

the latest, to the middle of the second century.

“Just before the outbreak of World War II, my wife and I spent a month in Rome, devoting most of our time to a study of the catacombs. Our study strikingly demonstrated

that the early Christians who used them left a wholehearted testimony to a trust in Christ and his saving power” (Joseph P. Free, *Archaeology and Bible History*, pp. 289-90).

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Science

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Science update

Recent news from the world of science

David Burges

Little progress on world hunger

AMBITIOUS TARGETS, first established in 1996 by the United Nations Food and Agriculture Organisation (FAO), to halve world hunger by 2015 are already facing failure, according to a new report.¹ To meet them it would be necessary to reduce the number of people suffering hunger by twenty-four million a year, but experts predict that at the current rate this would take a hundred years to achieve.

The Lord Jesus included famines among the signs that would characterise the time leading up to his return (Lk. 21:11), and, with the huge rise in world population, they have become a constant feature of the world situation. Every year six million children under the age of five are affected, and it is estimated that 25,000 people die *every day* as a result of poverty and hunger. In spite of the FAO programme to increase investment in food production by \$24 billion a year, the latest estimates of 840 million undernourished people in the world actually represents an increase on the previous figures. It is deeply ironic that at the same time, in the developed world, obesity due mainly to overconsumption is a rising cause of disease.

There have been areas of significant improvement in reducing hunger, notably in China and Southeast Asia, Nigeria and Ghana. But these have been more than offset by the worsening situation in Africa, driven by the warfare in the Democratic Republic of Congo and the devastat-

ing droughts in southern Africa. The FAO report also highlights a separate and widespread problem, which it terms “hidden hunger”. This refers to people who, though not technically undernourished, lack vital vitamins and minerals in their diet, leading to reduced resistance to disease.

The scale of the problem is so vast that only a worldwide organisation like the United Nations could possibly tackle it. Yet even it is unable to implement the desired changes to bring about a just and equitable distribution of food, due to the age-old problems of war and commercial greed. How urgently mankind needs the just world government of the Son of God to bring in the time when “he shall deliver the needy when he crieth; the poor also, and him that hath no helper”, and when “There shall be an handful of corn in the earth upon the top of the mountains” (Ps. 72:12,16)!

Surprising abilities of sheep

The qualities of sheep are used in Scripture to represent desirable characteristics in the behaviour of believers, primarily their gentleness and lack of aggression. Even the Son of God himself is likened to a lamb (Jno. 1:29). But there is also a widespread impression, probably fostered by their timidity and tendency to scatter from danger, that sheep are stupid animals.

1. “World failing to reduce hunger”, BBC On-Line Network, Sci/Tech. section, 15 Oct. 2002.

However, studies by scientists at the Babraham Research Institute, Cambridge, U.K.,² have revealed that sheep have a remarkable ability to remember the faces of other sheep and of familiar humans, such as their shepherd. And this could imply that they are able to think about individuals that are absent from their environment and even experience emotions.

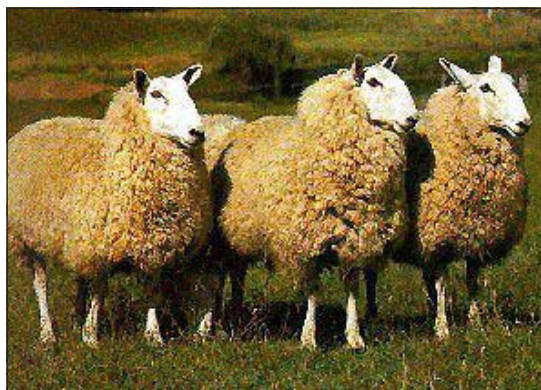
It has been found that, in recognising faces, sheep employ similar areas of the brain and similar neural mechanisms to humans.³ In the studies, the animals were presented with twenty-five pairs of similar faces and were trained to associate each of the pair with a food reward, learning to recognise individual faces. At the same time, the electrical activity of regions of the brain associated with visual recognition were measured. This revealed that sheep could recognise up to fifty other sheep faces, even in profile, and would respond to old faces by calling out. Memories only began to fade after about two years.

The scientists suspect that other farm animals, such as goats, cattle and horses, probably share the same unexpected ability to recognise faces, and there are clear implications for animal husbandry when it is realised that the Creator has endowed them with such highly developed mental abilities, for “A righteous man regardeth the life of his beast” (Prov. 12:10). In an obvious spiritual analogy, the Master showed his concern for the people in Israel who came to hear him: “And Jesus . . . was moved with compassion toward them, because they were as sheep not having a shepherd: and he began to teach them many things” (Mk. 6:34).

