

First human AIDS vaccine trial goes ahead without official OK

London

A CONTROVERSIAL trial of an AIDS (acquired immune deficiency syndrome) vaccine in Zaire has been given the full backing of the Zairean government in the face of mounting criticism that it is being carried out secretly and without the backing of the World Health Organisation.

The vaccine, which is the first to be tried in humans, has been developed by Dr Z. Lurhuma, director of the immunology laboratory of the University Clinic in Kinshasa, General J.-J. Salaun, head of the National Institute of Biomedical Research in Kinshasa (formerly the Pasteur Institute and now operated with French cooperative aid), and Dr Daniel Zagury of the Université Pierre et Marie Curie.

Zagury's research, much of which has been in cooperation with Dr Robert Gallo, has led him to design a vaccine aimed to trigger cells of the immune system to kill cells that are infected with the AIDS virus and carry viral envelope protein on their surface. Because the killing is mediated by cells of the immune system as well as by virus-neutralizing antibodies, the prototype vaccine has a different, but still undisclosed, basis from that of the several candidate vaccines that are based on purified envelope protein.

Animal tests followed by tests on a few uninfected human volunteers have been

used to show that the vaccine is free of toxicological effects and can stimulate antibody production. As a result, the vaccine is now being tested on a small scale in volunteers at high risk in Zaire.

Zagury and his colleagues are not prepared to comment on the results of the trial so far, preferring to await its completion and formal presentation. They are, meanwhile, delighted by the statement of support and encouragement for the project from the Executive Council of Zaire that was published in *Elima*, the main Kinshasa newspaper, on 7 January. The statement looks forward to large-scale trials.

With a high incidence of AIDS and a correspondingly high risk of infection in Zaire, a large-scale trial of the vaccine should provide a trial of efficacy in a relatively short time. The rates and risks of infection in Zaire have been extensively documented as the result of an international project backed by the US Centers for Disease Control. But it seems clear that the project fell far short of the hopes of those in Zaire and that a vaccine trial is much more to the point. And they are disinclined to involve the World Health Organisation's Control Programme on AIDS headed by Dr Jonathan Mann, who until recently was deeply involved in the Centers for Disease Control project in Zaire.

Peter Newmark

First Chinese scientist in hot water

London

THERE is consternation among theoretical astrophysicists in the West, and especially at Princeton, that Professor Fang Li Zhi should have been one of the first casualties of the response of the government of China to the student demonstrations of recent weeks. The Chinese authorities announced last week that Professor Fang, who was vice-president of the Hefei University of Science and Technology in Anhui, was said to have been expelled from the Chinese Communist Party. Other reports said that Fang had been assigned to work at the observatory of the Chinese Academy of Sciences at Beijing.

Fang has been prominent among Chinese scientists collaborating with those overseas since the opening of China to the West a decade ago. For the first half of 1986, Fang worked at the Institute of Advanced Study at Princeton with the help of a fellowship under the scheme for scientific exchange between the United States and China which is administered by the US National Academy of Sciences.

Fang's colleagues at Princeton describe him as an able and imaginative scientist. Most recently, he appears to have been

working on models of the Universe incorporating cosmic strings. There had been plans for continuing collaboration between US and Chinese theorists in the field, although it is not yet clear whether these will materialize in what may be a more chilly climate.

The University of Science and Technology is unusual among Chinese universities in being founded by the Chinese Academy in 1959. It was moved from Beijing to Hefei, in Anhui province, ten years later, when the cultural revolution was at its height. By Chinese standards, Hefei is comparatively small, with about 3,000 undergraduates, most of them on five-year courses.

The official announcement of Fang's dismissal last week said that he had been drummed out of the Communist Party for having advocated "bourgeois liberalism" and for having encouraged students to demonstrate in favour of what they called "greater democracy" during the past four turbulent weeks. The obvious fear is that Fang's departure may mark a return to the suppression of Chinese intellectuals, with scientists prominent among them, that distinguished the Cultural Revolution. □

NRC panel finds regulations on export too broad

Washington

ATTEMPTS in Congress to liberalize labyrinthine US export regulations are likely to be boosted by a controversial study made public last week by the National Research Council. The study, by a blue-ribbon panel chaired by Lew Allen Jr, former director of the National Security Agency and director of the Jet Propulsion Laboratory, supports the view common among high-technology industries that US

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Lew Allen Jr — liberalizing regulations?

attempts to deny the Soviet bloc access to militarily important technology are overzealous. It concludes that the regulations — "not generally perceived as rational, credible and predictable" — encompass too many products and technologies to be administratively feasible, and estimates that US industry would gain about \$9,000 million per year in exports and 200,000 jobs if the United States adopted the same policies as its allies in the North Atlantic Treaty Organisation (NATO).

The United States is the only Western country that imposes unilateral controls on exports that are more stringent than those agreed jointly by member nations of CoCom, the informal Coordinating Committee on Multilateral Export Controls consisting of NATO members (except Iceland) and Japan.

In particular, US attempts to require overseas recipients of US technology to certify they will not re-export sensitive items have caused resentment among allied nations. The allies claim that such "extraterritorial" provisions violate international law. The Allen panel recommends that the United States restrict its controls to CoCom-proscribed items, and to those destined for a proscribed country or for one that has not agreed to abide by CoCom rules.

