Earth. In spite of all the huge problems with this idea, in the future NASA intends to look for homochiral molecules on a comet (and possibly on Mars). However, amino acids in meteorites have been shown to be 'racemic' (a 50:50 mix of both forms).

This huge expenditure of tax dollars is all based on fervent faith in evolution, and rejection of the obvious — that the machinery of life was originally created in a fully-functioning state.

REFERENCES

1. Cohen, J., 1995. Getting all turned around over the origins of life on earth. Science, 267:1265-1266.

C.W.

Hairy Mole Rats Upset Theories

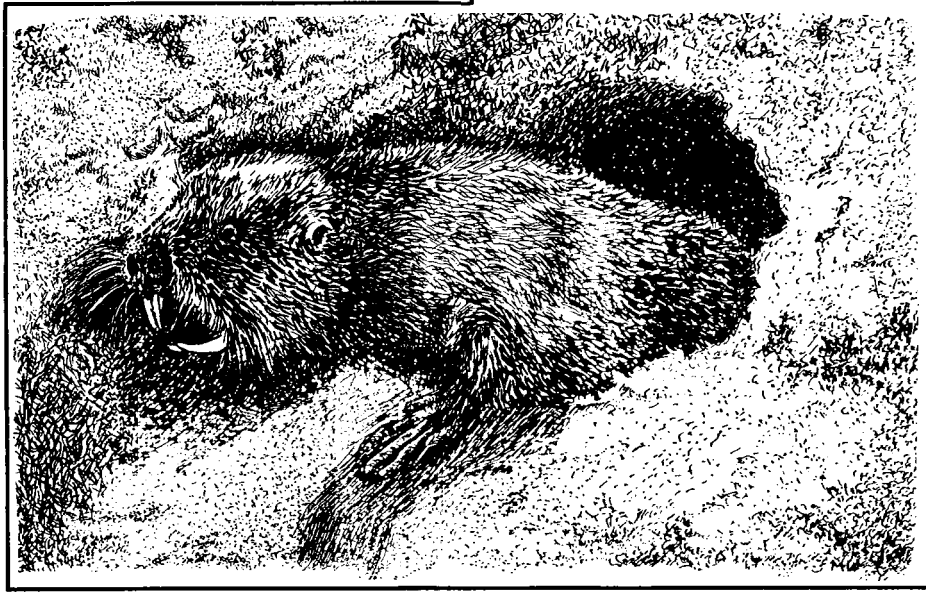
Ant and termite colonies are examples of eusocial behaviour, in which only a queen and a few males reproduce. The rest of the colony co-operates for the care of the young and the survival of the species.

This sort of behaviour has long been a 'puzzle of natural selection'. So-called sociobiologists felt they were coming close to an evolutionary explanation with 'selfish gene' theories. Even though it is still hard to detail a step-by-step scenario for how such behaviour could have evolved, they pointed out that working for the survival of a closely related member of your species ensures the survival of a good portion of your own DNA.

The naked mole rats of Africa are one of the few types of mammals which also exhibit eusocial behaviour, and here also a pattern of relatedness similar to that in insect colonies was found.[1]

However, contrary to the expectations of the evolutionary sociobiologists, the hairy Damaraland mole rat, bigger than its more renowned cousin, does not conform. Although just as eusocial, the degree of genetic relatedness among colony members does not appear to be the crucial factor. The colonies are much more genetically diverse than those of naked mole rats.

The eusocial behaviour of the Damaraland variety appears to have a lot to do with the need to co-operate in areas of patchy resource availability. Other non-eusocial types of mole rats live in areas where the food supply is more predictable.



REFERENCES

1. Holloway, M., 1995. Socializing with non-naked mole rats. Scientific American, 272(1):11.

C.W.

Did Darwin Get it all Right?

The strongest study yet, say many researchers interested in the punctuationalist/gradualist controversy.[1] Fossil expert Alan Cheetham studied the fossils of coral-like creatures called *bryozoa*, expecting to find evidence for the gradual, pervasive evolutionary change which most textbooks once claimed was the dominant reality of the fossil record.[2]

Instead, he found that species stayed the same for 'millions of years', then, just as Gould and Eldredge's punctuated equilibrium concepts indicated, they either entered or left the record abruptly.

Creationist/Flood geological models of the fossil record, though not viewing the record as one of vast ages, would predict that when the record is studied from bottom to top, it will give the same jerky appearance as the punctuationists highlight, and not generally show the smooth change expected by gradualists.

When evolutionists talk of a species 'staying the same for millions of years' then being replaced by another species, all this means to a creation model is that representatives of a particular type of organism were buried in a succession of layers (which are interpreted by evolutionists as representing millions of years), then another type was buried on top of those layers. The evolutionist sees this as proof of a 'punctuational' mode of evolution, but this is of course only so if evolution itself is first assumed. The bare fact is that one type of organism exists in one series of layers, and another above it — without any

visible change in the fossils. This can scarcely be evidence of evolutionary change, but instead is more reasonably interpreted as evidence of *no change.*

Cheetham's very careful study is therefore of great importance to the creation/evolution debate, as it has helped convince more palaeontologists that punctuationism is the dominant reality of the record, after all.

