girls are hidden, but later are reported because they go to school (*2*).

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References

1. N. Kristof, "A mystery from China's census: Where have young girls gone?" *New York Times*, 17 June 1991, p. A1.
2. T. O. Cheng, "China's lost girls," *Washington Post*, 1 November 1991, p. 24.

Response: The study by Swedish experts that Cheng mentions is almost certainly the work by S. Johansson and colleagues that we cited in notes 3 and 6 of our report. We pointed to these in our first paragraph, where we said that unreported births can affect the reported sex ratio at birth.

Cheng makes an error in discussing the data he reports as being from the 1990 census (which are presumably from a sample of that census). Even assuming his numbers are correct, the sex ratio among children at, say, ages 5 to 6 years in 1990 reflects the sex ratio at birth 5 years before the census date (that is, in 1985). Thus his data in fact demonstrate an increasing sex ratio at birth over time, as is shown by the historical data we cited in our report. Ansley Coale (note 8 of our report) has done such checks correctly and has shown that a large number of females is indeed missing (*1*).

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References

1. A. Coale's study has since been published [*Demography* **31**, 459 (1994)].

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New Light on Free Electron Lasers

Two new reports indicate an exciting future for free electron lasers (FELs) and recommend construction of user facilities as well as development of FEL technology in the vacuum ultraviolet (VUV) and x-ray wavelength regimes for scientific and industrial applications. An earlier study by the U.S. National Research Council (NRC) (E. Marshall, News & Comment, 16 Sept. 1994, p. 1651; G. Margaritondo and N. Tolk, Letters, 4 Nov. 1994, p. 713) (*1*) was limited to scientific applications of the FEL in the United States and recommended the construction of an FEL user facility operating in the far-infrared (FIR) wavelength region as well as funding research and development (R&D) for FELs operating in the VUV and x-ray wavelength region of the spectrum.

The first of the new reports, both of which extend the NRC report, was issued in December 1994 and is a "Commentary on the NRC Report" from our committee, appointed by the International FEL Executive Committee (*2*). We urge that funding agencies around the world take notice of the NRC recommendations regarding FEL R&D for scientific applications and take specific actions to implement them.

Our report (*2*) emphasizes the important nonscientific potential applications of the FEL in industry, energy, and medicine; highlights advancement and trends in FEL R&D outside the United States, mostly in Europe and Japan; and updates recent developments and trends in FEL R&D. We also recommend three areas of FEL technology development: (i) low-cost, compact FELs that would lead to economical, table-top FIR FELs; (ii) high-average power FELs producing low-cost photons; and (iii) short-wavelength FELs with low emittance photocathodes. These areas would be important for FEL development in the VUV or x-ray wavelength regimes that use shorter undulators and lower-energy and lower-cost accelerators.

The second of the new reports, issued in January 1995, is the "Report of TMR Study Panel on FELs" (*3*) from a European panel set up by the directorate of "Training and Mobility of Researchers" (TMR) of DG-XII of the European Commission. The general findings and recommendations of the European and NRC reports are similar. The European report recommends strengthening the activity of the four European FEL user facilities operating in the FIR wavelength regime and foresees a 2.5-fold growth in the availability of FIR radiation user-hours by the year 2000. It calls for support of FEL technology development in the range from x-rays to UV (XUV) to eventually reach "a number of European XUV-FEL facilities and one large-scale facility in the hard x-ray range." It is recommended that high-average power, high-efficiency FELs should be developed for nuclear fusion research and industrial processing by other European agencies.

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1. Available from T. M. Wong, Board of Chemical Science and Technology, National Research Council, 2101 Constitution Avenue, NW, Washington, DC 20418, USA.
2. Available from J. Thompson, FEL '95, National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY 11973, USA.
3. Available from M. Van der Wiel, Director, FOM Institute for Plasma Physics, 3430 BF Nieuwegein, The Netherlands.

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Applied Research in South Africa

The Special News Report on South Africa (2 June, pp. 1282–1287) was very interesting. However, I would like to clarify the quote on page 1285 attributed to me by Daniel Clery. I believe that science has been too divorced from the needs of the community. I have a problem with the kind of academic snobbery that is against applied research, regarding it as second class; in my view this is wrong, scientifically and politically.

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Correction

In the report "Motor neuron degeneration in mice that express a human Cu,Zn superoxide dismutase mutation" by M. E. Gurney *et al.* (17 June 1994, p. 1772) (*1*), a systematic, 10-fold error was made in calculating the dilutions of brain extract used for determinations of total brain superoxide dismutase (SOD) activity shown in column 6 of table 1 (p. 1774). Each value reported should have been reduced by that factor, for example, the total SOD activity reported for the G1 line should have been 4.26 ± 0.2 SOD (U)/total protein (μg), not 42.6 ± 2.1 U/μg, and so forth.

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References

1. M. E. Gurney *et al.*, *Science* **264**, 1772 (1994).