Drugs in ancient texts

SIR — Bart K. Holland has argued for less random screening of plants in the rainforests and suggested more studies of ancient Western medical literature in the search for new drugs[1].

We would like to draw attention to some studies where ancient texts have been investigated. A most conscientious study was undertaken by Hartwell at the US National Cancer Institute (NCI) in the 1960s. Hartwell systematically searched several hundred medical texts dating back as far as 2800 BC including the classical writings of Greece and Rome, for plants used against cancer. The names of more than 3,000 plant species were recorded[2]. One problem in dealing with ancient texts is plant identification, another is the interpretation of the diseases. Nevertheless, 19.9 per cent of the plants used against cancer in ethnomedicine had positive results in the antitumour screening performed by the NCI, compared with 10.4 per cent obtained from random screening[3].

Discussing the history and future of ethnopharmacology, Holmstedt has called attention to the ironic history of ephedrine, a well known 'modern' drug[4]. Ephedrine had been used in China for more than 5,000 years as the crude drug *ma huang* before it was introduced in modern science in the 1920s. In 1975, Majno[5] reported finding a reference to a plant called *ephedron* in the writings of Pliny (AD 23–79). The plant was used to stop bleeding and treat coughs, as ephedrine is in today's medicine. There are several European *Ephedra* species, so Pliny is probably dealing with an independent Mediterranean discovery.

We have a project dealing with Swedish traditional medicine with emphasis on written sources from the fifteenth to the nineteenth centuries. Among these books and dissertations are Linnaeus's vast production, those of other well reputed Swedish eighteenth century doctors and medieval handwritten sources. This literature consists of approximately 50 books and a great number of dissertations, mainly from the eighteenth century. Information on plants used to treat inflammation was extracted from the old texts and these plants were evaluated in biological tests[6]. Active plants are being studied to determine their active constituents.

In *Materia Medica* of 1749 (ref. 7), Linnaeus suggested the use of *Menyanthes trifoliata* L. in the treatment of nephritis and rheumatism. A decoction of this plant is still used to treat glomerulonephritis in Swedish ethnomedicine. We studied its effect in a model for renal failure, inducing an inflammation. Rats treated with the decoction had a three times higher glomerular filtration rate after ischemia than the control group[8]. We are now evaluating the pharmacological properties of the decoction and isolated bioactive compounds.

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1. Holland, B. K. *Nature* **369**, 702 (1994).
2. Hartwell, J. L. *Plants used against Cancer* (Quarterman Publications, Lawrence, Massachusetts 1982).
3. Spjut, R. W. & Perdue, E. Jr *Cancer Treatment Rep.* **60** (8), 979–985 (1976).
4. Holmstedt, B. J. *Ethnopharmacol.* **32**, 7–24 (1991).
5. Majno, G. *The Healing Hand—Man and Wound in the Ancient World*, 571 (Harvard University Press, Cambridge, 1975).
6. Tunón, H. *et al. J. Ethnopharmacol.* (in the press).
7. Linnaeus, C. *Materia Medica* L. (Salvii, Stockholm, 1749).
8. Tunón, H. *et al. Phytomedicine* **1**, 29–45 (1994).

Italian research

SIR — The recent interview with Romano Prodi on Italian research, and the comments on the National Research Council (CNR) in particular (*Nature* **375**, 620–621; 1995), requires a response to the statement about CNR being throttled by money "going on salaries rather than research programmes".

CNR not only provides funds for the academic community but also has its own scientific network with about 2,500 full-time scientists. I have served on a CNR central advisory board for the past ten years, and to my knowledge salaries — most of them for those in the scientific network — account for less than half the annual budget. This is less than in many industries, and in universities salaries account for more than 90 per cent of the budget. Funds for CNR and basic research are about 20 per cent of the budget, and funds for applied research administered by CNR between 15 and 20 per cent. (Only 10–15 per cent of this goes to CNR researchers, while 50 per cent goes to industry.)

What has actually been increasingly throttling CNR for the past decade is that 15 per cent of the budget is devoted to accommodation, maintenance, security and other nonscientific costs. Of the money reaching the CNR network of more than 300 institutes and centres, about 50–70 per cent is spent on running costs. The amount available for each CNR scientist for research is therefore less than ECU5,000 a year. But it may be for the Italian courts rather than the scientific community to consider this anomaly.

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Origins of Frazer's *Golden Bough*

SIR — I believe I have found the original source of Frazer's *Golden Bough* in two essays by the French scholar Henri Gaidoz. This is not recorded in the current literature or in R. Ackerman's beautiful book (*J. G. Frazer: The Man and His Work*, Cambridge, 1897).

Gaidoz was a student of Celtic religion and wrote *La religion gauloise et le gui de chêne* (Leroux, Paris, 1880) and *Deux parallèles: Rome et le Congo* (*Revue de l'Histoire des Religions* **VII**, 5–16; 1883).

Gaidoz is interested in the two *topoi* of the golden bough and Nemi's priest, which are the *Leitmotiv* of Frazer's speculation. The Scottish anthropologist probably never directly read Gaidoz, but was influenced by Ernest Renan's philosophical drama, *Le prêtre de Nemi* (1885), and Renan was surely acquainted with Gaidoz's writings.

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New world, old word

SIR — You refer (*Nature* **375**, 730; 1995) to a meteorological event in Israel that caused cool air "to collapse towards the cacti at high speed".

You may be confusing Israel with another country in the Western Hemisphere, as the Cactaceae are endemic to the New World and are not usually found in the Old. A few species of *Rhipsala* occur in East Africa, Madagascar and Sri Lanka, but there are none in the Middle East.

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■ Declan Butler writes: I am afraid that alliterative licence got the better of me. □

SIR — In "At home in Zion" (*Nature* **375**, 720; 1995), R. Boxman is quoted as saying that the Hebrew neologism for electricity, *hashamal*, amber in Hebrew, was chosen after the amber arcs in the clouds seen by Ezekiel during a vision.

Although I do not speak Hebrew, I believe there was another reason for this choice. The origin of the international word 'electricity' is the Greek name for amber, *elektron*. It was the physicist and physician to Queen Elizabeth I of England, William Gilbert of Colchester (1544–1603), who, in his great work *De Magnete*, published in 1600, called bodies that attract in the same way as rubbed amber "*electrica*" and the attracting force "*vis electrica*" (amber force).

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