correspondence

Exotic viruses

SIR,—In last week's article on exotic viruses (page 625), an error was inadvertently introduced during the editorial work.

The identification of a Marburg-like agent announced two weeks ago was from material obtained from patients in a recent outbreak of illness in Zaire and the south of Sudan only.

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Engineers' action

SIR,—In your Editorial of October 14 on the Institution of Chemical Engineers' report on Materials and Energy Resources you take that body to task for attempting "both to stimulate reasoned discussion on crucial resource problems" and trying "to get something done about them." But the professional engineer's job is precisely "to get things done", not simply to establish the truth; and planning ahead is part of his work. So, when a body of engineers, having closely surveyed a field in which they have specialised knowledge and competence, foresee a dangerous situation developing, it is their duty not merely to point this out but to make recommendations for action—in this case by the government. And if not they—who else?

You suggest, too, that in such long-term matters "the Working Party might have done better to look more closely for international solutions". But practically-minded engineers are more humbly concerned with what can be done here and now, even when their sights are on the future; and their chances of influencing government thinking, upon which you set such a low value, are at least a great deal higher than the likelihood of setting the world to rights.

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Whale resources

SIR,—Dr Robert May (Sept. 9, page 91) gave an interesting commentary on the problems of managing whale resources vis-à-vis other items in the the relative values of the discount rate and the potential rate of increase of the resource is stressed. In this comparison the discount rate can be defined as δ where the present value of a whale caught in x years time is $e^{-\delta x}$ times the value of a whale caught today. May implies that δ is approximately equal to 'a', the interest to be expected from a deposit in a bank (10–20%).

In an age of inflation, and changing values of products from limited natural resources vis-à-vis other items in the economy, this may be misleading. The value in pounds of a whale at the time it is caught in x years time can be expressed as $e^{(b+c)x}$ times the present value, where b is the general inflation rate and c the rate at which the net value of products from a whale has changed differentially relative to average values of all commodities. b is positive and c may also be if prices for meat and other products from whales increase faster, and/or the price of fuel and other resources used in catching whales increase slower than prices in general.

The value of the discount rate to be used in determining the economic attractiveness (net present value) of a whale caught later rather than now is given by $\delta = a - b - c$, which may not greatly exceed and may even be less than the rate of increase of whale stocks of around 5% annually. That is, to the extent that δ is less than a, the economic self-interests of a well-informed sole owner of a whale resource will conflict less seriously with conservation policies than implied by May.

The more important reasons for poor whale management have been the lack of an owner and poor information. While whales are common property, the individual whaling enterprise (company or even country) can ascribe little value to a whale in the future since there is no guarantee that it will be able to harvest that whale or its offspring. Also in the absence of well-funded research, whaling interests have been poorly informed of the longer term implications of management proposals. In the resulting fog of uncertainty about the future, their interests have naturally focused on the present and more clearly visible events. Both these effects have resulted in undue emphasis being given to maintaining current catches at a high level.

On another point, it seems unlikely, given the low (less than 10% per annum) rates of mortality and reproduction of whales that the unexpected changes in catch rates of fin whales mentioned by May is really indicative of population instability. It seems much more likely that with the small number of whaling expeditions now operating, the catch per unit effort is a poor and highly variable estimator of the abundance of whales in any particular area in a single season.

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Competition 10

Very Many Hairy Little Pigs Live In The Torrid Argentine=valine, methionine, histidine, leucine, proline, lysine, isoleucine, threonine, tryptophan, arginine (the amino acids essential to the rat). £10 for the best mnemonic in any field; entries by December 1 please.

Competition 9 asked for new words to describe some existing or future scientific concept or phenomenon. Entries galore: the winner, D. R. Reed of The Hague, The Netherlands, submitted six definitions, four of which we thought particularly successful: *cannobelism*—extreme form of competitive behaviour for scientific awards; *fornacation*—implantation of genetic (RNA based) information in human ova; *multiplication*—means of obtaining the product of two numbers without the use of remote microprocessors; and *plutophagy*—simultaneous solution of world population and radioactive pollution problems.

Honourable mention for R. A. Davis of Epsom, Surrey, with "*qualms*—any new elementary particles, in search of a name"; and Allan N. Zacher III of the University of Missouri, with "*vitrogen*—an adjective describing a substance produced in a cell-free preparation".