

- Carbon charge complications
- Water water, not everywhere

Monitoring emissions

From Howard Dalton, Department for Environment, Food and Rural Affairs
Fred Pearce is not correct to say that estimates of the greenhouse gas emissions of the UK and other countries have never been independently audited (24 June, p 10). The UK's inventory, like those of other developed countries, is reviewed annually by an international team of non-UK experts from developed and developing countries.

The reviews are coordinated by the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The review process is detailed and intensive. It aims to ensure that countries apply, in a fair and consistent manner, the internationally agreed methodologies for greenhouse inventory estimates that have been developed by the



Intergovernmental Panel on Climate Change.

The UK responds to the recommendations of the UNFCCC review when updating its inventory. The UK inventory submission made earlier this year significantly increased the estimated methane emissions from landfills as a result of previous reviews.

We shall continue to keep estimates of all greenhouse gas emissions under review. As part of this DEFRA funds work at the Met Office to compare the inventory with atmospheric measurements at Mace Head on the west coast of Ireland, which

the UK government supports. This work is summarised in the annual reports to the UNFCCC. The UK inventory and the Met Office estimate agree to within the methodological uncertainties, which suggests that UK methane emissions are not underestimated by a large amount.

Methane emissions are difficult to estimate because they arise from a wide variety of man-made and natural sources. Discrepancies are therefore likely to arise between different estimation techniques. It is for this reason we have safeguards in place, the annual review process and the Mace Head programme, to ensure that the inventory is as robust as possible.
London, UK

Fred Pearce writes:

● Checking the paperwork is not the same as a real independent audit by direct measurement. Since Mace Head is upwind of the UK most of the time, it won't be much help in checking UK emissions, except in combination with data from British soil, which the government is not collecting.

Red rain resolved

From K. C. John, Mahatma Gandhi University

I wish to bring to your attention investigations by the School of Applied Life Sciences at Mahatma Gandhi University into the phenomenon of "red rain" falling over the Indian state of Kerala (4 March, p 34). These concluded that the cause was the spores of lichen that are abundant on the tiled roofs of many houses here.

This finding was published in local newspapers back in August 2001. Other local institutions, including the Centre for Earth Science Studies and Tropical Botanical Garden and Research Institute, accepted our findings at that time. In September 2001 they submitted a report to the government of Kerala, clearly stating that the cause of the red rain was spores, specifically those

of species of the lichen-forming alga *Trentepohlia*.
Pathanamthitta, Kerala, India

Lost in hyperspace

From Ted Nelson

I coined, you say, the word hypertext in 1963 "while working on ways to make computers more accessible at Brown University in Providence, Rhode Island" (17 June, p 60). But in 1963 I was a dolphin photographer in Miami, nowhere near Brown.

I had become inflamed with ideas and designs for non-sequential literature and media in 1960, but no one would back them, then or now. Not until the late sixties did I spend months at Brown, with no official position and at considerable personal expense, to help them build a hypertext system.

That project dumbed down hypertext to one-way, embedded, non-overlapping links. Its broken and deficient model of hypertext became by turns the structure of the NoteCards and HyperCard programs, the World Wide Web, and XML.

At the time I thought of that structure as an interim model, forgetting the old slogan "nothing endures like the temporary". XML is only the latest, most publicised, and in my view most wrongful system that fits this description. It is opaque to the laypersons who deserve deep command of electronic literature and media. It gratuitously imposes hierarchy and sequence wherever it can, and is very poor at representing overlap, parallel cross-connection, and other vital non-hierarchical media structures that some people do not wish to recognise.

I believe humanity went down the wrong path because of that project at Brown. I greatly regret my part in it, and that I did not fight for deeper constructs. These would facilitate an entire form of literature where links do not break as versions change; where documents may be closely compared side by side and closely

annotated; showing the origins of every quotation; and with a copyright system for frictionless, non-negotiated quotation of any amount at any time.
Oxford, UK

A city is...

From Michael Mehaffy

Fred Pearce refers to professor of architecture Christopher Alexander saying that when your friends don't live next door, neighbourhoods become not just irrelevant but stifling "military encampments designed to create discipline and rigidity" (16 June, p 36). Alexander was and is a well-known critic of sprawling, car-dominated and segregated settlement.

In a celebrated 1965 paper titled "A city is not a tree", he offered an elegant mathematical demonstration of how precisely the doomed "grand plans" you mention do in fact fail.

The article's larger thesis suffers from a similar confusion: to the extent that the mega-cities you advocate are themselves "grand plans", they too are doomed to failure. The problem is structural, and it is not solved merely by density alone, or any other single variable of that sort. As we now understand, this is not the way complex ecologies function – including human ecologies.

