

OLD WORLD

CERN ACCELERATOR

One More Delay

by our Special Correspondent

Geneva, December 22

A FINAL decision to build the CERN 300 GeV accelerator has been delayed yet again. Contrary to expectation, the CERN Council was unable to give the go-ahead when it met in Geneva on December 22, and the meeting was adjourned until February 19. Although the British government's decision to participate in the project removed one of the chief stumbling blocks, the strings attached to this decision together with some dithering by the governments of five of the smaller member countries of CERN made it impossible for the Council to come to a firm decision.

All the member countries who contribute most to CERN—West Germany, Britain, France and Italy—have already announced their willingness to participate, and Belgium, Switzerland and Austria have also declared their support. Only 13 per cent of the cost of the accelerator, estimated at about £100 million, is still to be accounted for, because delegations from Sweden, the Netherlands, Denmark, Norway and Greece all said that their governments require more time in which to make a decision. The chief reason for postponing the decision in Geneva last week was the condition laid down by the British government that it could agree to back the accelerator only if all the other member states of CERN did likewise. The German delegation to the meeting expressed some irritation that the decision was to be delayed yet again. It clearly felt that the British government was trying to dictate the progress of the new project, and the German delegation also pointed out that three other states with large contributions had only demanded that a substantial majority of the finance should be accounted for before formal assent should be given.

The postponement of the decision until February will not lead to any delay in starting the construction work on the accelerator. Several loose ends remain to be cleared up in the preparatory study, carried out by Dr John Adams, the director of the project, and there is still no clear plan for saving the (SFr) 200 million in the existing CERN programme required to finance the new accelerator. But if the British government does not soften its attitude at the February meeting, Sir Brian Flowers, chairman of the British Science Research Council, may be placed in the unenviable position of watching helplessly as the project is paralysed by the abstention of one of the smaller member countries.

MERCURY POLLUTION

Incomplete Knowledge

THE Minister of Agriculture's decision to allow tuna fish contaminated with methyl mercury to be sold in Britain is, on the evidence available, a sensible one. The level of contamination is well within the safety limit adopted by many other countries, and the amount of tuna consumed in Britain is comparatively small. But the whole affair has emphasized how arbitrary are the safety limits, and how incomplete is the knowledge of the effects of ingestion of methyl mercury on the nervous system. The Laboratory of the Government Chemist found that the mercury content of tinned tuna fish sold in Britain is between 0.1 and 0.8 mg/kg.

Methyl mercury compounds are more toxic than the metal itself because they are soluble in fat, and can therefore penetrate cell membranes and enter the brain. One of the key questions is how long these compounds remain in the brain before they are removed, because the longer they are stored the greater are the risks of poisoning from small quantities ingested over a long period. Unfortunately, however, the residence time of methyl mercury in the brain cannot yet be accurately quantified, and this uncertainty casts some doubts on the validity of designated safety limits. Methyl mercury is thought to damage brain cells, thereby impairing the coordination of muscle control—the first clinical signs being numbness in the extremities, lips and tongue. The present safety limits are based on the number of brain cells likely to be damaged before any deleterious effects are noticed.

The chief sources of mercury contamination of the environment are pulp and paper factories which use phenyl mercuric acetate and, to a lesser extent, chlorine factories using mercury electrodes. Research carried out in Sweden has shown that bacteria in bottom sediments convert inorganic mercury to organic mono- and dimethyl (CHHg^+ and CH_2HgCH_3) derivatives. The process seems to be an anaerobic, non-enzymatic fermentation, involving vitamin B_{12} . The bacterium *Methanobacterium omelianskii* ferments carbon dioxide and produces methane, a key step being production of methylcobalamin—a complex between methyl, cobalt and B_{12} . Methyl mercury is likely to be a by-product of such a fermentation.

The Pharmacology Subcommittee of the Committee on Medical Aspects of Food Policy, which advised the government that the level of mercury found in tuna fish is not sufficiently great to ban the sale of the fish in Britain, recommended also that the Ministry of Agriculture should initiate an extensive monitoring of all possible sources of methyl mercury in food. The committee also pointed out that the problem of mercury con-

tamination has been in existence for a long time and there has not been sudden exposure to a new risk.

COMPUTERS

Good Year for ICL

International Computers (Holdings) Ltd last year increased its turnover by 13 per cent, compared with the turnover during the previous year. Profits also increased dramatically—by 33 per cent, to £4.53 million after tax. This announcement, made last week by Sir John Wall, chairman of ICH, bodes well for the company's ability to meet strong competition from computer manufacturers in the United States and Europe, and this optimism is further strengthened by the announcement that 40 per cent of the company's turnover was achieved in foreign markets. ICH was formed in 1968 as a holding company for International Computers Ltd (ICL)—an amalgamation of International Computers and Tabulators and the computer interests of English Electric and Plessey, with the government holding some of the shares.

The company spent £16 million on research and development last year and Sir John Wall predicted that this will soon reach the £20 million a year mark. And for the first time, the company spent more on research on software than on hardware, reflecting the trend established during the past few years (see *Nature*, 228, 201; 1970). ICH has also spent most of the £13.5 million grant awarded by the Ministry of Technology in 1968 for research and development.

During the past year ICL has been looking towards closer collaboration with foreign manufacturers, and together with Control Data Corporation of the United States and Compagnie Internationale pour l'Informatique in France, ICL has set up a joint study company in Brussels to explore ways of collaborating. The first step will be to ensure that the software and hardware products of each company will be compatible, to facilitate any future joint marketing operation between the three companies.

As far as future ICL computers are concerned, Sir John Wall declined to give a date for launching its new series of computers. Although ICL does not intend to manufacture the type of giant computers made by Control Data Corporation, Sir John said that it will go ahead with development of the Project 52 large computer.

METEOROLOGY

Unusual Patterns

THE sudden arrival of snow in England, promptly on cue for Christmas, was less of a surprise to meteorologists than its disappearance earlier this week. The weather conditions in England were