

## IN BRIEF

**Nuclear trade . . . continued**

The trends in international nuclear trade were further emphasised by developments last week. South Africa apparently hopes to place the \$1,000 million dollar contract for its proposed twin reactor nuclear power station by the end of the month. A consortium including General Electric of the USA, Brown Boveri of Switzerland and Rijn-Schelde-Verolm of Holland is the leading candidate if credit guarantees can be arranged—a matter now troubling the Dutch coalition government.

Following agreement in principle three months ago in Nice, France and West Germany have now agreed on the practical details under which the French Atomic Energy Commission and the German companies Interatom and Kraftwerk Union will exchange ideas and expertise for a standard marketable design for a fast breeder reactor. Little progress has so far been made on cooperation in the high temperature reactor field, however. Japan-USSR cooperation in the nuclear field,

first mooted in discussions last year, has taken a step forward with the news that Japanese nuclear plant manufacturers are to submit estimates for a proposed Soviet project.

Among other developments: Westinghouse has reportedly signed a letter of intent to sell Egypt one of the two nuclear reactors contained in last year's US-Egypt deal; Kuwait is to seek tenders for a 40–60 MW training reactor as part of its programme for twin 1300 MW stations eventually to provide electricity and desalinated water; and Korea has confirmed that it has not so far approached Britain on nuclear cooperation. Meanwhile, 13 members of the 19-nation International Energy Agency have agreed to exchange information to help insure nuclear reactor safety.

**Britain's uranium difficulty**

The worldwide scramble for scarce uranium supplies has landed the UK Government in the centre of an embarrassing controversy over a 1970

contract to import an annual 1,500 tonnes of uranium from Rio Tinto Zinc's Rossing mine in the politically-sensitive territory of Namibia. Under strong UN pressure to cancel the deal, the Labour Government is also burdened by a promise to withdraw which it made while in opposition during 1973. Namibian uranium is arguably crucial to Britain's nuclear future: projected 1980 requirements for the UK's first and second generation reactors stand at over 2,000 tonnes a year, and on this point the debate concerns whether, in the face of fierce international competition, UK demands can be met as cheaply or reliably by alternative producers.

**Canada's energy moves**

In a drive towards energy sufficiency by 1985 Canada is to introduce incentives to boost exploitation of gas and oil reserves, change its licensing system and give the state-owned company Petro-Canada preferential powers over other companies.

ALEXANDER Solzhenitsyn is generally admired as a writer, and as the winner of a Nobel Prize for Literature. His political views are more controversial. In Western countries some of those who have watched his recent interviews on television say they want action at once, to combat the dangers of Soviet imperialism and communist infiltration; others think his views exaggerated and irrelevant to democratic countries. His novel *The First Circle* deals with the political situation in Russia under Stalin in 1950, but it also contains something which may be relevant to the debate about the organisation of scientific research, a debate which is continuing today in Britain, in many European countries and in North America.

The book describes the Mavrino Special Prison, which is in effect a government research laboratory. Many of the inmates are distinguished scientists and technicians who are alleged to have collaborated with the Germans when prisoners of war. In addition there are "free" workers, mostly in junior positions. The establishment is under the direction of scientists who have not yet incurred the displeasure of the regime, with close supervision from government ministers with more or less scientific experience. The purpose of the research is mostly highly practical, generally aimed at improving the surveillance of those suspected of ideological deviation, though sometimes the research workers may

become involved in scientific problems and forget how their results may be applied. It is generally understood that any prisoner whose work is successful will have his sentence

**Organised research**

KENNETH MELLANBY

remitted; this is intended to ensure his "motivation".

Much of *The First Circle* concerns politics and the problems of insecurity and intrigue in Stalinist Russia, and is thus not, we hope, directly relevant to laboratories in other countries. Yet the organisation of the research has, in some instances, a disquieting resemblance to the system now being developed in Britain and elsewhere—though in most cases the resemblance is that of an obscene caricature. How-

ever, such caricatures have sometimes given a foretaste of future developments.

Thus at Mavrino we see bureaucracy encroaching everywhere, and an obsession with paperwork. Instead of getting down to actual research, the organising scientists are concerned with "plans, plans, promises and more plans". The scientists as a whole have little influence on the choice of the subject to be investigated, and are often compelled to devote their efforts to topics they know to be worthless. The research programmes are controlled by rigidly described "projects" with an exact—and often impossible—timetable for their completion. When, as is often inevitable, the required results are not forthcoming, a crash programme (described by one of the participants as "heads down and charge") is mounted. As a result we read of "the rushed, sloppy, careless style of work which was the rule" at Mavrino. The whole system is seen to be remarkably inefficient, unable to produce even short term results.

Notwithstanding (or even because of) Solzhenitsyn's gloomy predictions, we may avoid the political fate he warns us against. But I think we can also learn from his account of Stalinist scientific research. Changes in the organisation of science in Western countries seem to be introducing many of the methods used at Mavrino. Can we be sure, even under a democracy, that they will not reduce even further our scientific originality and productivity?