Lake Oswego, Oregon, US

Fred Pearce writes:

● The editing of the article created some confusion about whether Christopher Alexander was for or against the grand schemes of modernist planners. Michael Mehaffy is right to point out that the paper "A city is not a tree" attacks the planners. Indeed, I quoted him describing their "military encampments". But, far from offering opposition to car-dominated settlements, the paper argues that the solution lies in personal freedom through maximum mobility – in cars. And therein lies the problem.

Engineering safer nuts

From Norman Carey

I was most interested to read that people are now producing a modified peanut protein allergen based on recombinant DNA to induce tolerance (24 June, p 40). If one gene or a small number of genes is involved, and if the protein product(s) are not essential to the growth of the plant, I wonder whether anyone is considering producing a genetically modified peanut that lacks the ability to express the allergen.

If it were possible to make such a plant, people allergic to the "wild" organisms could probably eat the modified nut, or products derived from it, with impunity. Lives could be saved and treatment would not be needed.

We would then have the ironic situation that "natural" peanuts, even if grown "organically", could kill some people whereas the GMO version would not. Some manufacturers would have to think again about labelling their products "contains no GMOs".
Chinnor, Oxfordshire, UK

Talk about bling

From Hugh Colvin

Archaeologists assert a connection between shells with holes in them, jewellery, and the advancement of language 100,000 years ago (1 July, p 22). But how do they know that the shells found in Israel and Algeria were jewellery?

How do they know that the shells were not, for instance, strung together as components of shaken percussion instruments



like the sekere and any number of other rattling, shaking designs? These include (just to confuse the matter) dancers' anklets, which continue to be used all over the world, particularly where traditions of participative communal music and dance – which can be seen as languages – still thrive.

Knighton, Powys, UK

The climate dunnit?

From Bruce Denness

The "Out of Africa" theory for the spread of humanity has been challenged (1 July, p 34). It is well known that climate change generally has a greater impact on temperature and vegetation the greater the distance from the equator. Therefore, the climate cooling that occurred around 2.5 million years ago would have led to more rapid change on grassland in Eurasia than in central Africa.

Grassland provides less nourishment than equatorial forest or spaces in equatorial woodlands. A given population density would, therefore, have experienced competition for resources earlier in Eurasia than central Africa. Such competition is usually considered the main driving force behind migration: this alone appears to make a *prima facie* case in support of a "Eurasia-first" hypothesis.
Whitwell, Isle of Wight, UK

Voice of the gods

From Charles Sawyer

In 1949 I built a valve-driven Tesla coil similar to the design you published (24 June, p 36). It was powered by the output stage of a large audio amplifier. The miniature lightning leaping from the top faithfully reproduced the sounds – music and voice – fed into the amplifier.

Perhaps Greg Leyh could get financial backing for his Tesla coil towers by powering his coils with a concert amplifier. The lightning

could roar with music from live bands – or a preacher could spread the gospel with his voice thundering in forked lightning leaping from his hands. Admittedly, such a large sound source could degrade the intelligibility.

I wonder whether his Tesla coils interfere with radio (and television?) as much as mine did.
Byron Bay, New South Wales, Australia

Do not disturb?



From Chris Sharpley

Interruptions can be helpful, or unhelpful (24 June, p 46). Their likely helpfulness is a function not only of who is trying to interrupt us (as judged by the electronic gizmos described by Alison Motluk), but also of our ability to concentrate or perform cognitively at the moment of interruption.

When we are in low or very high arousal states, performance will be poorer than if we are in a moderate arousal state. Our studies found that individuals' "stress", as measured by heart rate, was often independent of their physical activity levels and was indicative of the kind of psychological arousal and/or anxiety that hinders problem-solving (*Journal of Behavioral Medicine*, vol 14, p 607).

Perhaps the next challenge for the electronic devices that aim to determine when we are ready to receive interruptions is to monitor our psychophysiological state, decide whether we are open to yet another source of

intellectual demand and then respond politely if we are not: "I'm sorry, but the person you want is currently too aroused to speak to you..."
Coolangatta, Queensland, Australia

You are what you ate

From Hamish Barker

You say that "...the level of carbon-14 in a living cell's DNA is directly proportional to the level in the atmosphere at the time it was born, minus a tiny amount lost to radioactive decay" (17 June, p 50). Isn't this only applicable if the cell was made using carbon that had just been absorbed from the atmosphere?

If so, Frisén is actually measuring the time elapsed since the carbon in the DNA left the atmosphere. For vegetarians eating fresh vegetables, the extra time would be quite short, but for meat-eaters the carbon has gone from the atmosphere into plants, which were eaten by animals which in turn lived for some time before being eaten.

Hmm, time for lunch. If I have a salad rather than a steak, will I feel younger?
South Melbourne, Australia

For the record

● An item on wildlife smuggling by diplomats ("Chimp-napper", 1 July, p 7) stated that, according to the Convention on International Trade in Endangered Species, some of the worst offenders are from North Korea. While CITES has documented several serious incidents involving North Korean officials, it has made no such statement.

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