Some had been able to point to studies which suggested gradualism in at least some fossil species. However, Cheetham's collaborator Jeremy Jackson of the Smithsonian points out that these are mostly flawed.

REFERENCES

1. Kerr, R. A., 1995. Did Darwin gel it all right? Science, 267:1421-1422.
2. Jackson, J. B. C. and Cheetham, A. H., 1994. Phylogeny reconstruction and the tempo of speciation in *Cheilostome bryozoa*. Paleobiology, 20:407.

C.W.

The 'Principle of Least Astonishment'!

So ran the heading in the journal Nature, as geophysicist Ronald Merrill of the University of Washington (Seattle) tried to grapple (unsuccessfully) with the newly published evidence confirming that 'extraordinarily rapid' reversals of the Earth's magnetic field have indeed occurred.[1,2]

A decade ago, Prévot and Coe (and colleagues) reported in three papers the evidence they had found of extremely rapid changes of the Earth's magnetic field recorded in lava flows at Steens Mountain in southern Oregon (USA).[3-5] Scientists regard Steens Mountain as the best record of a magnetic reversal because the volcano spewed out 56 separate flows during that episode, each of these rock layers providing time-lapse snapshots of the reversal (see Figure 1). Within one particular flow, Prévot and Coe discovered that rock toward the top showed a different magnetic orientation than did rock lower down. They interpreted this to mean that the field shifted about 3° a day during the few days it took the single layer to cool.[6] Such a rate of change is about 500 times faster than that seen in direct measurements of the field today, so,

> *'most geomagnetists dismissed the claim by applying the principle of least astonishment — it was easier to believe that these lava flows did not accurately record the changes in the earth's magnetic field than to believe that there was something fundamentally wrong with the conventional wisdom of the day'*

on the origin and history of the field.[7]

There the story would have ended, except that Coe and Prévot have continued their painstaking work. Now they have reported that the rate at which the orientation of the ancient magnetic field rotated reached an astounding 6° per day over an 8-day period, and have argued that these field changes recorded in these lava flows at Steens Mountain do reflect changes in the Earth's main magnetic field.[8]

These findings veer far from the textbook image of how the Earth is supposed to work. Says Roberts of the University of California, Los Angeles, *'To a theoretician like myself, these results are almost inconceivable'*.[9] Yet earth scientists lack a firm understanding of the Earth's magnetic field. According to current theory, swirling currents of molten iron within the Earth's outer core create a dynamo that powers the magnetic field. It is believed that once every few hundred thousand years, the field flips orientation, swapping north pole for south pole. These so-called magnetic reversals supposedly take about 10,000 years from start to finish.

Most geophysicists questioned the original finding. 7 *can't really understand the mechanism',* says

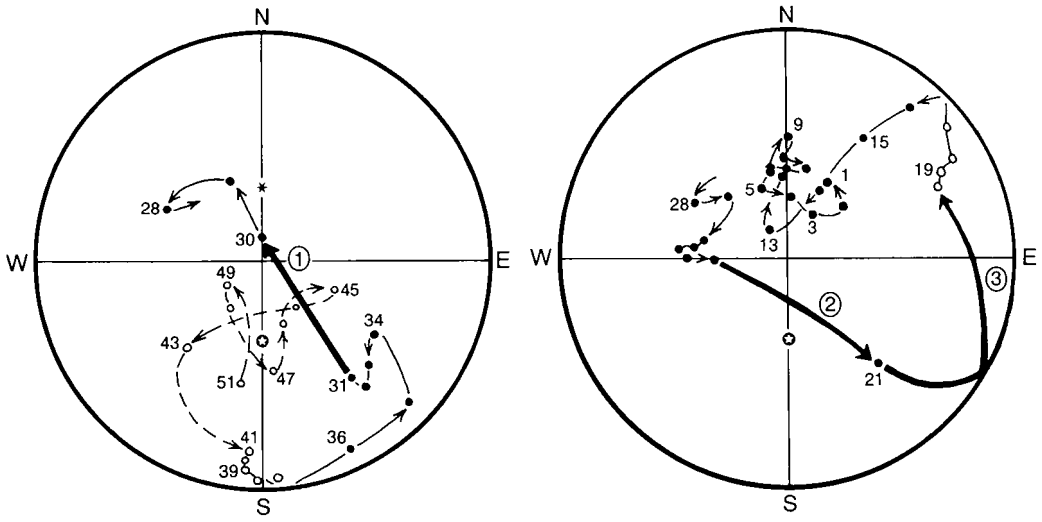


Figure 1. *The Steens Mountain palaeomagnetic directional record showing three large jumps or gaps (labelled). The prolection is equal area, and each point is a directional group that represents one to nine consecutive lava flows with indistinguishable directions. Stars denote normal and reversed geocentric axial dipole directions. Filled (open) symbols are plotted on the lower (upper) hemisphere.*