Beetle that catches its own drink

Scientists are hoping to develop new methods of obtaining water in arid regions by imitating the technique of a remarkable beetle that lives in the Namib Desert of southern Africa.⁴ It provides yet another example in the field of *biomimetics*, or learning from nature,⁵ where complex processes in nature, which are supposed to have evolved by chance, are found to provide advanced design solutions to current technical problems.

In this case the beetle, a member of the tenebrinoid family, is equipped with a natural mechanism for trapping water. The Namib Desert is a region of very high temperatures and strong winds where rain hardly ever falls. However, in the early morning a dense fog is blown in from



Sheep have the ability to recognise faces

the Atlantic Ocean. The back of the beetle is covered in small humps with troughs in between. The troughs are coated with a water-repelling (hydrophobic) wax, while the humps are non-greasy and water-loving (hydrophilic). When the fog blows over, the beetle aligns its back so that droplets of the mist condense on the hydrophilic peaks, building up into larger drops that roll down the waxy troughs and into the beetle's mouth.

A British company is collaborating with Dr Andrew Parker, the Oxford zoologist who studied the beetle, to develop artificial materials using the same principle. They found that embedding tiny glass spheres in warm wax produced a surface that acted in the same way as the beetle's back. And now they hope to produce plastic sheeting with a similar pattern of humps stamped onto it which could be used in arid climates to harvest water from fog. The same idea will also be used for making tents that can collect water for their occupants in the desert.

It is intriguing how the beetle's complex body surface could have 'evolved' by chance mutations, and how the beetle would have survived in such harsh conditions before it had developed. As in so many other cases, the fact that the beetle's back forms a single design solution, which can be readily imitated by modern

2. "Amazing powers of sheep", BBC On-Line Network, Sci/Tech. section, 7 Nov. 2001, reporting work published in *Nature*.
3. See "Recognising faces", [Science Update](#), *The Testimony*, June 2002, p. 225.
4. "Water off a beetle's back", BBC On-Line Network, Sci/Tech. section, 31 Oct. 2001, reporting work published in *Nature*.
5. See "'Nature' knows best", [Science Update](#), *The Testimony*, June 2002, p. 226.

technologists, implies that it was designed in the first place by a superior mind, that of the Creator Himself.

Biodiversity under increasing threat

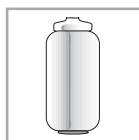
Biodiversity, the existence of a wide variety of animals, plants and microorganisms in a natural habitat, is important for the stability of all the earth's ecosystems, and ultimately for the welfare of mankind itself. But many habitats around the world are under extreme pressure from the ever-increasing activities of man, the rainforests being a prime example. As a result, many species are threatened with extinction, in spite of the best efforts of the many conservation organisations.

At the World Summit on Sustainable Development, held in Johannesburg in September, it was agreed to work for a significant slowing of biodiversity loss by 2010. But there is no international consensus on how to measure progress towards the target. Two leading British scientists have recently argued⁶ that many of the efforts at conservation concentrate on the more 'glamorous' species of birds and animals at the expense of fundamentally more important ones, for example nematode worms and soil microor-

ganisms. These microscopic creatures, less than a millimetre long, are responsible for many vital processes, such as the destruction and recycling of organic matter in the soil and hence its productivity. Lord May, President of the Royal Society, and Professor John Lawton, chief executive of the UK Natural Environment Research Council, pointed out that soil microbes are the least known of all species, and called for a much greater research effort into understanding how these organisms function and into potential threats to their preservation. "They make nutrients available to plants, they make the soil work—and we don't know how many there are".

In this area, as in so many others, the marvellous works of the God of heaven and earth, provided for mankind's benefit, are under threat all over the world from ignorance and avarice. Truly all the earth's creatures, great and small, are waiting for that future time when the Lord Jesus Christ will return to establish righteous government, and "the creation itself also will be delivered from the bondage of corruption into the glorious liberty of the sons of God" (Rom. 8:21, NKJV).

6. "Earth depends on creepy-crawlies", BBC On-Line Network, Sci/Tech. section, 14 Oct. 2002.



Prophecy, History and Archaeology

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Around the Sea of Galilee

2. Boats

Tony Benson

ABOUT TWO-THIRDS of the way up the western side of the Sea of Galilee, the mountains recede to leave a fertile plain, "the land of Gennesaret" of Matthew 14:34 and Mark 6:53, from which one of the names of the lake is derived (Lk. 5:1). Here are a number of agricultural settlements, among them a kibbutz called Ginnosar (the current Israeli way of spelling 'Gennesaret'), founded in 1937, nestling on the lakeside and approached by a road lined with rose bushes.

Here is to be found the Yigal Allon Museum of the Galilee, named after its most famous member, one of the commanders of the Israeli forces in the 1948 War of Independence, who later had a distinguished political career, culminating with being foreign secretary in the 1970s.¹ The most

1. Not to be confused with Yigal Yadin, another War of Independence commander, who went into politics, but who is perhaps best known as an archaeologist.