

separately from the mission-oriented research groups. Dr Solandt suggests that the pure research groups should be organized into an institute of pure research, reporting to the NRC council, and that there should be a regular interchange of staff between the institute and the universities. And the Senate committee recommends much the same thing.

As for the applied research laboratories, the chief criticism directed against them is that they have become divorced from their original mission of helping industry. According to Dr Solandt, "one could argue endlessly about the pros and cons of their very existence. To be pragmatic, I take the view that they do exist, that they do represent an investment and a resource and that they can be so organized as to make an effective contribution to our national development". His recipe is chiefly to have the National Research Council report to the Department of Industry, Trade and Commerce, a move which should ensure that there is closer relationship between the council's objectives and those of the department.

For long the National Research Council has been widely praised, especially outside Canada, and last year it achieved its crowning glory when Dr Gerhard Herzberg, who works at the Council's Ottawa laboratories, was awarded the Nobel Prize for Chemistry. But it seems that the very features for which it has often been praised—its integration of basic and applied research and of university granting functions—have, according to its critics, caused it to become too much of an ivory tower.

Mr Alastair Gillespie, Minister of State for Science and Technology, in whose hands the fate of the National Research Council probably rests, is keeping silent for now. "I have not encouraged speculation about the NRC—this gets people upset for longer than is necessary", he said recently. Nevertheless, Gillespie is believed to be considering changes in the council, and it is likely that if the Liberal Party survives the forthcoming elections (which will probably be held in the autumn), the NRC may figure in the new government's plans for next session.

MEDICAL ETHICS

The Rights of the Subject

by our Washington Correspondent

DURING the past two weeks, details have been revealed of a 40-year long study, started in the early 1930s, of the effects of latent syphilis on some 400 blacks in Alabama. It has been alleged that the subjects of the study were never informed that they had syphilis, and that although penicillin has been available for treatment of the disease since the early 1950s, medical treatment has been

deliberately withheld. The story, first published by the Associated Press, has raised a public outcry, initiated a formal inquiry by the Department of Health, Education and Welfare, and sparked off renewed interest in protecting the rights of human subjects in biomedical research.

Less than a week after the story broke, the Senate passed a measure designed to prevent such a study ever taking place again. The unlikely vehicle for passage of the measure was the Military Procurement Authorizations bill, to which Senator Edward M. Kennedy successfully attached an amendment whose applications extend far beyond the confines of defence research. The salient part of the amendment reads:

It is hereby declared to be the policy of the United States that Federal funds may be used to conduct research involving human beings as experimental subjects only when each participant has freely volunteered to participate after having been fully informed of any physical or mental health risks which may be incurred as a result of participating in such research.

APPOINTMENTS

Plugging the Gaps

by our Washington Correspondent

THERE has recently been a flurry of appointments announced by the White House to fill long-standing vacancies on top level science advisory committees. During the past two weeks President Nixon has announced the appointment of four new members of the President's Science Advisory Committee (there have been three vacancies since January 1 this year), the nomination of eight people to be members of the National Science Board (to fill positions vacant since May) and the appointment of nine members of the President's Committee on the National Medal of Science. Described in a White House press release as "the highest recognition offered by the Federal Government for distinguished achievement" in the physical, biological, mathematical, or engineering sciences, the National Medal of Science has not been awarded since May last year, and that was for 1970.

New members of PSAC are Luis W. Alvarez (University of California, Berkeley), Gerald F. Tape (President, Associated Universities, Inc.), Howard S. Turner (Turner Construction Co.), James B. Wyngaarden (Duke University). Nominees to the National Science Board are Wesley G. Campbell (Hoover Institute on War, Revolution and Peace), T. Marshall Hahn, jun. (Virginia Polytechnic Institute and State University), Anna Jane Harrison (Mount Holyoke College, Mass.), Hubert Heffner (Stan-

ford University), William H. Meckling (University of Rochester, NY), William A. Nirenberg (Scripps Institute of Oceanography), Russell D. O'Neal (Bendix Corporation) and Joseph M. Reynolds (Louisiana State University).

DES

Banned at Last

by our Washington Correspondent

THE Food and Drug Administration has at last decided to ban use of the synthetic hormone diethylstilboestrol (DES) for fattening sheep and cattle in the United States. The FDA announced last week that production of DES for animal feeds must be halted immediately, although existing stocks of the hormone can be used until January 1 next year. The ban, which is a reversal of the agency's past policies (see *Nature*, 238, 67; 1972), has been instituted because fresh evidence has come to light which suggests that residues of DES cannot be prevented from turning up in meat.

The evidence which precipitated the ban has come from a radioactive tracer study which shows that residues of DES remain in tissues of cattle for at least seven days after the animals have been taken off treated feedlots. Because the hormone is a very powerful carcinogen, US food and drug laws prescribe that it must not enter the food supply. The FDA had previously allowed it to be used in animal feeds on the assumption that none will remain in the tissues of animals which have been taken off treated feeds for a suitable length of time before slaughter.

The study which shot holes in the FDA's policy was carried out by the Agricultural Research Service, an agency of the Department of Agriculture. Six steers were fed 10 mg doses of DES twice a day—the usual doses used by cattle farmers—to establish a feeding pattern, and they were then fed a single dose of ¹⁴C labelled hormone. DES residues were found in their livers at levels of up to 0.5 parts per thousand million seven days later.

Why have previous tests failed to uncover the flaw in the FDA's regulatory policies? According to an official of the Agricultural Research Service, the recent tests, which used ¹⁴C labelled DES, are much more sensitive than previous ones which used deuterium labelled hormone. The carbon labelled compound has only recently become available. Moreover, the bioassay which was used until recently in the Department of Agriculture's testing programme was not sensitive enough to pick up residues in animal livers below about two parts per thousand million, a level that allowed livers contaminated with small amounts of DES to slip through. That essentially is what the FDA's critics have argued all along.