

Centre of Poona) were made available to the U.S. Army agencies at nominal cost; (iv) the knowledge gained by the Indian scientists at BNHS and VRC was only partial, and probably the least significant if it did not include the details of the blood sample analyses and the overall data on bird movements and induced infections; and that (v) only a coordinating agency outside this country, which obtained comprehensive data from other units, could assess the military uses or significance of such experiments.

There is no doubt that the WHO projects in India are carried out with the approval of the government of India through its ministry of health, but when the matter of involvement of the U.S. Army in some projects was raised in the Rajya Sabha (upper house of the Parliament) the government merely assured agitated members that it would see to it that national interests were not endangered by these projects. This routine assurance to Parliament members has not impressed many in the scientific community, and demands are being made for a thorough probe into the whole situation. □

## Science policy in the Netherlands

from Arie de Kool, Rotterdam

DISCUSSIONS on science policy are running so high in the Netherlands that even scientists are beginning to take an interest. The radical Bond van wetenschappelijke arbeiders (Union of Scientific Labourers) has been publishing reports on science policy ever since it was established about six years ago, and recently they have begun to co-operate closely with the Pugwash-based Verbond van wetenschappelijke onderzoekers (Union of Researchers). Together, the two unions have brought out a joint proposal for a democratic structure for science policy.

Their proposed structure is supposed to keep technocracy out, and guarantee a maximum amount of freedom and power over his own work for the research worker while at the same time safeguarding scientific standards. It is based on university organisation where one finds at the lowest level a section (for example, the solid state physics section or the French section), governed by a council on which scientific staff, technical assistants and students are represented (but in such a way that students can never obtain a majority). Several sections form a faculty, with its own council.

According to the new proposal the sections would not only join within the university, but all sections for, say, solid state physics, would elect a

"working community" at a national level. This working community would advise upward on the urgency of different programmes, and also receive money to pass out to the working groups in the universities. In fact working communities are now functioning rather well on the average, doing exactly this. There would be two differences; they would be elected by the scientists involved (and not appointed by the Dutch version of the National Science Foundation, ZWO, or one of its subsidiaries), and they would be responsible for about one third of the money going to a specific discipline.

Over and above the councils, we are to find a national council for higher education and scientific research. This is an almost purely political body, to advise government and parliament on matters contained in the name, and at the same time an executive body, handling all the money. One third of the research money would go to the universities to be spent at will (as long as it is for research; the democratic structure of the university is supposed to guarantee that this money is well spent). About one third goes to the universities, but would have to be spent in the faculties more or less proportionally to the number of students. And one third would go to the discipline councils to hand further down.

The idea behind this being that one needs a certain degree of centralisation if one wants any science policy at all. On the other hand, too much of it tends to kill the initiative, and close off new roads and new research, while there may be a strong tendency to overemphasise certain fashionable fields. In this structure, one would see about one third handled centrally, about one third at the university level, and about one third (the per-student amount) "at the basis", in the working group itself. At any level the researcher is supposed to have a certain degree of influence through his representatives, but of course, this private influence diminishes as one goes up higher in the structure.

Industry has been almost left out. The report says that since none of the proposed institutions could be expected to effectively exert power over industrial science, it would be wrong to have an industrial influence in the different councils. However, a better co-ordination of industrial and university research in socially relevant fields, is seen as worthwhile. In the long run government might even want to stimulate industrial research in those fields, and want to put a brake to other fields. Therefore industry should be asked to report on its scientific and technical activities, for instance, to the national council. □

## Trouble in the air

by Colin Norman, Washington

FOR the past couple of years a number of industrial groups, taking their cue from the automobile industry, have been waging a pitched battle against some of the Federal government's plans for cleaning up air pollution. Their prime objective has been to persuade Congress to emasculate some key provisions of the Clean Air Act—the foundation of the government's air pollution strategy—which they consider unduly stringent, scientifically invalid and, of course, inordinately expensive.

But the rug was pulled from under industry's feet last week when the National Academy of Sciences unveiled a massive study of the Clean Air Act and its scientific foundation. Although the committee which conducted the study posed more questions than it answered, and hedged all its conclusions with a string of qualifications, it said that there is "no substantial basis" for weakening key provisions in the act, and that the costs of cleaning up automobile emissions are at least commensurate with the benefits.

A few Congressional staff members centrally involved in the debate over air pollution standards all said in response to inquiries last week that the Academy's study will probably provide Congress with sufficient ammunition to ward off challenges to the Clean Air Act which are certain to arise next year—the act is due for review and possible amendment in 1975.

The Clean Air Act sets maximum levels of various pollutants which are allowed in the atmosphere, the chief intent of these so-called air quality standards being to protect public health. In addition, the act specifies maximum levels of hydrocarbons and oxides of nitrogen which can be discharged by new automobiles. The air quality standards have, however, been attacked for being stricter than necessary to protect public health, and the automobile emission standards have come under fire for being too costly to meet.

But the Academy's study, which was conducted under contract to the Senate Public Works Committee, said that the standards have, in general, been supported by the evidence which has accumulated in the three years since they were set. Moreover, "the safety factors provided by the air standards are much smaller than is usual in regulating other environmental pollutants such as radioactivity", the study concluded.

In fact, using calculations which are admittedly uncertain but which are derived from a variety of sources, the Academy committee reckons that auto-