

5 per cent. The spectacular performance of the new dwarf cereal strains in Indian and Pakistan is probably the biggest single factor behind this achievement.

At any rate, the UN has ordained that a Second Development Decade should follow on the heels of the first, and a new offshoot of the UN—the United Nations Advisory Committee on Application of Science and Technology to Development (UNACAST)—is already planning the contribution it intends to make to this second ten year effort. UNACAST intends to create a World Plan of Action for the Application of Science and Technology to Development, and the outlines of this plan were discussed at a meeting of UNACAST in Vienna at the end of November.

So far the plan seems to be somewhat nebulous, limiting itself to a plea for research on issues like the social analysis of family planning programmes and the interrelation of technology and industrialization. The most definite statement that UNACAST came out with was that it was up to the developing countries themselves to persuade their talented young scientists to stay at home and avoid the enticements of happier research abroad. They are apparently to do this by setting up research centres of international quality in selected fields. UNACAST also recommended that the richer countries should include more scientists from the developing territories in their marine science programmes, and that the application of irradiation techniques in developing high-protein strains of plants should be pursued more vigorously.

All this is valuable work, but it is to be hoped that UNACAST does not follow the example of some other UN bodies by relapsing into a meek and premature dotage. Nobody expects a UN organization to endorse radical political solutions to the problems of the poor countries, but there are plenty of less incendiary issues around. Many people in the developing countries look at the proliferating space programmes of the advanced nations with some bitterness: what better platform than UNACAST, a group of scientists devoted to the cause of global development, to articulate this feeling and perhaps to devise politically realistic alternatives to the present ritualized contest of ideologies in space?

DISEASE

Measles in Biafra

UNLESS immediate preventive action is taken, an epidemic of measles will almost certainly break out among the already sick and undernourished people of Biafra. So far, reports which have been filtering through to the International Red Cross in Geneva have described isolated cases only, but because measles is endemic in West Africa, and because of the weak and susceptible condition of the population, this is hardly likely to remain the case for long.

A spokesman in Geneva said this week that the International Red Cross, with the full agreement of the Biafran Government, is launching an operation to provide up to one million doses of vaccine of the Schwartz type for the immunization of children in Biafra. The vaccine is a further attenuated one; that is, one which has been passaged through a larger number of eggs than is usual for attenuated vaccines. Although it produces minimal side-effects and is thus particularly suitable for use in developing countries, slight fever and a rash do sometimes accompany

vaccination. One hundred thousand doses provided by the Pitmore Division of Dow Chemical Company in Indiana have already arrived in Amsterdam and will be forwarded on December 21 to Santa Isabel and thence to Biafra. To start with, medical staff from the International Red Cross will undertake the vaccination, but an attempt is being made to muster eight teams of Biafran doctors to assist in the operation.

If the operation fails and an epidemic does break out, the result will probably be disastrous. Under normal circumstances the number of deaths caused by measles is far from negligible, but in undernourished West Africans the disease is particularly severe and takes an even greater toll of life. Children about one year old are the most susceptible (compared with a median age of 4.5 years in English children); the rash is usually very dark, desquamation is more extensive, and laryngitis, bronchopneumonia, diarrhoea, conjunctivitis and encephalitis frequently complicate the situation. Measles is responsible for a greater loss of weight in African children than any other common acute infection, and, as Dr D. C. Mosley has pointed out (*Modern Trends in Medical Virology*), it is also the most frequent infection to precipitate children into the protein-calorie syndrome of kwashiorkor.

FUEL

Bargain Gas

THE Gas Council has done well to agree on low prices for North Sea Gas with the Shell and Esso companies. The price finally agreed is both much less than the two companies wanted and much less than the price of gas from the Groningen Field in Holland. The agreement covers two gas fields—the Leman Bank and the Indefatigable fields—and the prices are shown in the table. Gas supplied in excess of the contract requirement will be paid for at the rate of 2.025 pence per therm. The contracts run for 25 years, and the sum of money involved is (at present value) very nearly £2,000 million. Sir Henry Jones suggests that the contracts may be “the largest single settlement ever made—it’s an awful lot of gas”.

The question now is whether there is an awful lot more at the bottom of the North Sea. If there is—and the Ministry of Power says that it would be contrary to all experience in other parts of the world if there were not—then the price agreed makes it a little more likely to stay there. The oil companies have been talking gloomily for some months about the decreasing rate of exploration, and Shell freely concedes that the price agreed “is not an incentive price”. Remarks made by Sir Henry last week in announcing the contracts are likely further to depress the market. He agreed that small additional finds would probably be priced at the Shell/Esso level, but added that a very

Field	Quantity of gas	Price (d/therm)	
		First 15 y	Remainder
Leman Bank	First 600 mcfd	2.87	2.87
	Next 600 mcfd	2.85	2.80
	Remainder	2.83	2.75
Indefatigable	First 600 mcfd	2.9	2.9
	Next 600 mcfd	2.9	2.83
	Remainder	2.9	2.78

large new find "would establish a new situation". Already the fuel market is being expected to absorb by 1971 three times the present gas consumption. It would be very difficult to find a home for any more than this and Sir Henry said that "future finds will set a price at which they will sell." It is fair to infer from this that the price would be considerably less than that agreed last week with Shell and Esso.

