

power has been restored because the sensitivity of modern computers to humidity and temperature makes it necessary to run the air conditioning for as long as three hours before switching the machine on again. Information stored in the computer memory is usually not affected but disk memories can be damaged if a disk is dropped at the time of power dislocation.

The National Computer Centre (NCC) at Manchester have produced a report at the request of the Department of Trade and Industry which shows how computer installations are coping with the problem. Seventy per cent of computer installations have been affected by power cuts, but 20 per cent have their own generators available. The NCC found that about 40 per cent had agreements with other computer installations for the exchange or sale of excess computing power which could allow a user in a blacked out area to make use of a computer in an unaffected area. Such agreements were obviously not designed to cope with very large transfers of computing power and it is not clear how well the system has worked.

SELECT COMMITTEES

Eye on Space Research

THE confused state of the British space effort will be one of the subjects to be investigated by the reconstituted House of Commons Select Committee on Science and Technology. Mr Airey Neave, the new chairman of the committee, announced this week that the select committee would be looking into the "opportunities for participation by the United Kingdom in space technology, research and application". The select committee will also resume the enquiry into the British computer industry which was started during the last parliament but which was curtailed when parliament was dissolved for the general election in June. There is also to be a third subcommittee to study the evidence collected by the previous select committee on population, an enquiry also cut short by the general election.

The subcommittee looking into the space programme is to be chaired by Mr Arthur Palmer, Mr Neave's predecessor as chairman of the select committee. The other members of the subcommittee will be Mr Ronald Brown, brother of Lord George-Brown, Mr David Ginsberg, Sir Harry Legge-Bourke, Mr John Osborn, Dr Tom Stuttaford and Mr Norman Tebbit. Among the topics likely to be investigated by Mr Palmer's committee are the failure of the Black Arrow rocket last September and the future of the European space programme after the discouraging European Space Conference in Brussels last month.

Mr Neave will be chairman of the subcommittee looking into the computer industry. With him will be Dr John Cunningham, Mr Ted Leadbitter, Mr Ian Lloyd, Mr Keith Stainton, Mr Gavin Strang and Mr Kenneth Warren. Although proceedings of a select committee in theory start afresh in a new parliament, Mr Neave and his colleagues will be picking up many of the threads left by the previous select committee, which had in fact completed its collection of evidence before the general election. The unfinished proceedings of the subcommittee investigating population will be studied by a general purposes subcommittee comprised

of Mr Neave, Mr Palmer, Mr Ginsberg, Sir Harry Legge-Bourke and Mr Stainton. There is no commitment to publish a report of this enquiry, however.

EPIDEMIOLOGY

Blood and Disease

THE day when it may be possible for epidemiologists to predict the onset and spread of the important communicable diseases in a population is foreshadowed in a report from the World Health Organization (*Multipurpose Serological Surveys and WHO Serum Reference Banks*, Technical Report No. 454, Geneva, 1970; HMSO, 10s). The report describes the way in which examination of blood serum, the fluid component of the blood which remains after the plasma has been removed, can yield valuable information about the health of a community, the appearance of infection within the community and the steps which can be taken to control the disease. For many years it has been known that analysis of serum protein in blood samples taken from selected members of a community could yield this, and very much more, information; technical innovations in the past few years, however, have turned this analysis into an epidemiological tool of world-wide importance. New ways have been developed to collect, preserve and store samples of blood and blood serum, and simultaneously, increasing awareness of the value of computer technology has vastly increased the efficiency with which the information culled from serological surveys can be collated and processed.

A leading weapon in the struggle to control and eradicate the most serious communicable diseases is epidemiological surveillance, the systematic follow-up of disease and infection as they spread in human and animal populations. Serological surveys are a vital part of any such investigation, for they can tell the epidemiologist a great deal about the presence and extent of infection in a community, the existing levels of immunity in the population and the effectiveness of vaccination measures in counteracting the infection. Serological techniques make this a remarkably precise procedure and it is possible to detect specific viral or bacterial pathogens circulating in the population from their antigenic characteristics; this knowledge is vital in the preparation and use of specific immunizing biological products.

Serological surveys make it simpler to forecast the occurrence of disease and to predict the most effective preventive measures which can be taken, but this is by no means the limit of their usefulness. In 1960 reference serum banks were established in a number of cities with WHO support and technical assistance, and quite recently a start has been made in analysing these samples not only for immunological characteristics, but for biochemical and genetical markers. Multipurpose surveys in which blood sera is examined simultaneously for a number of factors may eventually make it possible to identify individuals at risk—unprotected persons exposed to a pathogenic agent and likely to develop disease. This risk can be defined in terms of personal constitution and environment. It seems possible that these can be characterized serologically by a set of genetical, nutritional and biochemical markers, making it possible, eventually, to estimate the individual risk of developing disease.