

## Feathered flights of fancy

Tom Kemp

**Archaeopteryx, The Primordial Bird: A Case of Fossil Forgery.** By Fred Hoyle and Chandra Wickramasinghe. *Christopher Davies, PO Box 403, Sketty, Swansea SA2 9BE, UK:1986. Pp.135. £10.95.*

THE eminent British astronomers Fred Hoyle and Chandra Wickramasinghe have greatly exercised the vertebrate palaeontology community with their assertion that the famous reptile/bird fossil, *Archaeopteryx*, is a fake. If true, the claim would match the enormity of the fraud associated with Piltdown man. Never having studied any of the specimens of *Archaeopteryx*, nor staked my reputation upon its genuineness, I can cheerfully accept the possibility in principle. Briefly, what is supposed to have happened is that the fossil of a small dinosaur was taken, shallow areas of matrix gouged out and replaced by a paste made from ground-up matrix, and then modern feathers pressed onto the paste to create the imprints now seen.

The authors go about the task of proving their theory with all the comprehensive enthusiasm of fictional detectives, although of the Inspector Clouseau rather than Sherlock Holmes variety. For, whether through perversity or stupidity I do not know, they exhibit a staggering ignorance about the nature of fossils and fossilization processes. Others have commented in detail on the exact misunderstandings (see the paper by A. J. Charig *et al.* in *Science* **232**, 622-626; 1986). In general terms, Hoyle and Wickramasinghe draw our attention to such points as changes in the texture and coloration of different parts of the matrix, failure of the part and counterpart slabs to match precisely, the "impossibly" large areas of feather impressions exposed on the slab and the "double impression" of some of the feathers. These are illustrated by the excellent photographs, although not always as convincingly as the text claims. The point is, however, that if features such as these are taken as evidence for forgery, then I do not believe that I have ever seen a genuine vertebrate fossil in my life! They all reflect quite common, perfectly explicable aspects of the process of formation of a fossil.

Two things interest me about this otherwise worthless book: why it was written, and what effect it might have. The motive seems to relate to the authors' own theory of evolution, described very briefly in the first chapter. It seems that major evolutionary change occurs as a result of "genetic storms", whence showers of virus parti-

cles from outer space invade the Earth and become incorporated into the genomes of living organisms. That this theory blithely ignores the multitude of anomalies it creates out of phenomena at present perfectly well explained by conventional theory is set aside, despite the glib invocation of Occam's razor. Apparently, periods of mass extinction as well as major evolutionary change result from large genetic storms, and therefore the origin of a group such as the birds must have coincided with a mass extinction. The nearest relevant-looking mass extinction was at the end of the Cretaceous; therefore there could not have been any birds in the Upper Jurassic; therefore *Archaeopteryx* must be a fake (and the toothed birds of the Cretaceous misidentified to boot). To support this conclusion the most outrageously improbable conspiracy theory has to be invoked. For more than a century palaeontologists seem to have been involved in a Watergate style cover-up; heavy hints that the present staff of the British Museum (Natural History) are still cheating and lying are not excluded. Do astronomers really apply this standard of reasoning in their own field?

As to the effect of the book, I am afraid that it has a superficial appeal and will undoubtedly gain currency amongst Creationists ("Now that we know *Archaeopteryx* to be a fake..."). Thus will science,

the scientific method and the cultural importance of trying to understand our world suffer yet another blow. At best this book is mischievous; at worst it might well be described as evil, because it betrays that morality of objectivity that science cherishes. Perhaps *Archaeopteryx* is a fake. Certainly the possibility should be investigated. But it should be done by those who actually understand fossils, fossilization and fossil preparation, not by a couple of people who exhibit nothing more than a Gargantuan conceit that they are clever enough to solve other people's problems for them, when they do not even begin to recognize the nature and complexity of those problems. □

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