ANZAAS

Scientists Go Political

from a Correspondent

A COMPLETE and quite dramatic change in the relationships between scientists, the bureaucracy and the political world in Australia marked the recent 45th Congress of ANZAAS, the Australian and New Zealand Association for the Advancement of Science. The Congress, held in Perth from August 13–17, was the first big scientific conference since the change to a Labor Federal Government last year.

When the Whitlam Cabinet was formed in Canberra in December, several changes of significance to scientists were incorporated in the altered departmental structure, compared with the days of the Liberal/Country Party coalition which had governed Australia for the previous 23 years. These were strikingly reflected at the Congress.

Before last December, the only federal government department involved directly in scientific activity was the Department of Education and Science; its major effort was in education. The Labor Government split this in two, thus providing a separate Department of Science for the first time, although it should be added that this department, like a number of others, is controlled by a Minister with more than one portfolio (the Minister for Science is also Minister for External Territories, the latter task demanding much of his attention as Papua–New Guinea approaches self-government). New Departments of Environment and Conservation, and Urban and Regional Development were also created, largely as a result of extensive consultations between the Labor Party, when in opposition, and the scientific and academic communities.

ANZAAS is comprehensive in its coverage of academic disciplines. Ever since its first Congress in 1888, it has included non-scientific and semi-scientific subjects like history, anthropology, economics, education, sociology, architecture and town planning and psychology. Consequently, the ANZAAS Congress was an excellent testing ground for evaluating the extent to which the academic and research communities of Australia, on the one hand, and the political and bureaucratic structure, on the other, are getting on with each other under the new government.

In contrast with the Liberal/Country Party days of power, when relations between science and politics were marked by antipathetic philosophies and some mutual suspicion, the many Labor politicians who came to ANZAAS fitted easily into the scene, delivering papers in their own right, and participating freely in discussions on contentious issues. The Federal Ministers of Science, Environment and Conservation, Social Security, Immigration, Education, and Urban and Regional Development were all on the list of speakers. Several ministerial advisers and departmental heads also took part (both of these groups in Canberra now contain a significant number of scientists for the first time). Extensive, open discussion and lobbying with politicians and their staffs were features never previously observed at an Australian science conference. This was particularly timely in that the Congress preceded by a few days the handing down of the first Labor budget, in a Parliamentary session which will include many measures of importance to science and technology.

The ANZAAS organizers defined the congress theme as "Science, Development and Environment". Each afternoon was devoted to three major symposia on variations of this theme, with a considerable degree of overlap. This is illustrated by the titles of some of the symposia: "The Scientists, the Bureaucrat and Environmental Responsibility", "Limits to Growth: Population in Australia", "Resource Management and Planning", "Education and Environment", "The Implications of Nuclear Explosives", "Whither Urban Australia?", and "Ord River Ecology". It was in these symposia that most of the political content was included. The largest press, radio and television corps in ANZAAS history backed up by excellent facilities made sure these aspects were widely reported.

On the campus of the University of Western Australia the 2,900 professional delegates were joined by a record 2,300 students. Secondary school students were given leave to attend the Congress and this younger generation was active in questioning speakers, notably in the smaller sessions. Eight hundred and fifty papers were delivered in 24 different specialist sections. Although New Zealand is meant to be an equal partner in ANZAAS, there were few delegates from that country, whose capital Wellington is roughly as far from Perth as Sverdlovsk is from London. It was inevitable, then, that those scientific developments which received attention were related virtually exclusively to Australia.

CEREALS

Shorter Wheat

A FEW weeks ago there was great consternation that this year's wheat crop in Britain had been ruined by high winds. But fortunately the good weather and abundance of sunshine recently, combined with the fact that the wheat was nearly ready for harvesting anyway, has ensured that most of the crop was saved. It could well have been a different story if the past two weeks had been wet and stormy.

Cereal crops can still be harvested after they have been partially flattened by winds or rain but if the crop is flattened early in the summer before the cereal is ripe then the erect crop ripens before the flattened cereal, which causes difficulties at harvesting time. Another difficulty with flattened cereal is that weeds are much more likely to grow through and smother the crop, resulting in loss of yield. But of greater importance, the laid crop will not be of the best quality.

Clearly it would be of great advantage to the farmer if the cereal was less prone to flattening by winds and rain and, in answer to this, one of the aims of plant breeders is to produce cereal which has either a stiffer straw or one which has a shorter straw—the so called dwarf cereals. The farmer has another purpose in demanding short stem cereals, and that is that nowadays farmers do not need as much straw as they did several years ago. Chemical fertilizers have now mostly replaced farmyard manure for which straw was neded.

There is little doubt that in the coming years dwarf cereals will gradually replace the longer stem varieties. But dwarf varieties of wheat, in particular, have some way to go before they can match the longer stem varieties in yield, quality and resistance to disease.

The grain of dwarf varieties of wheat at present being tested in national trials is soft milling and of a poor bread making quality. Most of the wheat used for bread making in Britain comes from overseas.

During recent years, however, more and more of the softer British wheat has been used in making bread of an acceptable quality because of improved milling and baking techniques. Even so about two-thirds of British wheat is still used for animal feed or for making biscuits.

Another difficulty with dwarf wheats is that control of tall weeds may be more difficult than it is with longer stemmed varieties. Some grass weeds in wheat fields are controlled by spraying with chemicals but it has been found that many of the dwarf varieties like some of the taller wheats are readily damaged by these chemicals. But it is possible that the early vigour of many dwarf varieties will provide an environment in which most weeds will fail to grow.

It is also possible that short stem wheats will be more susceptible to *Septoria* leaf- and glume-blotch because the shortness of the stems could lead to a humid environment conducive to the development of these diseases. It has been suggested also that spread of disease by rain splash will be easier in the short stem varieties.