

parently healthy birds shot in the area after the disaster demonstrated similarly high PCB concentrations. It is of great interest, however, to discover that PCBs, which are lipid soluble and normally dispersed throughout subcutaneous and other fat reserves, become concentrated in the liver when this fat is mobilized during periods of undernourishment, and although not a primary cause of the Irish Sea "wreck" may have been a contributory factor to the lowering of resistance of a large number of birds already weakened by the stresses of the moult. What initiated their undernourishment remains unknown, but the cause could have been a natural disaster, possibly an undetected failure of the food supply or a disease-initiated interruption of their normal feeding habits.

It seems that several different factors in combination were responsible for the disaster. If this is the case, then pollutants could be more insidious than the lethal dose figures would have us believe, for even in relatively low concentrations, they may be sufficient to tip the scale of the balance between life and death of an animal already under some form of natural stress.

For those who will look on this report as merely perpetuating the use of PCBs as the latest in a chain of toxic scapegoats, a recent announcement by Monsanto Chemicals Ltd, the sole manufacturers in Britain and the USA, should cause them to question their philosophy. Without any announcement, or, it seems, documented justification, Monsanto have placed heavy restrictions on the sale of PCBs in Britain, following a similar restriction imposed on US sales several months ago. Their Newport factory is also to significantly reduce production of these persistent and highly toxic industrial chemicals.

#### COMPUTER POLICY

### Mediator Snags Aired

MEMBERS of the Select Committee on Science and Technology have been eager to investigate the continuing criticisms of the Linesman/Mediator air traffic control system ever since their investigation of the British computer industry began last year. Not only is the Linesman radar data processing system that is at the heart of the system one of the largest computer complexes produced in Britain, but together with the Mediator system that is primarily concerned with the processing of flight plans, it will look after both air defence and air traffic control in Britain. Last week members of the Select Committee got their chance when the Ministry of Defence gave evidence to subcommittee A. In a memorandum to the subcommittee, the

Ministry of Defence admitted significant delays in the project, and it seems that the cost of the system has risen from the original £106 million to £145 million.

Partly civil and partly military, the Linesman/Mediator system is based on three air defence radar stations and nine air traffic control radar stations, which feed information into a control centre at West Drayton for both air defence and civil air traffic control. The system is being built up in stages. It seems that the chief problems are to do with the software; and these are being met both in the Mediator part of the system to do with the processing of flight plans, and in the Linesman system for the processing of the raw radar data.

But the system is progressing, according to the memorandum. Simulators at West Drayton for training purposes are installed and are now being programmed, the height finding computers and anti-jamming computers at the individual radar stations are installed and partially programmed, the computers for local control by air defence radar stations are in production, hardware for the flight plan processing system is being installed and programmed, and various data processing elements for the radars are either in operation or in production.

The Ministry of Defence agrees that some of the techniques in the system are obsolete by now, but points out that this was bound to happen in a system that is going to take a long time to develop. And almost every large project involving real time on-line computers has met serious difficulties in planning the design and in the preparation of the software. But the subcommittee nevertheless did not appear entirely happy.

As the largest user of computers in the government sector, the views of the Ministry of Defence were also sought on other aspects of the computer scene. According to the memorandum the present policy of the ministry towards computers for weapons systems is to use general purpose computers derived from business machines wherever possible. The ministry also expressed concern about what it calls "a heavy NATO investment in US hardware and software in the higher echelons of command", a tendency which the other nations are finding increasingly hard to resist. The hope is that a joint civil and military body called the NATO Command, Control and Information Systems and Automated Data Processing Committee, and helpfully abbreviated to NCCDPC, will help to counteract this trend. One of the duties of this body, on which Britain is represented, will be to advise on the choice of hardware and software for NATO systems after tenders have been received.

## Parliament in Britain

### Vivisection

MR KENNETH LOMAS is appalled by the number of experiments carried out on living animals each year; he pointed out that in 1960 the number of animals used in such research was about 3½ million, and the number of investigators who could legally perform such experiments was about 7,000. By 1969, however, the number of experimenters had risen to 13,791, and the number of animals involved was 5,418,929, or 10 animals every minute of the day and night, seven days a week. He questioned whether all these experiments were really necessary, and suggested that there is a need to establish a research institute, under the aegis of the Medical Research Council, to study and develop methods of medical research which would not involve living animals. The National Anti-Vivisection Society, he said, had estimated the cost of such an establishment to be about £1 million, including running costs for the first 5 years.

Mrs Margaret Thatcher, Secretary of State of Education and Science, was not moved by Mr Lomas's rhetoric. She emphasized that animals must be used for testing drugs and food where the use of human subjects would be hazardous, and that a wide range of advances in modern medicine would not have been possible without the use of animal subjects. (Debate, March 31.)

### Desalination

IT seems that there is no immediate prospect of a contribution to Britain's water supply from desalination. Mr John Farr asked how many desalination plants might be operating in Britain by December 1972. Mr R. Graham Page, Minister for Local Government and Development, said that none would be functioning for the supply of water to the public. Information about the cost and the feasibility of using such plants to supply water for public use would be available in three to four years' time through experience gained from the experimental freezing plant at Ipswich, due to open in two years' time. (Written answers, March 31.)

### Excavation

THE fuss which "Rescue", the archaeological group, made over Cublington may have struck home. Mr Andrew Faulds asked if an archaeological survey will be made a compulsory condition of planning permission in future development schemes. Mr R. Graham Page, however, answering for the Secretary of State for the Environment, felt that there was no need to extend the protection already provided by the Ancient Monuments Acts. (Written answers, March 30.)