Whenever any pollution problem is faced invariably the first thing that is discovered, according to Dr Randers, is that not enough is known about the subject and that further research is needed. But, he added, if everyone waits for full detailed information before acting, nothing will ever get done. Therefore, NATO sees its role not as a body to commission more research (that, said Dr Randers, is up to OECD) but as one that will act on present knowledge insufficient though it may be. Recommendations for action worked out by member nations are put to the NATO Committee on Environmental Challenges to Modern Society which considers implementing them. Dr Randers quoted the example of controlling oil spills in the North Sea, a problem that the International Marine Consultative Organization wrestled with for 15 years until NATO took it over a year ago and within a month produced an agreement that will prohibit oil spillage from 1975.

It is this sort of direct action in specific areas that makes NATO effective, according to Dr Randers. The problems of building safe cars to cut the carnage on the roads, of automating medical diagnosis to ease the strain on doctors, and of examining pilot plants for waste water disposal are other fields in which NATO is already working.

ENVIRONMENT

A Mixed Bag

THE half-day conference on the environment, organized jointly by *Nature* and the Royal Institution last week, covered, in a short time, problems which ranged from future trends in world population to pesticide pollution, with insights also into the available resources of fuels and metals and the problems associated with the gradual build up of carbon dioxide in the Earth's atmosphere.

Dr William Brass, reader in demography at the London School of Hygiene and Tropical Medicine pointed out, at the outset, that he sees no need for more people on Earth. He also sees hope that the current rapid increase in world population can be slowed down. In particular the decrease in fertility that has occurred in Japan and is now evident in Taiwan and Mauritious are indications that predicting population trends are unreliable. The decrease, in particular in Mauritius, is not the result of famine, family planning or even education said Dr Brass and it highlighted the fact that making forecasts of future population depends on inspired guesswork as much as anything. In this vein he pointed out that the recent publication *The Limits of Growth* (see *Nature* **236**, 47 ; 1972) must not be considered as a prediction. According to Dr Brass considering the MIT work in this light would be "scientific illiteracy".

Dr K. C. Dunham, director of the Institute of Geological Sciences, said that there is no great reason for pessimism "provided it is realised what is happening". He pointed out that the upward trend of the use of metals cannot continue for much longer. As time progresses ores of smaller and smaller enrichment are being mined and Dr Dunham pointed out that as far as the supplies of tin, lead and zinc were concerned, this cannot continue for there is a sharp break between the concentrated deposits of these ores and those of very low enrichment.

He called for greater reuse of metals and for more recycling. Synthetic substitutes would replace some metals but Dr Dunham does not think that a complete replacement is possible as there are "many operations in a sophisticated society which need metals".

Dr Kenneth Mellanby, Director of the Monks Wood Experimental Station, considered the vital question to be whether the benefits derived from the use of pesticides are greater than the disadvantages. He pointed out that it was essential to rely on pesticides to increase food production and that in fact if the use of all pesticides were banned then it would have the effect of reducing the population of the underdeveloped countries.

It is essential according to Dr Mellanby to ensure that the safest pesticides are used all over the world. Also Dr Mellanby stressed that a great responsibility lay at the door of the plant breeders to produce plant strains which are not susceptible to pests.

Dr Mellanby admitted that in some instances the use of pesticides had had deletirious effects but he was at pains to point out that there was no evidence that the amount of DDT in the oceans of the world now or in the future will ever reach such a level that it will prevent photosynthesis from occurring—and so alter the oxygen balance in the world.

The conference was led from oxygen balance to carbon dioxide balance by Dr J. W. Sawyer, director of research at the Meteorological Office. According to Dr Sawyer the direct effect of carbon dioxide on mankind is negligible with atmospheric content now being 319 parts per million to be compared with about 290 parts per million at the end of the nineteenth century. The indirect effect —the trapping of heat within the atmosphere, the so-called glasshouse effect—is however not so easily evaluated. The result is that the increase in average temperature of the Earth by such a mechanism is expected to be less than $\pm 2^{\circ}$ C—which is the average climatic variation since the last ice age which occurred 10,000 years ago. According to Dr Sawyer, the problem of the glasshouse effect does not require further study but there is a need to discover where all the carbon dioxide that is released into the atmosphere goes to.

SOVIET SCIENCE

Antarctic Medicine

from our Soviet Correspondent

A NEW institute of medical research and practice has been established at the Molodezhnaya observatory—the "capital city" of Soviet Antarctic research. As with most Soviet projects, its aim is two-fold—the immediate implementation of current economic planning, and a somewhat more tacit programme of basic research.

When interviewed in *Pravda*, A. L. Matusov, head of the polar medicine department of the Arctic and Antarctic Scientific Research Institute in Leningrad stressed, first of all, the ever-growing significance of the polar regions as sources of ores, chemicals and fuels. If these regions are to be exploited, he said, the problems of polar medicine must be thoroughly investigated. So far such research has not been carried out on a full-time basis, but the time is now ripe for a continuous research programme. In particular he stressed that a detailed study of acclimatization is particularly important, especially an investigation of possible changes in the functioning of the internal organs and the nervous regulatory systems under very cold conditions. This work will be undertaken in the Antarctic, rather than in the Arctic, in part due to the more severe conditions of the Antarctic, and in part so that the new institute can also serve as a medical treatment centre for members of Soviet Antarctic expeditions.

The staff of the institute includes a psycho-physiologist, a surgeon and a therapeutist, and in addition to treatment rooms and research laboratories, the institute is equipped with no less than three computers.

Research into acclimatization, carried out at the institute, and at other Soviet research posts in the Antarctic, will include microbiological, hygienic and pathological factors, and the incidence rate of various illnesses. The susceptibility to disease and its dependence on age, profession, polar experience, time of year, and the geographical and climatological conditions of the individual Antarctic stations will also be studied. Finally, an investigation into psychosomatic factors is planned, including a study of the nervous system under various conditions, the efficiency of the sensory organs, and psychological compatibility within the small community of a research station.