

IMAGE
UNAVAILABLE
FOR
COPYRIGHT
REASONS

Wide-World Photo

Secretary of State George Schultz follows Mrs Gandhi's lead.

bilities of genetic engineering for the improvement of crop yields and to produce quick-growing trees to provide fodder and firewood for rural populations. Biotechnology, some Indians say, is an area where high science and the needs of development meet. Last January, Mrs Gandhi announced the creation of a National Biotechnology Board, of which Dr M.S. Swaminathan will be chairman.

● Energy, minerals and materials. Indians are already being trained in the use of the Landsat satellite for mineral surveys, and collaboration exists in the field of earthquake engineering.

The White House explained that the new committee should overcome some of the problems afflicting the subcommission on science and technology formed under the Joint Commission on Economic, Commercial, Scientific, Technological, Educational and Cultural Cooperation. The commission was created in 1974 in an earlier effort at US-Indian detente, in spite of US unhappiness with India's nuclear test a few months earlier.

The science subcommission apparently did not include sufficiently high-ranking people and so was not influential enough with each country's bureaucracy to get major projects started. The new committee, under the joint chairmanship of Dr Keyworth and Dr Menon, should not have such difficulties.

In an oblique reference to the many meetings of developing countries, including one held in India last March, Mrs Gandhi noted that bilateral arrangements were the most effective path for development. "Global conferences end with inspiring and laudable statements. But their commitments are seldom honoured" she said.

Deborah Shapley

Electronics industries

French on march

The French government last week declared war on world electronics* markets with a FF140,000 million (\$20,000 million) three to five-year investment programme in the French electronics industry. After nuclear power (France now has the largest and fastest-growing nuclear programme in the world) and space (where the Ariane launcher is now competing effectively with the space shuttle) comes electronics, now clearly marked out as *the* technological programme of the new socialist France.

The battle will begin in the United States. M. Abel Farnoux, principal architect of the French programme, is expected to move to an office in New York in September and one of his partners, M. Girard Compain, is to set up shop in California. Altogether, some ten French electronics policy-makers are to move to the United States this year.

Their objective will be, in part, to learn, but the real French goal is the American market. France would seek both to establish French companies in the United States and to set up cooperation agreements. But so far the French government has given no details of Farnoux's new role. The decision last week was to adopt the main lines of Farnoux's recent report on the industry (see *Nature* 27 May p.257) and to announce an investment figure.

The most difficult domestic question has been avoided — how to reorganize the French electronics industry at home. The problem is that some of the major com-

*The word "electronics" is used to include everything from materials production to television sets, communications and computers. The French see their 10 main competitors in the industry to be: AT&T, IBM, General Electric, ITT, Philips, Siemens, Matsushita, Hitachi, GTE and Toshiba.

Balancing the francs

The French Ministry of Research and Industry is doing its best to juggle with a tight budget for 1983 — and to make it seem not too different from the 4-year averages recently advertised in the research law passed by the National Assembly (17.8 per cent a year in real money, and 4.5 per cent a year in jobs). The budget will not be announced before September: it seems likely that the cash target will be achieved, but not the jobs.

This represents a political decision that in the short run it is more important to get on with research, and to re-equip laboratories, than to create new posts. The figures under discussion would give something like a 2-3 per cent increase in posts (up to 600 new positions) at the Centre National de la Recherche Scientifique, which is responsible for the bulk of basic science in France; 6 per cent (230 posts) at INSERM, which pursues medical research; and 3 per cent (200) at INRA (agriculture). The total civil research budget would rise the full 17.8

panies — such as Thomson CSF, which produces military equipment, telephone exchanges, minicomputers, microchips, television sets and hi-fi equipment — have clear ideas of their own about their competence and company strategies, and have resented the government interference implied by their recent nationalization.

Thus Thomson was recently attempting to put its own foot in the American market through cooperation in the minicomputer market with an American company, but the French government stepped in and — despite Farnoux's attachment to the United States — insisted that Thomson link up instead with the mostly French computer company CII-Honeywell-Bull. This has riled the Thomson management, not least because the French company had earlier undermined Thomson's own minicomputer operation with the introduction of a Honeywell system (the "Level 6") despite an agreement not to do so.

Thus internal strife may make the French electronics adventure less of a threat than it might otherwise be. Meanwhile, money will certainly pour into the industry, and that alone may give it a competitive edge. It seems likely that the government will provide FF10,000 million in support of component manufacture (basically chips); FF7,000 million in consumer electronics; FF15,000 million in computers and office automation; FF15,000 million in the space industries; FF3,200 million in industrial automation; FF2,000 million in scientific instrument manufacture; FF3,000 million in medical electronics; and FF4,500 million in software production. On top of this, the industry itself is expected to invest some FF90,000 million over the planning period (to 1986), a rate not far from its present figure.

Robert Walgate

per cent to around FF32,000 million (£2,700 million).

All this takes place against a total government budget constrained to grow only 4.1 per cent in real terms next year, and a number of items written into the 1983 science budget that were not envisaged in the law, including FF1,000 million to help equip the science museum at La Villette, north of Paris, and FF500 million to support the computer firm CII-Honeywell-Bull.

Even so, the government is assuming only an 8 per cent inflation rate next year. Current inflation is in double figures. And in spite of the apparently large increases announced for 1982, the real increases in laboratory budgets have been eaten into by inflation and the weakness of the franc against the dollar. For example, despite a nominal 30 per cent increase, the budget of one director of a molecular biology laboratory in France this year was only 5 per cent up in buying power. But he was not complaining: "That's probably much better than my foreign colleagues".

Robert Walgate