

the tribes of natural Israel will be age-lasting, enduring for a thousand years, but for spiritual Israel they will be eternal and everlasting. Within the Millennial age the individual Israelites will enjoy long, productive lives: "for as the days of a tree are the days of My people, and Mine elect shall long enjoy the work of their hands . . . for

they are the seed of the blessed of the LORD, and their offspring with them" (Isa. 65:22,23, AV). Everlasting strength and security for those who trust in God are spoken of by the prophet Isaiah: "Trust in the LORD forever, for in YAH, the LORD [Yah Yahweh], is everlasting strength" (26:4).
(To be concluded)

Science Update

Recent news from the world of science

David Burges

New secrets of bird migration

THE EXTRAORDINARY abilities of birds to migrate over large distances and return to the same breeding site every year have long been a source of wonder. The prophet Jeremiah was able to point to the contrast between the birds of Israel, which faithfully kept to their migratory patterns year after year, and the people of Israel, who could not discern the timing of God's actions: "Even the stork in the heavens knows her appointed times; and the turtledove, the swift, and the swallow observe the time of their coming. But My people do not know the judgment of the LORD" (8:7, NKJV).

Now studies by scientists from the University of East Anglia have unearthed another remarkable example, in the behaviour of black-tailed godwits, wading birds many of which breed in Iceland.¹ It had been assumed that the birds, which are long-lived and pair for life, migrated from the breeding area to their winter feeding grounds together. But when the birds were ringed and tracked it emerged that they invariably split up and wintered hundreds of miles apart. The females flew off first, leaving the males to tend the growing chicks for a few more days. Then the males themselves set out, but to totally different sites.

One typical pair, nicknamed Gretar, a male, and Sigga, a female, breed at Holfi in southern Iceland. Sigga, however, spends the winter on the Humber Estuary near Hull in eastern England, while Gretar travels to the Algarve in Portugal, some 1,200 miles away. In the case of another couple, Gunnar the male winters in Essex whilst his mate Elsa travels to Spain. The

team did not find a single case of paired birds in the same migrating flock.

However, the most striking feature of their behaviour is that in the spring, despite this long separation, the birds return to their Iceland breeding area within days of each other. According to the co-author of the study, "they manage to synchronise their arrival with astonishing accuracy". The return of the godwits is spread over a whole month, from mid-April to mid-May, yet previously paired birds arrive within three days of each other. Only rarely do they fail to meet at the right time, and then unmatched birds may well find themselves a new mate.

Thus the synchronised arrival is of great importance to breeding success, but scientists currently have no idea how the birds manage to achieve it. They speculate whether paired birds could share genetic or physiological similarities, or utilise favourable weather systems for the final stages of their journey home, but essentially this ability remains an enigma. Like so many other wonders of the living world, it testifies to the wisdom of the Creator and the complete inability of evolution to account for the origin of such mysteries.

Another new human species?

H EADLINES in many newspapers and news bulletins recently proclaimed the 'sensational' discovery of yet another species of hu-

1. Roger Highfield, *The Daily Telegraph*, 7 Oct. 2004, reporting work published in *Nature*; article kindly supplied by a reader.

man, nicknamed 'Hobbit' because of its small stature.² The bones of the one-metre-tall human were discovered in limestone caves on the island of Flores in Indonesia and were therefore named as *Homo floresiensis*. Examination of the partial skeleton identified it as that of an adult female, and imaginative artists' impressions appeared in the media of a corresponding miniature male with hairy, apelike face, carrying a rudimentary spear and a large dead rodent!

At first the new human was assumed to be very ancient because of its 'primitive' features, and was supposed to have probably evolved from another species, *Homo erectus*, found on the Indonesian island of Java. Subsequently, however, to the surprise of anthropologists, it was dated to 'only' 18,000 years ago. The bones are not actually fossilised, and may even yield DNA for further identification. Significantly, the reports noted that the modern Flores islanders have persistent legends of 'little people' living on the island in the past, and even speculated that some might still survive in unexplored areas of the jungle.

The discovery of 'Hobbit' brings to around ten the number of claimed human species, while the number of human-like species exceeds fifty. Now all these claims, based on supposedly significant differences of the sizes and shapes of fossil bones, have been blown apart by a new study. A world authority on fossil human anatomy, Professor Maciej Henneberg of the University of Adelaide, has just completed a detailed survey of the skull sizes and estimated body weights of all 200 specimens of human-like fossils and concluded that they all lie within the range expected for just a single species, including such famous specimens as Lucy, Java man and the Neanderthals.³ In other words, he considers that they are probably all variants of the single species *Homo sapiens*!

