

Hoffman of California Polytechnic State University.<sup>10</sup> In the face of this conundrum, some geophysicists are trying — so far unsuccessfully — to pin the rapid shifts on something other than the core itself. Critics have thus pointed out that the magnetisation might not be primary; it is not uncommon to find lava flows that have been remagnetised long after they cool, for example, because of chemical alteration. Thus they concluded that the alleged rapid changes in the Earth's field really reflect an imperfection in the magnetic recording process, an 'artefact' according to Bloxham of Harvard University.

However, Coe and Prévot (with Camps) have now tackled such criticism head-on, making a convincing case against the 'magnetic artefact' argument. The two lava flows they have studied have quite different magnetic properties and yet show similar signals, making it harder to blame some glitch in the record. Hoffman agrees:

*'We haven't found anything really questionable about the rock magnetics.'*

Similarly, they have convincingly countered other hypotheses, such as that the changes in the magnetisation reflected changes in the external magnetic field associated with, say, a magnetic storm.

Bloxham acknowledges that he and his geophysicist colleagues are having a hard time explaining away the findings. 'People are taking them seriously', he says.<sup>11</sup> Indeed, Merrill agrees.

*'They are some of the best experimentalists in the world. They've made it much more difficult to be a skeptic',*

he says.<sup>12</sup>

*'In short, if Coe et al. are correct, then the consequences could be much more profound than they say',*

concludes Merrill.<sup>13</sup>

*'All this leaves us with a dilemma: we would like to apply the principle of least astonishment, but to which data and interpretations? Some scientists will accept the view as given by the authors [Coe et al.]. Others, I suspect, will choose to believe the rock magnetic record is still inaccurate . . .'*

However, Merrill and all his uniformitarian colleagues have failed to consider his own stated alternative — that there is

*'something fundamentally wrong with the conventional wisdom of the day'*

on the origin and history of the Earth's magnetic field! Why? Because they would have to abandon their dynamo theory and its millions of years time-scale? In fact, there is a viable alternative explanation for both the origin of the geomagnetic field and for the rapid field reversals (in days and weeks, not thousands of years) that fits **all** the data — freely decaying electric currents in the Earth's core, as proposed by young-earth creationists Barnes and Humphreys,<sup>14,15</sup> with the rapid field reversals associated with the Flood event. Indeed, Humphreys predicted that evidence of rapid reversals would be found before Coe *et al.* announced their 'discovery'. How much more data then do Coe *et al.* need to generate before the geophysical community is prepared to abandon its failed dynamo theory? Perhaps Merrill could be right on one point —

*'Eventually, the consequences*

*should be profound.'*

We may yet all be astonished!

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## Y-Chromosome Adam?

Mitochondrial DNA is inherited from the mother, via the egg, and has been checked for variations in the worldwide human population in an attempt to determine genetic ancestry and

geographic location of human origins.<sup>1</sup> From this approach came the idea of 'African Eve'—the hypothesis that humans had a female parent, in Africa, and at a time so recent as to surprise

most evolutionists. Maryellen Ruvulo, using the 'molecular clock' hypothesis, estimated that modern humans diverged from a common ancestor between 55,000 and 455,000 years ago.<sup>2</sup> Of course such age estimates depend on what rate the 'clock' is chosen to run at, and that is very much determined by

uniformitarian assumptions about the age of the earth, so the molecular data are very much consistent with the biblical model of human origins.<sup>3</sup>

In the 1970s, Haigh and Maynard Smith investigated the variation in human haemoglobin and concluded that the human species must have gone through a population bottleneck in the recent past, if most of the variants are due to neutral mutations (that is, mutations not subject to selection).<sup>4</sup> Researchers at the University of Oregon Medical School pointed out that Noah's Flood would have provided such a bottleneck.<sup>5</sup>

Dorit *et al.* recently investigated the variation in a segment on the human Y-chromosome which is not subject to recombination, from 38 men from different ethnic groups around the world.<sup>6</sup> This DNA segment was chosen because it is inherited only from the father, and, being an intron, it is thought by evolutionists to be subject only to neutral mutations (not subject to selection), because it does not code for

a protein. Introns are commonly regarded as 'useless left-overs' of evolution, so that changes in them would not affect the viability of the individual and would not be selected against. Of course the proposition that any DNA is 'useless' or 'junk' is highly questionable.<sup>7</sup>

Much to the surprise of the researchers, they found **no** variation in the intron, which consists of 729 base pairs. They then estimated how long the human kind could have been around since its origin, with no variation in such a DNA segment, and estimated between 27,000 and 270,000 years, depending on what assumptions were used in the model of population genetics. The 95 per cent confidence intervals for both estimates included zero years. In other words, a date of origin consistent with biblical chronology is within the confidence limits, even with the evolutionary assumptions employed. Because of the lack of variation (polymorphism) the researchers were unable to draw any conclusions about

the geographic origin of mankind.

The multi-regional models of human origin favoured by many evolutionists, such as Wolpoff, are not consistent with these data. The biblical account of a recent origin with a single pair of ancestors, Adam and Eve, and/or a genetic bottleneck at the time of the Flood is consistent with the above findings.

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*D. B.*

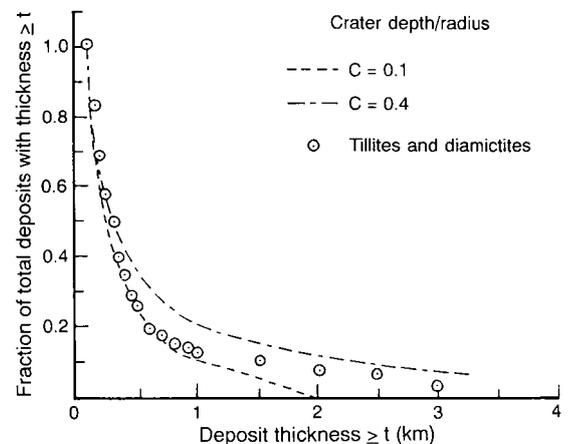
## A New Challenge to Supposed Ancient Glaciations

For many years, geologists just assumed that a sedimentary layer containing a mixture of rocks within a fine-grained matrix was laid down in an ancient ice age. Striated stones and bedrock, cobbles and boulders within finely-laminated sediments, and other glacial-like features are sometimes associated with these chaotic mixtures. As a result, ancient 'ice ages' are postulated for the early Precambrian, the late Precambrian, the late Ordovician, and the late Palaeozoic periods of geological time.

Schermerhorn<sup>1</sup> challenged the interpretation of the late Precambrian 'ice age', suggesting that most of these till-like rocks were laid down from debris flows due to tectonics. He pointed out that other geological processes, especially mass movement,

can duplicate the till-like matrix and many other supposedly diagnostic features of ancient glaciation. However, after reinterpreting several presumed 'ice age' deposits as due to submarine mass flow, geologists soon ignored Schermerhorn's paper.

Now several planetary geologists are challenging the ancient ice age concept anew, but from a different tack.<sup>2-6</sup> Based on the expected number of large asteroid impacts during the past 2 billion



**Figure 1.** Comparison of the relative thickness distribution of tillites/diamictites with the relative thickness distributions of impact crater deposits from craters with depth/radius ratios of 0.1 to 0.4 supposedly formed during the last 2 billion years.