

## Suicide among women chemists

SIR—For women chemists in the United States, the suicide rate is five times the national average for white women. For men chemists, it is double the national average. These results have been confirmed. They are rising.

Chemistry is the only physical science for which such statistics are available. It is the only one with a high enough proportion of women to allow the comparison between male and female suicide rates. Its homogeneity makes it well-suited to sociological study. For these reasons we are investigating the causes of suicide in this group. Our aim is suicide prevention.

Our method consists of soliciting cases by word-of-mouth. Every precaution is being taken to see that nobody is further hurt. Strict confidentiality is being observed. Nobody's name will be published and nobody will see the raw data except myself and my consultant, a well-known suicidologist in the San Francisco Bay area.

So far I have collected 64 cases. Only 9 of these are women. In order to get a comprehensive picture, I need more cases among women.

If any of your readers knows of any suicides among women chemists or biochemists in the United States, I should be glad to hear from them with as many details as possible.

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## Sober view of AIDS

SIR—In using total absolute differences as a criterion for assessing parameter-combinations, Malcom Rees (*Nature* 326, 343–345; 1987) makes an unsuitable choice of statistic as a given discrepancy is not modified in any way by the corresponding expected value. Thus a discrepancy of 10 compared to an expected value of 20 is treated equally with a discrepancy of 10 compared to an expected value of 200. A more reasonable fitting procedure is to use maximum likelihood, and if this is applied to his figures, taking due account of the coarseness of the data, the progressive right-hand truncation and the left-hand truncation at zero (without which a normal can hardly be entertained as a survival function) it suggests a mean of 6 and standard deviation of 2 rather than the values of 15 and 3 proposed by Rees.

The likelihood is, however, extremely flat and very little reliance should be placed on our, or indeed any other, estimates, based on these data. This is hardly

surprising when one considers the small numbers involved and the contradictory evidence provided. The later cohorts provide the greater numbers of AIDS (acquired immune deficiency syndrome) victims but because of progressive censoring provide less and less information for a fit and the final cohort provides no information at all.

Even if the table of probabilities that Rees provides could be taken as providing a reliable model, which it cannot, it would still be extremely difficult to produce reliable estimates based upon it. A relatively small number of AIDS cases, exhibiting at the very least the variability of a Poisson process, are being inflated using tail area probabilities to produce estimates of human immunodeficiency virus (HIV) infection whose variances will be considerably greater than their expected values.

In fact, in view of the paucity of the available data, the possible methodological difficulties of applying results from transfusion-related cases to victims of AIDS in general and the problems of fitting suitable models, it is perhaps wisest to admit that in this matter, estimates are little more than guesses.

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## Western hypocrisy

SIR—Your comments on the environment and foreign aid (*Nature* 326, 539; 1987) make a telling point about the hypocrisy behind much of the rhetoric about preserving the environments of developing countries. Without something more tangible than exhortation they will be quite unable to respond. But you perpetrate two factual errors and miss a number of important points.

First, the country containing the Amazon rain-forest (Brazil) is not the largest developing country (China is bigger), and it is far from being the poorest in *per capita* terms; according to World Bank tables, it had a gross national product per head of \$1,700 in 1984. There were 77 developing countries below Brazil in the league, down to Ethiopia with only \$110 per head. It is true, of course, that there are millions of Brazilians living in absolute poverty, as the distribution of income is extremely unequal, and by European standards the country is poor.

The real need, for Brazil and other developing countries, is not foreign aid to preserve their environments but a radical overhaul of the terms of trade and finance that keep them poor. Yet it appears that the United States and Britain, both indus-

trial consumers of coffee, recently engineered a collapse in the price that will reduce the export earnings of Brazil. At the same time, the two governments were reported as declining yet again to do anything to lift the impossible burden of debt faced by Brazil. Britain's Chancellor, Nigel Lawson, said it was purely a matter between Brazil and the commercial banks, who still insist on payment at inflated interest rates.

Lawson's other unhelpful suggestion was yet another agreement with the International Monetary Fund (IMF). Brazil's poor need this like a hole in the head; the IMF's cure is for them far worse than the disease, because it inevitably leads to a further drop in their living standard. Brazil's government has now signalled that it can take no more of this.

New thinking is desperately needed on the part of the governments of the richer countries. Their failure to respond to the developing countries' deepening crisis will mean the death not just of the tropical forests but of many millions of human victims of collective greed and neglect.

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## Pre-embryos?

SIR—Your editorial statement (*Nature* 327, 87; 1987) "The fact is that a fertilized human egg is as much deserving of being called an embryo as is a fertilized frog's egg" betrays a lack of understanding of the strategy of early mammalian development. The fertilized frog's egg at the onset of gastrulation has given rise to the embryo and nothing but the embryo, so that embryonic development can indeed be traced back to the 1-cell stage. The fertilized human egg has to manufacture the life-support systems required to support intrauterine existence before it can safely produce an embryo. At the onset of gastrulation, when the human embryo is first formed, it involves less than 1 per cent of the tissue derived from the fertilized egg. The remaining 99 per cent has gone to form the placenta and other nutritive and protective structures. To refer to the previous mammalian stages — be they 1-cell, 8-cell or blastocyst — as embryos is therefore no more (maybe less) appropriate than to refer to them as placentae. As I have tried to indicate previously (*Nature* 320, 570; 1986), appropriate terms for the totality of tissue derived from the fertilized mammalian egg up to the time of gastrulation include conceptus, zygote, ovum, pre-embryo and pro-embryo.

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