds. During his final illness, newspapers reported on his health and that two telegrams had been sent by Queen Victoria enquiring after him. After his death on 29 June 1895 there followed an enormous number of obituaries. Even allowing for the usual exaggerations and praise of the genre, the consistent tone of these is striking. They show that even then, Huxley was best known as the advocate of Darwinism and science. The obituary in the liberal *Westminster Gazette* is representative:

> Huxley's positive contributions to scientific discovery were numerous and considerable. But it was to the popularisation of scientific method and the defence of theories of other men that he devoted the main energies of his life. The names of Darwin and Huxley were almost from the first associated in men's minds, and there can be no doubt that the fertilising and irrigating effect which the Darwinian hypothesis has exercised in all departments of contemporary thought has been due in very great extent to the brilliant advocacy of Professor Huxley (Anon 1895).

Images: Courtesy of John van Wyhe

The default assumption nowadays is that Huxley's reputation during his lifetime was the same as what we think today. As shown above, this is not what the professional study of the history of science usually reveals. Readers in Victorian Britain never saw the phrase 'Darwin's bulldog'. The examples of so many other figures, especially Wallace and Darwin, show how the stories of famous scientific figures accrue more mistakes the longer their stories are re-told. And so, ironically, it is a surprise to find that Huxley's reputation, primarily as the defender and promoter of Darwinism, has not changed much in 130 years.

John van Wyhe FLS (dbsjmvw@nus.edu.sg)
National University of Singapore
Director of *The Complete Work of Charles Darwin Online*

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