Eliminate poverty first . . .

SIR—While the decision that under the Indo–US Vaccine Action Programme (VAP) (*Nature* **332**, 198; 1988) US scientists should produce recombinant vaccines for the "most important diseases of India" may be a gesture of goodwill, there is considerable misgiving in the Indian scientific and medical community. We are concerned about the interests of our country and especially of the poor, who will be the subjects for the trial, but not necessarily the ultimate beneficiaries.

A. S. Paintal and G. S. Bhargava have rightly said that no vaccine should be tried in India unless approved for use in the United States and that India should be capable of producing its own recombinant vaccines before trials are undertaken, but experience also shows that in the free world, where multinationals eventually dictate production and pricing, India may be forced to buy these same vaccines (as it has already for rabies, measles and hepatitis B) at a high cost.

Yet the most important disease in India today is undoubtedly tuberculosis, for which BCG vaccine as well as cheap and highly effective drugs are available. There are 9 million cases annually of whom 400,000 die. Tetanus, for which we have had a cheap and effective vaccine for several decades, still claims 240,000 lives each year. An effective triple antigen vaccine is also available, but has not reached the majority of our people. The control of diarrhoea lies in the provision of water supply and sanitation, and ORT is an adequate standby, yet this new programme is aimed in part at controlling that. Diarrhoea is caused by a number of viral and bacterial agents which vary in space and time. Will there be a polyvalent vaccine for all these? Respiratory infections of childhood are due to poor housing and are caused by a variety of organisms. Will that mean another polyvalent vaccine because we cannot deliver a few tablets of sulphonamide for the cure?

These diseases vanished from the West before the advent of vaccines or drugs. Have we not enough vaccines and drugs today to vanquish them? Their non-delivery is the result of the factors responsible for the poverty, and the newer vaccines and drugs are likely to meet the same fate.

The eagerness for the new recombinant technology shown by our scientists is commendable. But experience shows that this penchant for the 'latest' Western science and technology and 'collaborative research' has caused India to spend large sums on repetitive research that has created dependency and stifled the originality of younger scientists. It has also diverted their attention and Indian resources from the application of available knowledge and technology which could transform the health and welfare of Indians.

Besides providing a ready-made infrastructure for large-scale trials, the VAP will also provide US scientists with much needed finances for their recombinant research. The Walter Reed Army Hospital, which has shown considerable interest in this programme, will also acquire valuable data and new tools in tropical diseases, an area of major interest.

The recent much-publicized Lentin Commission's report raises serious doubts at to whether the safety of India's illiterate poor can be left in the hands of the medical profession, scientists or politicians. The public will have to be made fully aware of the implications of such a programme and must have the final say in the making of decisions as well as the implementation of a study where large numbers of poor people will be subjected to these trials.

Nobody in India will decry the usefulness of vaccines. Unlike family planning, the poor see its utility. Yet it should not divert our attention from the major problem — the need for egalitarian socioeconomic development that alone can eradicate the root cause, namely poverty.

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The October storm

SIR—The Commentary "Modelling the future: a joint venture", by David Rind *et al.* (*Nature* **334**, 483–486; 1988) draws an original parallel between weather forecasting (and climate) models and economic ones. The starting point of the analysis is, on the meteorological side, the inability to predict the exceptional storm which struck parts of Western Europe in October 1987.

Although, it does not affect the conclusion of the paper, this initial statement is wrong. It may have been true in some countries, but we think it important to bring to the attention of your readers that, as acknowledged by the British committee of enquiry, the storm was indeed well predicted by the French weather service. Warnings of exceptionally strong winds (gusts in excess of 42 metres per second) were issued to all relevant users more than 36 hours in advance. As a result, not a single life was lost at sea and human casualties were kept to a minimum over land, in France.

No magic was used in the forecasting procedure.

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More on Benveniste's dilution results"

SIR—I feel that the experiments of Benveniste and his colleagues (*Nature* **333**, 816–818; 1988) can be simply explained by the fact that Fab' and F(ab')$_2$ fragments of antibodies were formed in these serial dilutions of anti-IgE antiserum involving vigorous agitation when the dilutions were prepared. It is comparable to small branches of pine trees being shaken vigorously until the pine-needles fall off. Pine needles can go through a meshwork of a screen, and these antibody fragments specific for human basophils could be carried on the surface of water molecules through serial dilutions.

The authors happened to have chosen one of nature's most sensitive indicator systems. Heat, freeze-thawing and ultrasound destroyed the antigen specific effect, suggesting even more strongly that we are dealing with a protein or polypeptide substance which would be in keeping with the concept of Fab' fragments. The authors were right, that they were not dealing with an antibody "molecule". But we do not have to invent "electronic" or "magnetic fields", if sub-fragments of antibodies can explain the above phenomena in conventional immunological terms.

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SIR—Upon first perusal, the report of the *Nature* team investigating the work of Benveniste *et al.* seemed reasonable, even fair, notwithstanding the absurdly dramatic touches such as taping the codes to the ceiling. The conclusions left plenty of room for further evaluation and experimentation. However, a glance back at the title of this report was surprising: a *delusion*? This report engendered some uncertainty but did not, to my understanding, expose a delusion. This slap of yellow journalism belies a certain eagerness to mollify an upset scientific community, as well as the much more dangerous intention of the *Nature* team to debunk rather than evaluate. This is further corroborated by James Randi's letter in *Time* magazine in which he gloats that his erstwhile invalidation of the high dilution study invalidates homoeopathy as well; this betrays monumental prejudice, ignorance and destructiveness. With such bias in evaluating Benveniste's work, is it not the pot calling the kettle black when they accuse him and his coworkers of a biased attitude and righteously point out that some funding for the study was provided by a homoeopathic pharmacy?

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