Professor Henneberg still believes that the fossils show evidence of 'evolution' within the species, with substantial increases in both skull sizes and body weights, but this is no more than another word for 'variation', and is clearly not the development of new species. The newspaper report tellingly illustrated the point by placing side by side the silhouettes of an English rugby player and an African pigmy! Another expert dryly drew attention to the pressure on scientists to find 'new' species, arising from the fact that there are far more palaeontologists than fossil specimens! Creationists have long argued that

these supposed fossil ancestors of humans are either clearly apes or are actually humans, and now a leading scientist has supported that position.

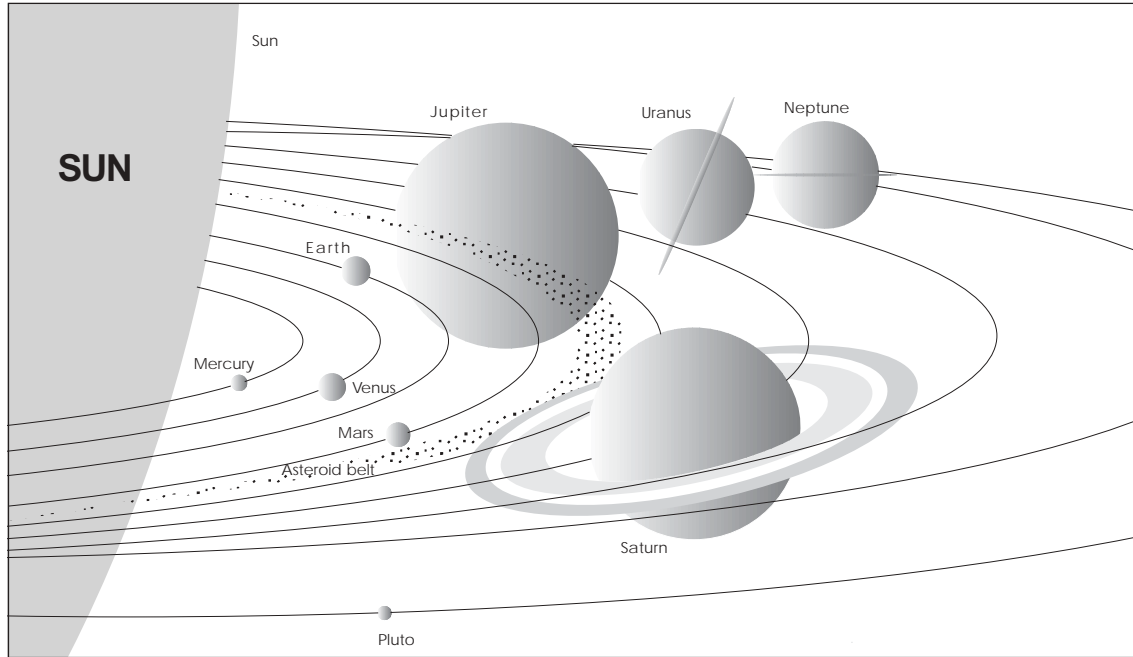
The rainforest that forgot the rules

THE world's tropical rainforests contain the greatest numbers of species of any habitat on earth, living in complex ecological systems. Scientists have long held that such systems could only develop over millions of years as species co-evolve and ecological niches are created and filled. However, this belief has been exposed as hopelessly wrong by the remarkable story of the British imperial outpost of Ascension Island in the mid-Atlantic Ocean.⁴

The volcanic island is young in geological terms, and until the mid-nineteenth century was completely devoid of trees, with a bare, white mountain in the middle. Consequently there was scant rainfall, even though the island is in the belt of the trade winds. A British plant collector, Joseph Hooker, visiting the island in 1843 as an adviser to the Royal Navy, which maintained a garrison there, proposed the planting of trees and shrubs to stimulate rainfall and the general ecology. Over the following years thousands of seedlings and seeds, from Argentina, South Africa and Kew Gardens in London, were enthusiastically planted, so that by 1865 a new forest was growing in the clouds on top of the island and the summit was renamed Green Mountain. More than forty kinds of trees were established and the water supply was now excellent.

Modern ecologists are scandalised by Hooker's scheme, because the introduced species completely changed the island's indigenous ecosystem, endangering its handful of unique plants. But they have totally ignored the amazing success of the new plantings in establishing what is today a fully functioning tropical cloud forest,

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- For example, " 'Hobbit' joins human family tree", BBC News Online, Science/Nature, 27 Oct. 2004, reporting work published in *Nature*; <http://news.bbc.co.uk/1/hi/sci/tech/3948165.stm>.
 - Roger Highfield, *The Daily Telegraph*, 26 Dec. 2004, reporting a study by Professor Maciej Henneberg, University of Adelaide, published in the *Journal of Comparative Human Biology*; article kindly supplied by a reader.
 - Fred Pearce, "The accidental rainforest", *New Scientist*, 18 Sept. 2004, p. 44.



