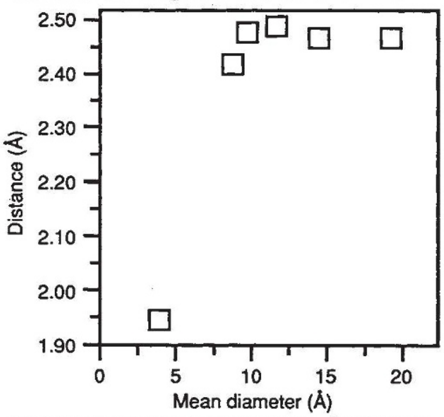
alien invasion and gene-pool reduction will be particularly instructive. It is important that model systems such as those in Hawaii be studied before they disappear.

ROSEMARY G. GILLESPIE
Hawaiian Evolutionary Biology Program, University of Hawaii, Honolulu, Hawaii 96822, USA

1. Howarth, F. G. & Ramsay, G. W. *The Conservation of Insects and Their Habitats* (eds Collins, N. M. & Thomas, J. A.) 71–107 (Academic, London, 1991).
2. Simon, C. *Trends Evol. Bio.* **2**, 175–178 (1987).
3. Gillespie, R. G. *J. Arachnol.* (in the press).
4. Pianka, E. R. *Evolutionary Ecology* 3rd edn (Harper and Row, New York, 1983).
5. Pimm, S. L. & Gilpin, M. E. *Perspectives in Ecological Theory* (eds Roughgarden, J., May, R. M. & Levin, S. A.) 287–305 (Princeton University Press, 1989).

Crystal clusters

SIR — In my recent News and Views article[1], I described the unusual behaviour of extremely small molybdenum crystallites: groups of tiny cubes are capable of self-assembling into rather larger cubes. I raised the question of whether the larger cubes thus assembled have the physical properties characteristic of the smaller size of crystallites or those characteristic of the assembled cubes. One such property, I pointed out, would be the lattice parameter, which might be expected to vary with crystallite size, but at that time I knew of no measurements of lattice parameter as function of size for very small crystalline metal clusters.



Near-neighbour distance versus cluster size.

P. Haubold of the University of Saarbrücken has told me that related experimental evidence *is* available. Several physicists have determined interatomic spacings in metallic clusters by means of EXAFS (extended X-ray absorption fine structure) measurements, and have indeed been able to establish that this spacing decreases with cluster size[2,3].

The pattern of packing may alter (for example, iron clusters are body-centred cubic down to about 9 Å, but for smaller sizes the packing becomes closer). The oscillations of absorption coefficient near an X-ray absorption edge (EXAFS), after Fourier inversion, yield interatomic separations irrespective of crystal structure. The pair-distribution function changes radically for very small, imperfectly crystalline clusters. The figure, from ref. 2, shows how nearest-neighbour distances, deduced from EXAFS, change as a function of cluster size for iron. If molybdenum, another body-centred cubic metal, behaves similarly, then one would expect very little change in interatomic spacing (hence lattice parameter) between the small cubes of edge length about 50 Å and the assembled cubes of an average of 175-Å edge length; even the small cubes are not quite small enough for the interatomic spacing to change radically.

One wonders whether clusters so small that they do not have a proper crystal structure (⩽ 10 Å) can self-assemble to form larger clusters which are crystalline.

ROBERT W. CAHN
Department of Materials Science and Metallurgy, University of Cambridge, Pembroke Street, Cambridge CB2 3QZ, UK

1. Cahn, R. W. *Nature* **353**, 208 (1991).
2. Zhao, J. *et al. Proc. Mat. Res. Soc. Symp.* **143**, 151–156 (1989).
3. Montano, P. A. *et al. Phys. Rev. lett.* **56**, 2076–2079 (1986).

No planet orbiting PSR1829−10

SIR — In an earlier paper[1], we reported a cyclic variation in the arrival times of the pulses from the neutron star PSR1829−10 with a period close to 6 months, and presented this as evidence for a 10-Earth-mass planet. As we noted in that paper, we were concerned that the 6-month periodicity might be an artefact concerned with the Earth's orbit around the Sun, but were encouraged by the fact that no such periodicity appeared in observational data for the 300 other pulsars currently under observation. We have nevertheless re-examined the algorithm used in compensating for the Earth's orbital motion and now find that we can account for the observed radiation without the presence of a planet.

The standard analysis (p. 105 of ref. 2) involves correcting the observed arrival times to the barycentre of the Solar System using a precise ephemeris for the position of the Earth. An analytical model for the pulsar rotation and position is then adjusted to minimize a set of residuals, the differences between the observed barycentric arrival times and model times. Because this is a differential process, the approximation is made that the orbit of the Earth is circular. Provided that the difference between the position used for the barycentric correction and the model position is small, this is perfectly valid. However, in the case of PSR1829–10, we have found that the error in the initial position used to compute the barycentric arrival times was unusually large, amounting to 7 arcmin from the final fitted position; the ellipticity of the Earth's orbit then becomes important, causing the appearance of a 6-month sinusoidal oscillation of 8-ms amplitude in the residuals. It is usual to keep the position used for the barycentric correction close to the fitted position, but unfortunately that was not done in this case. We have reprocessed the data using the improved position of the pulsar in calculating the barycentric correction, and find that the pulsar has no companion body.

Our failure to recognize the result of a position difference, and to perform the usual procedure, has resulted in the apparent planet, and we must accept full responsibility for this error. Although there is no planet orbiting PSR1829−10, pulsar timing remains the most sensitive technique for detecting planets outside the Solar System, as exhibited in last week's paper by Wolszczan and Frail[3].

A. G. LYNE
M BAILES
Nuffield Radio Astronomy Laboratories, University of Manchester, Jodrell Bank, Macclesfield, Cheshire SK11 9DL, UK

1. Bailes, M., Lyne, A. G. & Shemar, S. L. *Nature* **352**, 311–313 (1991).
2. Manchester, R. N. & Taylor, J. H. *Pulsars* (Freeman, San Francisco, 1977).
3. Wolszczan, A. & Frail, D. A. *Nature* **355**, 145–147 (1992).

Intraplate not always stable

SIR — Matters of semantics often seem trivial, but are sometimes necessary to avoid conveying misleading information. In a recent paper[1] describing the faulting associated with the Ungava (Quebec) earthquake of 1989, the authors assert (and Crone[2] repeats) that "[w]orldwide, only ten historical intraplate earthquakes are known to have produced surface faulting," citing Johnston and Bullard[3]. What we actually said was that "including Ungava there are only 10 documented examples of surface rupture from historic earthquakes in the stable continental regions of the earth."

Why bother with a distinction between intraplate and stable continental regions (SCR), as both terms refer to the interiors of tectonic plates, as opposed to their boundaries? One reason — with more fundamental reasons to follow — is that substituting intraplate for SCR renders the quoted ten surface faulting events at least an order of magnitude too