

Review of Richard Milton: *The Facts of Life: Shattering the myth of Darwinism*. Published in *New Statesman*, (London), 28th August 1992.

Every day I get letters, in capitals and obsessively underlined if not actually in green ink, from flat-earthers, young-earthers, perpetual-motion merchants, astrologers and other harmless fruitcakes. The only difference here is that Richard Milton managed to get his stuff published. The publisher - we don't know how many decent publishers turned it down first - is called 'Fourth Estate.' Not a house that I had heard of, but apparently neither a vanity press nor a fundamentalist front. So, what are 'Fourth Estate' playing at? Would they publish - for this book is approximately as silly - a claim that the Romans never existed and the Latin language is a cunning Victorian fabrication to keep schoolmasters employed?

A cynic might note that there is a paying public out there, hungry for simple religious certitude, who will lap up anything with a subtitle like 'Shattering the Myth of Darwinism.' If the author pretends not to be religious himself, so much the better, for he can then be exhibited as an unbiased witness. There is - no doubt about it - a fast buck to be made by any publishers unscrupulous enough to print pseudoscience that they know is rubbish but for which there is a market.

But let's not be so cynical. Mightn't the publishers have an honourable defence? Perhaps this unqualified hack is a solitary genius, the only soldier in the entire platoon - nay, regiment - who is in step. Perhaps the world really did bounce into existence in 8000 BC. Perhaps the whole vast edifice of orthodox science really is totally and utterly off its trolley. (In the present case, it would have to be not just orthodox biology but physics, geology and cosmology too). How do we poor publishers know until we have printed the book and seen it panned?

If you find that plea persuasive, think again. It could be used to justify publishing literally anything; flat-earth, fairies, astrology, werewolves and all. It is true that an occasional lonely figure, originally written off as loony or at least wrong, has eventually been triumphantly vindicated (though not often a journalist like Richard Milton, it has to be said). But it is also true that a much larger number of people originally regarded as wrong really were wrong. To be worth publishing, a book must do a little more than just be out of step with the rest of the world.

But, the wretched publisher might plead, how are we, in our ignorance, to decide? Well, the first thing you might do - it might even pay you, given the current runaway success of some science books - is employ an editor with a smattering of scientific education. It needn't be much: A-level Biology would have been ample to see off Richard Milton. At a more serious level, there are lots of smart young science graduates who would love a career in publishing (and their jacket blurbs would avoid egregious howlers like calling Darwinism the "idea that chance is the mechanism of evolution.") As a last resort you could even do what proper publishers do and send the stuff out to referees. After all, if you were offered a manuscript claiming that Tennyson wrote *The Iliad*, wouldn't you consult somebody, say with an O-level in History, before rushing into print?

You might also glance for a second at the credentials of the author. If he is an unknown journalist, innocent of qualifications to write his book, you don't have to reject it out of hand but you might be more than usually anxious to show it to referees who do have some credentials. Acceptance need not, of course, depend on the referees' endorsing the author's thesis: a serious dissenting opinion can deserve to be heard. But referees will save you the embarrassment of putting your imprint on twaddle that betrays, on almost every page, complete and total pig-ignorance of the subject at hand.

All qualified physicists, biologists, cosmologists and geologists agree, on the basis of massive, mutually corroborating evidence, that the earth's age is at least four billion years. Richard Milton thinks it is only a few thousand years old, on the authority of various Creation 'science' sources including the notorious Henry Morris (Milton himself claims not to be religious, and he affects not to

recognise the company he is keeping). The great Francis Crick (himself not averse to rocking boats) recently remarked that "anyone who believes that the earth is less than 10,000 years old needs psychiatric help." Yes yes, maybe Crick and the rest of us are all wrong and Milton, an untrained amateur with a 'background' as an engineer, will one day have the last laugh. Want a bet?

Milton misunderstands the first thing about natural selection. He thinks the phrase refers to selection among species. In fact, modern Darwinians agree with Darwin himself that natural selection chooses among individuals within species. Such a fundamental misunderstanding would be bound to have far-reaching consequences; and they duly make nonsense of several sections of the book.

In genetics, the word 'recessive' has a precise meaning, known to every school biologist. It means a gene whose effect is masked by another (dominant) gene at the same locus. Now it also happens that large stretches of chromosomes are inert - untranslated. This kind of inertness has not the smallest connection with the 'recessive' kind. Yet Milton manages the feat of confusing the two. Any slightly qualified referee would have picked up this clanger.

There are other errors from which any reader capable of thought would have saved this book. Stating correctly that Immanuel Velikovsky was ridiculed in his own time, Milton goes on to say "Today, only forty years later, a concept closely similar to Velikovsky's is widely accepted by many geologists - that the major extinction at the end of the Cretaceous ... was caused by collision with a giant meteor or even asteroid." But the whole point of Velikovsky (indeed, the whole reason why Milton, with his eccentric views on the age of the earth, champions him) is that his collision was supposed to have happened recently; recently enough to explain Biblical catastrophes like Moses's parting of the Red Sea. The geologists' meteorite, on the other hand, is supposed to have impacted 65 million years ago! There is a difference - approximately 65 million years difference. If Velikovsky had placed his collision tens of millions of years ago he would not have been ridiculed. To represent him as a misjudged, wilderness-figure who has finally come into his own is either disingenuous or - more charitably and plausibly - stupid.

In these post-Leakey, post-Johanson days, creationist preachers are having to learn that there is no mileage in 'missing links.' Far from being missing, the fossil links between modern humans and our ape ancestors now constitute an elegantly continuous series. Richard Milton, however, still hasn't got the message. For him, "...the only 'missing link' so far discovered remains the bogus Piltown Man." Australopithecus, correctly described as a human body with an ape's head, doesn't qualify because it is 'really' an ape. And Homo habilis - 'handy man' - which has a brain "perhaps only half the size of the average modern human's" is ruled out from the other side: "... the fact remains that handy man is a human - not a missing link." One is left wondering what a fossil has to do - what more could a fossil do - to qualify as a 'missing link'?

No matter how continuous a fossil series may be, the conventions of zoological nomenclature will always impose discontinuous names. At present, there are only two generic names to spread over all the hominids. The more ape-like ones are shoved into the genus Australopithecus; the more human ones into the genus Homo. Intermediates are saddled with one name or the other. This would still be true if the series were as smoothly continuous as you can possibly imagine. So, when Milton says, of Johanson's 'Lucy' and associated fossils, "the finds have been referred to either Australopithecus and hence are apes, or Homo and hence are human," he is saying something (rather dull) about naming conventions, nothing at all about the real world.

But this is a more sophisticated criticism than Milton's book deserves. The only serious question raised by its publication is why. As for would-be purchasers, if you want this sort of silly-season drivel you'd be better off with a couple of Jehovah's Witness tracts. They are more amusing to read, they have rather sweet pictures, and they put their religious cards on the table.

Richard Dawkins

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