The relative sizes of the planets of the Solar System (distances not to scale)

without any 'co-evolution' of its constituent species, in just 150 years! Conventional theory says that such ecosystems can only emerge over millions of years as plants co-evolve with their pollinators and seed dispersers, while microbes in the soil evolve to deal with the particular types of leaf litter.

The thriving, man-made, Ascension Island rainforest, with its many plant and insect species, appears not to have heard about the ecological theory. But it is surely a witness to the innate ability of a multitude of species to obey the Creator's injunction to bring forth abundantly and replenish the earth.

Seeking the origin of life

THE early years of the twenty-first century are witnessing an increasing number of spectacular space missions to rendezvous with planets, moons, asteroids and comets. A recent highlight was the landing in January on Saturn's moon Titan of the Huygens probe, which had been carried there on a seven-year journey by the Cassini satellite, now orbiting Saturn.⁵ Titan, discovered by Christiaan Huygens in 1655, is Saturn's largest moon, and second largest in the Solar System (after Ganymede of Jupiter), having a greater diameter than the planet Mercury.⁶

The main purpose of the mission, and indeed of most of the other space explorations, is to try to find evidence of the spontaneous chemical origin of life.⁷ This would provide man with the final missing step in his development of the theory of evolution, to show that life could have started on earth by purely natural means without resource to a Creator.

Titan is the only moon in the Solar System known to have clouds and a thick, planet-like atmosphere, which is considered by the scientists to resemble that of the Earth four billion years ago, before life is supposed to have begun. Titan's atmosphere is mostly nitrogen, with some methane and also many other organic compounds, which form when sunlight destroys methane.⁸ It is not known how the level of methane is maintained in the atmosphere. On Earth today the methane in the atmosphere is maintained by living organisms, such as those associated with peat bogs, rice fields and ruminant

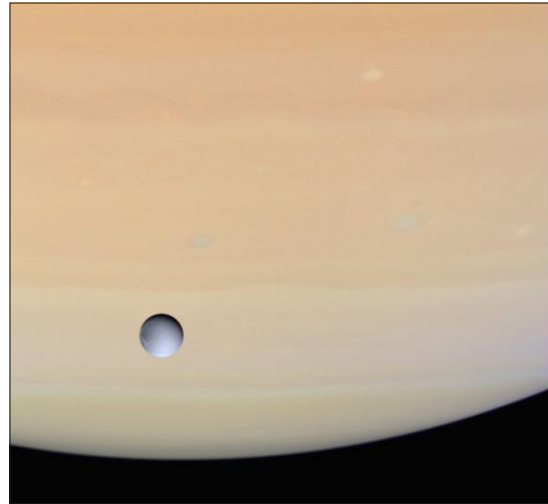
5. "Titan mission 'resounding success'", BBC News Online, Science/Nature, 15 Jan. 2005; <http://news.bbc.co.uk/1/hi/sci/tech/4177401.stm>.
6. Patrick Moore, *Atlas of the Universe*, p. 114.
7. "The earth is the LORD'S, and the fullness thereof", *The Testimony*, Oct. 2000, p. 387.
8. Patrick Moore, *ibid.*, p. 118.

animals, which generate it as a by-product. However, Titan's surface temperature is -180°C , far too cold for liquid water to exist, and all known forms of life need liquid water. Hence the mystery remains.

The Huygens spacecraft was only able to transmit data for a few minutes after landing, before its batteries ran out. The analysis of that data will, however, take years, and is expected to shed more light on what Titan's atmosphere and surface are made of, but experience suggests that in the end it will only raise further questions still to be answered.

The total cost of the Cassini/Huygens mission is reported to be around \$3 billion, an extraordinary sum when it is remembered that projects targeting disease and poverty in the Third World, for instance, are so often starved of funds. And all of this represents mankind's determined attempts to circumvent the inescapable truth that *all* life is the result of the Creator's handiwork. As Job recognised, "Who among all these does not know that the hand of the LORD has done this, in Whose hand is the life of every living thing, and the breath of all mankind?" (12:9,10, NKJV).

We long for the day when the God of heaven will reveal His power by sending His Son, the



NASA/JPL/Space Science Institute

Titan seen against Saturn's surface

Lord Jesus Christ, to redeem the earth and to begin the process of its restoration: "For as the Father hath life in Himself; so hath He given to the Son to have life in himself" (Jno. 5:26). Then perhaps will be revealed many of the secrets of the universe still hidden from us. But, more importantly, the Creator Himself, the great originator of all life, will be given the honour and glory which is His due.