Allen's critique is a slap in the face for Pentagon hardliners who have pressed for tighter export regulations. One such architect of defence policy, assistant secretary of defence Richard N. Perle, hit

back last week by accusing the study of having been conducted by "interested parties... predominantly representing the business community". But although several panel members have a business affiliation, the national security panel is also well represented. Allen was formerly chief of staff of the Air Force, and the panel included several other defence luminaries, not least Admiral Bobby Inman, another former director of the National Security Agency who was one of the first government officials to voice concern about the "haemorrhaging" of Western technology to the Eastern bloc.

The Pentagon had already showed its contempt for the study in February 1986, when it withdrew its cooperation after liaison was switched from the Pentagon's department of research and engineering to its policy-making division. It then refused to pay the second of two agreed \$100,000 contributions towards the cost of the study. A Pentagon spokesman said the decision was taken because the study was not producing new information or practical recommendations, and pointed out that no other government agency (such as the Commerce Department, criticized in the study for being ineffective) had provided more than the Department of Defense (DoD) contribution.

Perle's thesis is that tighter controls are necessary because many Soviet military advances have demonstrably led straight from technology acquired illicitly from the West. Allen's report does not dispute the premise, but argues that current regulations impose trade barriers on many items that, although militarily useful, can easily be acquired from third countries. The Pentagon weakened its case by failing to provide data in support of its estimates of the cost to the West of Soviet acquisition of Western technology.

The other side of the coin is trade: because of the complexity of the US export licensing system and the uncertainty and delay it engenders, US industry complains it is losing orders to overseas suppliers. Allen's panel, which was able to analyse the Department of Commerce's administration of export licence applications, concluded that such self-imposed trade barriers threaten US — and the West's — technology advantage over the Soviet Union by stifling innovation. Despite some attempts recently by the Commerce Department to be more responsive to industry's needs, DoD still exercises a veto which in practice causes frequent delays for companies wanting to export to certain countries. By restricting US exports, the panel found US regulations are encouraging the growth of overseas sources for so-called "dual use" items with military and civilian applications.

The solution the Allen panel proposes is to strengthen CoCom and to limit controls to truly critical items. One of the problems

of the present unilateral US control system is that there is no effective way of removing items from the "control list" once they have been put on it — and it apparently includes almost every modern industrial process. The Allen panel suggested that developing countries with rapidly growing technological capabilities be encouraged to institute "CoCom-like" procedures.

Allen's panel expresses concern about several recent moves by DoD which place under tighter control technical information arising from its research projects, even when such information is not classified. The panel is particularly concerned

about the impact of such new control schemes on professional societies' meetings; it believes the benefits of open dissemination of research data outweigh possible risks.

Some observers believe that, as a practical matter, Allen's report, already publicly dismissed by DoD, will have no effect on bringing about change in US policy. But others, including some Capitol Hill staff, are not so pessimistic. There is, they point out, likely to be much interest in US economic competitiveness in the 100th Congress, and far-reaching trade legislation is on the agenda. The research council's study may yet pay off. **Tim Beardsley**

UK long-term public spending plans turn the clock back 20 years

London

THE British government intends further to reduce the amount of public spending, in proportion to national income, over the next three years and to demand greater value for money from its investments, including scientific research. Researchers on government projects will receive a modest increase in funds in the next year — in the run-up to a general election — but the rate of growth will be quickly curtailed in the following year. Public spending in 1987–88 and 1988–89 will be £148.6 and £154.2 thousand million, respectively, with a new spending limit of £161.5 thousand million set for the following year. By the end of the decade, if the plan is not altered, Britain will have turned the clock back nearly twenty years on public spending.

Specifically, what this means is that the budgets of most spending agencies, measured in strictly cash terms, are likely to increase more quickly this year than next, at least on present plans. Thus the total budget of the research councils, dependencies of the Department of Education and Science, are to increase by about 6 per cent between this year and next (beginning 1 April), but then by only two per cent in the succeeding year. Much the same applies to the budget of the University Grants Committee, although the planned reduction between 1987 and 1988 will not be so sharp.

The government has made little secret in recent years of its discomfort about the level of public expenditure. Its investment in scientific research, about £4.3 thousand million a year, is under threat as government pushes for industrial investment in research and attempts to transfer the results of research, particularly in defence, to the commercial sector. The Ministry of Defence consumes about half of the publicly funded research cake. The mood at the Natural Environment Research Council, which published its annual report

almost simultaneously with the government's expenditure plans last week, reflects that pressure. The council, which has agents around the world and conducts much work for industrial/commercial clients, intends to create its own commercial subsidiary to sell and exploit the products of its research.

Previous attempts to exploit British research commercially have depended on the creation of new bodies to help steer the research towards the commercial sector. The National Enterprise Board (NEB) and the National Research Development Corporation (NRDC) were two such bodies set up by previous administrations, the former taking substantial equity stakes in manufacturing and high technology industries.

The present government had a different approach and demanded more industrial participation and a reduction in government expenditure. It inherited NEB and NRDC, and merged them into the British Technology Group, ensuring that major government shareholdings were sold. Although the logic behind the new expenditure figures is consistent with previous government thinking, no attempt has been made to address the issues outlined in two major science plans now before ministers. The first, presented at the end of last year by a committee headed by retired Glaxo chairman Sir Austin Bide, called for about £500 million of public money to be invested in industry and scientific research, which in turn would attract the same from industry.

The second is the British 15-year space plan, presented to government last summer in anticipation of a positive response in November. The plan calls for an additional £200 million a year for space research and development — twice the current figure.

Neither plan has received a response and both were ignored in last week's budget disclosures. **Bill Johnstone**