For the British consumer, the contract prices should mean cheaper gas. Indeed, the Gas Council is going out of its way to point out that natural gas customers are already getting 0.5 pence to 1 pence off each therm as soon as they start to use natural gas. Eight area gas boards—all but the Scottish and South Wales Boards—are linked up to the natural gas pipelines which come ashore at Bacton and Easington, and the system will be extended next year to include the two boards now excluded. Negotiations with some large industrial consumers, like the British Steel Corporation, are now in progress. But at least one large market, in electricity generation, has been ruled out by the Ministry of Power. The Gas Council can hope to displace only oil as a fuel for electricity generation—coal is altogether too awkward a subject at the moment. It is also very unlikely that the CEBG would look kindly on any industry which planned to generate its own electricity from cheap gas. The Gas Council therefore intends to use the gas to replace fuel oil at the lighter end of the range first, afterwards moving towards the heavier and cheaper grades.

Despite the size of the finds, natural gas is still likely to take a comparatively small part of the total energy market. The total market is now running at about 300 million tons of coal equivalent a year. The maximum rate of gas flow, when the peak figure of 2,000 million cubic feet a day is reached, will represent a mere 25 million tons of coal equivalent a year.

MEDICAL RESEARCH

A Duke Translated

THE Duke of Northumberland, appointed last week as chairman of the Medical Research Council, has a long history of such jobs. Before his resignation on June 30, he had for ten years been the chairman of the Agricultural Research Council—a job befitting one of England's largest hereditary landowners, with a vested interest in the well-being of the farming industry. He is chancellor of Newcastle University, and chairman of the committee investigating last year's foot and mouth disease epidemic.

On the face of it, the Duke's qualifications for his new post are less obvious than those for his chairmanship of the ARC, but as far as scientific matters go his duties are not onerous. The chairman of the MRC has traditionally been a member of the House of Lords—the Duke's immediate predecessors are Lord Shawcross and Lord Amory—indeed, under the old MRC charter the council had to include a member of both Houses of Parliament. The idea was apparently that men wise in public affairs would offer the less worldly academic members of the council useful advice when it came to dealing with the Government.

In the MRC's new charter, granted last year when the council came under the Department of Education and Science instead of the Privy Council, this clause

has been deleted. But for the present at least there is still a member of parliament—Mr Donald Marquand—on the council as well as a peer. Apart from *ad hoc* consultations at the request of the secretary or other council members, they are expected to attend only the nine council meetings in any one year, and then it seems to be a matter of listening to the professionals.

Parliament in Britain

Synthetic Foodstuffs

THE Prime Minister said that production of synthetic foodstuffs would remain the responsibility of the Minister of Agriculture, Fisheries and Food. Considerable efforts were already devoted to work in this field. Many oil companies were working on the development of proteins from natural oil and natural gas, and the Agricultural Research Council had for many years been working on the extraction of protein from plant materials. The ministry's marine laboratories and the Tropical Products Institute were trying to find proteins in the sea. This work, the Prime Minister said, was still in the research and development stage and it was too early to tell whether it will be of commercial value or will help relieve poverty and hunger. (Oral answer, December 17.)

Sonic Booms

A TOTAL of eleven supersonic bangs were made over the south of England in July 1967 to "provide wider experience for the public of the nature of sonic bangs". In a statement about the results, Mr A. Wedgwood Benn, the Minister of Technology, said that his department had received about 12,000 complaints from an estimated 12 million people affected by the bangs. About £4,000 was paid for claims of damage or injury attributed to the bangs. These results were being used in the collaborative research programme with the French and the Americans on the nature and effects of sonic booms. (Written answer, December 17.)

Cyclamates

ASKED whether he would restrict the use of cyclamates in food and soft drinks, while the report to the American Food and Drug Administration of possible chromosome damage from these substances was being considered, Mr J. Hoy, Parliamentary Secretary to the Ministry of Agriculture, Fisheries and Food, said that such measures would not be justified. The report seemed to be highly preliminary and inconclusive. (Written answer, December 18.)

Red Tape

A COMMITTEE, under the chairmanship of Mr J. F. Mallabar, will start work in the new year examining whether "the existing organization and systems of control and accountability of large scale establishments in the ministries of defence and technology, engaged in production, offer impediments to the achievement of full efficiency, and to recommend how such impediments should be removed". The Prime Minister announced that Mr A. P. Coldrick of the Transport Salaried Staffs Association, Mr J. R. Edwards of Joseph Lucas, Mr K. A. B. Moore of Reckitt and Coleman, Mr R. O'Brien of Delta Metal, and Miss Joan Woodward, Reader in Industrial Sociology at Imperial College, had been appointed to the committee. (Written answer, December 19.)