

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

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).⁴ Researchers at the University of Oregon Medical School pointed out that Noah's Flood would have provided such a bottleneck.⁵

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.⁶ 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.⁷

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.

Schermerhorn¹ 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.²⁻⁶ Based on the expected number of large asteroid impacts during the past 2 billion

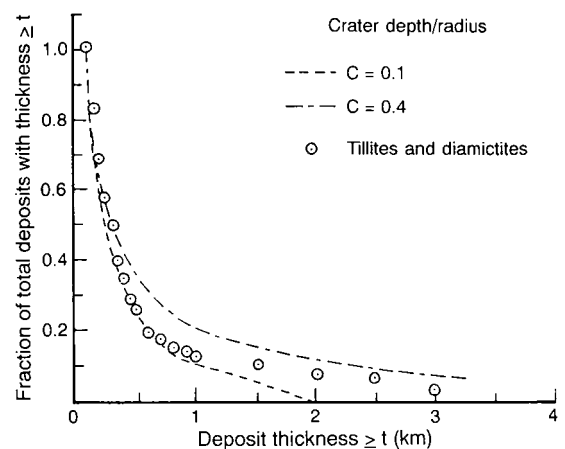


Figure 1. Comparison of the relative thickness distribution of tillites/diamictites with the relative thickness distributions of impact crater deposits from craters with depth/radius ratios of 0.1 to 0.4 supposedly formed during the last 2 billion years.

years of geological time, there should be much more preserved impact ejecta than found. There is little of this ejecta preserved in the sedimentary rocks, but the expected amount is close to the volume of till-like rocks claimed for ancient 'glaciations' (see Figure 1). Thus, these geologists suggest that most, if not all, ancient 'ice age' deposits are actually debris from asteroid or comet bombardment (see Figure 2). The reason these planetary geologists can suggest such a paradigm change is because impact debris mimics many aspects of these supposed glacial deposits. The authors also state that their new theory would also eliminate several geological puzzles associated with the concept of ancient ice ages.

Huge debris flows caused by asteroid impacts do have merit in explaining many aspects of the 'ice age' deposits. A chaotic jumble of till-like debris, striated stones and bedrock, and large rocks in finely-laminated sediments are associated with known impact craters, such as the Ries impact crater in Germany. However, the new hypothesis has several problems of its own, as mainstream geologists have pointed out.^{7,8} It is quite possible that, besides impacts, large submarine mass flows during the Genesis Flood may explain all the features claimed for these pre-Pleistocene 'ice ages'.^{9,10}

I thank Dr Larry Vardiman of the Institute for Creation Research for first calling my attention to this controversy.

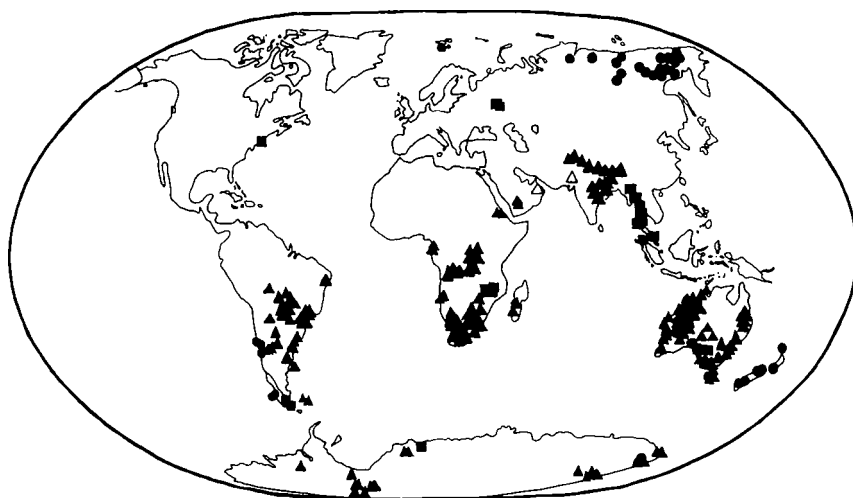


Figure 2. Global location of tillites/diamictites.

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M. J. O.

Ocean 'Birth' Theories Undermined

The surprise discovery of a rift valley that is bursting apart on the sea-floor east of Papua New Guinea is challenging accepted theories of how oceans are born. Found in the Woodlark Basin (see Figure 1) by a team from the University of Hawaii, this sea-floor valley is an actively splitting continental rift.¹ Not being masked by sediments, it is perhaps the only region on the Earth today where the progression from continental rifting to the initiation of sea-floor spreading can be clearly

imaged by geologists.

According to the current consensus amongst uniformitarian geologists ocean basins form where continental plates become stretched and thinned, forming a rift valley. The rift may form on the sea-floor portion of the continental plate, but even if it forms on land it will be later drowned as the plate thins there and subsides. Eventually, the plate beneath the drowned valley thins to the point where molten rock can break through, forming

new ocean-floor crust. This rifting then spreads, forcing apart the unthinned parts of the plate and thus creating two continents where only one existed before.

The rifts that start this process were always assumed to appear in a slow, progressive fashion, like the unfastening of a zipper. However, that assumption must now be seriously questioned, because it has now been found that rifts sometimes jump from one site to another, like a zipper that bursts open