

harvest—was defended by the Hungarian service of Moscow Radio as marking a “very great step forward in a people’s economy like the Soviet Union”.

The reason for the great deficit in grain production was attributed by Mr Vashchenko to “difficult weather conditions in several areas of the country”. This would seem to put the responsibility firmly beyond the competence of the planners, but this needs further clarification, for the expansion of Soviet agriculture, as the Virgin Lands were opened up, itself had unfavourable climatic consequences. Moreover, an assessment of the agricultural situation based on land resources, available man- and tractor-power, present capacity of irrigation channels and so forth might well reveal that, allowing a reasonable margin for losses due to adverse weather, the Soviet Union is not fully able to feed its population.

This is true of many countries, but these mostly have agreements with countries in surplus to make up the shortfall. This the Soviet government is reluctant to do, and any such negotiations—such as those with the USA—are considered “short-term” solutions to an immediate emergency. A regular deficit would throw into question the whole system of socialist planning.

In his address to the Supreme Soviet, Nikolai K. Baibakov, Chairman of the State Planning Commission, said Soviet agriculture would have at its disposal in 1976 “about 380,000 tractors, 270,000 heavy and specialised trucks, more than 97,000 harvesters, and 78.6 million tonnes of fertiliser and ‘food additives’.” Agriculture was to be considered as simply another branch of industry, and re-equipped accordingly. Similarly, Mr Brezhnev in his address noted that “in order to raise the well-being of the people, it is necessary to pursue in the future a policy of intensification in agriculture. To turn it into a highly developed branch of the economy demands the systematic consolidation of the material and technical bases of agriculture and the increasing utilisation of the economic and scientific-technical potential for this purpose. Under the Tenth Five-Year Plan, it is intended to allot greater capital investments to agriculture, and to increase supplies of equipment, machinery, and mineral fertilisers.”

This “more-of-the-same” approach seems to contrast with the hint of change contained in *Pravda* on November 14. It published a significant decree of the Central Committee of the Party, which was subsequently followed by extensive press comment. This decree approved and recommended for emulation a project undertaken by the Lithuanian Agricultural Research In-

stitute, on the improvement of the efficiency of basic research in agriculture and its implementation in practice. The obvious nature of what the Lithuanian agronomists have done makes this surprising. The project, which has lasted eight years, consisted of research into soil types, problems of land reclamation, and the productivity of various strains of pasture and human and animal feedstuffs. Soil charts were compiled, and the yield of reclaimed soils were closely examined. This raises the question of what the real basis of Soviet agricultural planning has been. Hitherto it seems to have been considered sufficient to mechanise and “chemicise” agriculture, in the hopes that a good yield must surely follow. The emphasis placed by the Party on the Lithuanian project seems to show that in spite of public pronouncements on the need to introduce industrial methods into agriculture, there is a growing awareness of the need to base all such plans on a study, not only of general climatic and geographical conditions, but also on local micro-ecologies. □

Another look at doom

The main trouble with the computer simulations of environmental change that are used for long range forecasting—such as those used by the Club of Rome to compile *Limits to Growth*—is, according to Lord Ashby, that they omit politics, taking no account of the most striking and distinctive feature of all communities of organisms: their homeostatic response and capacity for adaptation.

What is needed, he argued when he delivered the 21st Fawley Foundation Lecture in Southampton this week, is “a second look at doom”: a recognition that the prognosis may be wrong but the malady—a climacteric rather than a crisis—remains. The arrival at the second turning point in the S-shaped trends of such factors as population and consumption of resources, he said, provoked “political and even ethical responses from society”, as well as the more familiar negative feedback effects tending to reduce population or the rate at which resources are used. To ignore this, he suggested, was to fail to grasp the problem.

For Lord Ashby, a well-known biologist who was Master at Clare College, Cambridge, the essential problem was clear. He saw no guaranteed tenure for man on earth—indeed, “it would be an evolutionary anomaly if *Homo sapiens* were not to go the way of the pterodactyl”, and a “historical anomaly if western technological man’s economic and social system were not

to go the way of the cultures of the Minoans and Aztecs”. But at the turning point of the S-shaped curves, values changed and deeply embedded social attitudes were reversed. This had already been revealed in UK population trends, in the consumption of energy, and even in such fields of pure science as bacterial genetics.

Exhortations to control the use of material resources and protect future generations, he therefore contended, emphasised the wrong priorities for policy-makers. The imminent danger was collapse due to political and social disintegration. Moreover, the urgent need was to do something about the communities already suffering from the perils forecast.

The main problems were neither technological nor economic, but geopolitical. With the industrialised nations dependent for some essential supplies on underdeveloped and sometimes unfriendly countries, the world was in for a succession of geopolitical confrontations, in which an alliance among nations which owned resources might be directed against nations which needed them. A shift might occur in the balance of world power to which the industrialised countries had to reconcile themselves or else face the alternative of war.

It was not only international tensions which might pre-empt the factors foreshadowing economic collapse described in *Limits to Growth*. Unresolved tensions within nations also revealed the problems stemming from what Lord Ashby described as the instability of man-made eco-systems. A pre-occupation with population control, or resource conservation, or pollution might divert attention from the industrialised nations’ new dependence and their desire to maintain their liberal democratic forms—a prospect which, he argued, meant ignoring more imminent and greater dangers. □

Wilson on Blackett

PRIME MINISTER Harold Wilson was in reminiscent mood when delivering the Blackett Memorial Lecture and naming the Physics Department the Blackett Laboratory at Imperial College last week. Patrick Blackett had been professor of physics at Imperial from 1953-65, and had worked with Harold Wilson since the late 1940’s, first as Wilson’s appointee on the National Research Development Corporation (NRDC), on the board of which he served from 1949-64, and later as Scientific Adviser to the Ministry of Technology in the 1964 administration.

The appointment of Blackett to NRDC, Wilson said, led to one of the