



'Awful Changes: Man only found in a fossil state. - Reappearance of Ichthyosauri. "A change came o'er the spirit of my dream" Byron', Henry de la Beche, 1831. Partially coloured lithograph. Wellcome Collection CC BY

## UNFREEZING TIME

Patricia Fara

This cartoon of a dinosaur school may appear to show a glade in a long-vanished prehistoric swamp, but it is actually an imaginary scene set in the far-distant future. It was drawn by Henry de la Beche, an eminent geologist who repeatedly poured scorn on his rival Charles Lyell, a barrister here caricatured as Professor Ichthyosaurus, the central speaker wearing a blue jacket. De la Beche liked to mock Lyell for creating an unrealistic geological clock marked out not in minutes, but in 'Millions of Centuries.' His title refers sarcastically to Lord Byron's poem *The Dream* (1816), in

which bizarre personal visions are each introduced with the refrain 'A change came o'er the spirit of my dream.'

The first fossil ichthyosaur had been found only a few years previously, and was given that Greek name for 'fish lizard' because it had paddles instead of feet. The long-necked creatures to the right are plesiosaurs, or 'almost lizards', but their appearance owes as much to the artist's vivid imagination as to the physical evidence provided by bones. Lyell, who had just been appointed the first Professor of Geology at King's College, London, is

immediately identifiable by the spectacles perched on his snout. He was indeed very short-sighted, relying on his wife Mary to carry out much of his reading. But de la Beche was also accusing Lyell of wearing tinted glasses, of behaving like a lawyer who views the world how he wants to see it, not how it really is.

Supporting himself on a rock podium, the erudite Professor is teaching his students about a recent discovery – a human skull. According to the caption below the drawing, he maintains it is obvious that this fossil belonged to an inferior type of creature, because ‘the teeth are very insignificant, the power of the jaws trifling, and altogether it seems wonderful how the creature could have procured food.’ Once again, de la Beche is mocking Lyell for imposing his own perspective and jumping to false conclusions: his dinosaur equivalent is judging the extinct species of homo sapiens in terms of his own physical makeup, rather than on human requirements for survival.

The two men disliked each other personally, but they also lay in opposing scientific camps. By the beginning of the nineteenth century, before Charles Darwin was even born, many naturalists believed that the earth’s deep rocky layers proved it was far older than the 6000 years claimed by biblical experts. As increasing numbers of strange fossils were excavated, geologists began to think that over a long period of time, animals had somehow appeared sequentially, ranging from minute organisms up through fish, birds and mammals in a process that had reached its climax in human beings.

For them, time resembled an arrow flying inexorably onwards from the earth’s creation, so that the future can never be the same as the past. Lyell’s model was different. He argued that we live in a cyclical universe of

slow change at a constant rate, so that the mountain ranges of today may gradually become the ocean floors of tomorrow, before eventually rising up again to dominate the landscape. To explain this sophisticated theory (called uniformitarianism), which is essentially the one still held today, he published three hefty volumes collectively called *Principles of Geology* (1830–3). Unfortunately for him, in an early passage explaining that extinct creatures could in principle re-emerge, he conjectured whimsically that ‘The huge iguanodon might reappear in the woods, and the ichthyosaur in the sea, while the pterodactyle might flit again through umbrageous groves of tree-ferns.’

Seizing on that uncharacteristic aside, de la Beche produced a series of cartoons, which culminated in *Awful Changes*. Whereas the others remained tucked away inside his private notebook, he decided to circulate this one as a print to his close colleagues at the Geological Society. On the surface, this insiders’ joke is gently humorous, but it is also a savage satire on Lyell’s revolutionary thoughts about the nature of time.

Main source: Martin Rudwick, ‘Caricature as a Source for the History of Science: De la Beche’s Anti-Lyellian Sketches of 1831,’ *Isis* 66 (1975), 534-60.

Dr Patricia Fara is an historian of science and has been President of the AHS since 2016. This is the fifth in a series of short articles in which she discusses a number of images, each illustrating a different way of incorporating time and its passing within a picture without showing a clock.