

than compensated by the chance to study ways of maintaining the locust population at a permanently low level—a policy of prevention rather than cure.

The report ends with an injunction to locust surveyors to maintain their vigilance and not relax into indifference as the years of recession continue. The words have an ironic touch, for a major new locust outbreak has occurred since the report was compiled. Heavy rains in Arabia and North Africa made breeding conditions exceptionally favourable in the autumn of last year. Swarms are now established in Ethiopia, the Sudan, Saudi Arabia, Niger and Somalia, and it looks as if swarms are already migrating from their summer breeding grounds in the Sudan to their winter breeding territories of north-western Africa, and the coastal plains around the Red Sea. At this distance it is not possible to say whether or not the outbreak caught hold because of carelessness in field surveys. The desert locust has a vast breeding area, and it may be that when weather conditions favour the locust, even the most meticulous survey will have a fair chance of failure.

## INFORMATION

### Scientists Informed

INFORMATION science achieved respectability in the august meeting rooms of the Royal Society last Friday. The occasion was a special discussion meeting on scientific information attended by fellows, many other scientists, librarians and other interested persons. That the subject should become respectable was one of the prime purposes for holding the meeting. Whether it remains respectable is another matter, for scientific information is a subject which has received singularly little attention from scientists themselves—just the group of people who need to be at the forefront of scientific information matters. It is a sobering thought that many of the suggestions made at the meeting by—among others—Sir Harold Thompson, who chaired the first session, and Professor F. S. Dainton, who made the concluding remarks, were more or less the same as those made 20 years ago at the Scientific Information Conference organized by the Royal Society in 1948. There has of course been progress since then, particularly in the classification of information and the use of computers in information services, and illustrative talks on the present and future use of computers took up much of the meeting's time. Talks were given, for example, on the Information Service in Physics, Electrotechnology and Control (INSPEC), (MEDLARS), the Chemical Society's Research Unit at Nottingham, and some of the specialized centres that have sprung up all over the country in the past few years. It was very clear, however, that despite the increasing emphasis on these systems some fundamental problems remain, and these are not necessarily the product of the cliché-burdened "information explosion". Computers will not solve these problems, at least not for the time being, and they certainly will not until machines have been designed expressly for handling information.

Sir Harold succinctly put his finger on many of the problems, and his suggestions, echoed by Professor Dainton, must be seriously followed up. At least they fell on fruitful ground. In a nutshell, the suggestions centred on the complete involvement of scientists in

information matters—in the planning of services, in decisions of policy, and in the training of students and postgraduates in the use of information. There were also pleas in various disguises for the greater involvement of learned societies in information; not just in the rationalization of their publications, but also in research and in cooperation with other societies both nationally and internationally. Once scientists and technologists are better informed on information matters, they will begin to press for better information services.

A talk which must have shattered the thoughts of some members of the audience was that given by Dr B. W. Adkinson of the National Science Foundation on "The Role of Scientists and Scientific Societies in Information Activities in the United States". The financial commitments of the larger societies are now enormous, and quite a large portion of the budget is spent on information. This figure can run into several million dollars. It appeared from Dr Adkinson's talk that some of the societies in fact are running into financial trouble through their being ill-equipped to cope with the huge financial programmes they now handle.

Much of the disenchantment of scientists about information must surely come from the fact that in many cases they just do not know what services are available. Miss Maysie Webb's talk on the National Reference Library of Science and Invention was therefore a timely reminder that, while computers have a future in information, libraries with books and periodicals will be with us for a very long time to come, and that from a well organized reference or lending library a scientist can obtain most of the information. After all, while computers can pour out lists of titles of articles, authors' names and subject indexes, the reader wanting information will ultimately have to see the actual document. This will normally have to be obtained from a library of some kind. In connexion with Miss Webb's talk it is a nice coincidence that at the end of this month a new extension to the National Reference Library in Bayswater is opening to the public (see page 328). Miss Webb was the guiding light behind the growth and development of this library before becoming assistant director of the British Museum in July.

## MEDICINE

### Home Haemodialysis

A NEW, twenty bed renal unit financed by the Ministry of Health has recently been opened at the Royal Free Hospital at Belsize Park. It is four years since the Royal Free Hospital pioneered home haemodialysis and since then over fifty patients have joined this rehabilitation scheme. As soon as the patient enters the unit he is put on a six week training course while being treated on the haemodialyser. He and one other member of his family learn how to operate the machine so that by the time the patient leaves hospital he is completely independent of medical staff for the whole ten hour dialysis procedure. Meanwhile one room of the patient's home (if his own home is not suitable an alternative is provided by the council) is prepared for the installation and running of dialysis equipment.

The Kül dialyser was developed at the Royal Free

Hospital and is being further improved there by Dr J. F. Moorhead and Dr R. A. Bailod, who direct the unit. It is a parallel flow dialyser which automatically sterilizes itself before and after use. The patient's blood flows in between the two layers of the Cupraphan membrane and impurities dialyse into the saline-salt mixture, which has been diluted with water, suitably treated to reduce its calcium content. Attached to the K<sub>ül</sub> is the monitoring unit, which records the pressure and temperature of the blood returning to the patient and also detects blood leaks. An abnormal reading causes the appropriate bell to ring and this alerts the patient, who can then correct the fault or switch off the machine. With dialysis three times a week the patient can eventually go back to work and is encouraged to live as normal a life as he is able.

Such an efficient dialysis system might seem a deterrent to tissue transplantation—among fifty or so patients kept alive by regular home haemodialysis only two deaths have occurred. But renal grafts are performed in the unit too; if there is serious rejection the new kidney is removed and the patient returns to dialysis. Research projects on tissue typing and investigation with the immune response are directed towards increasing the ease of transplantation.

## GAS

### No Profit in the Pipeline

THE transformation of a surplus of nearly £4 million in 1966–67 to a deficit of nearly £13 million in 1967–68 is the sad message contained in the annual report of the Gas Council for the year 1967–68 (HMSO, 19s). Although some effort has clearly gone into rationalizing these figures in terms of some of the unique events of the past year, notably the Middle East war, the main part of the report is devoted to the achievements and implications of adapting the country to natural gas.

The past year has seen the first instalment of natural gas received from the North Sea. The latest estimate of the potential of the North Sea reserves is put at enough to maintain a flow rate of between 2,000 and 3,500 million cubic feet a day for the next 20 to 30 years, these figures being based only on proven gas fields, and the Gas Council is now planning on the basis that the council and area boards will be receiving 4,000 million cubic feet a day by the mid 1970s. These figures, forged out of the Government's fuel policy, form the guidelines for the Gas Council's research and development programme.

The council's expenditure on research has risen in the past year by 25 per cent to £2.7 million, and those topics primarily associated with the industrial production of gas suffered a sharp decline. The expansion of operational research by a factor of more than two is a welcome sign that the problem of fusing a new and different source of gas into the existing industrial and private markets has been recognized as far from trivial. Study of the storage, transmission and distribution of gas has also received a handsome increase of funds, and expenditure by the area boards on development has made a jump of 15 per cent to nearly £1.5 million.

All the planning and research being undertaken to usher in the era of natural gas augurs well for the future, and it appears that the combined effects of the

Middle East war and the devaluation of sterling can genuinely allow the deficit of last year to be called a freak. The additional cost of oil feedstocks from these two sources alone amounted to nearly £17 million.

The conversion of appliances to burn natural gas will be undertaken by the area boards over a period of about ten years, and the report points out that about 50,000 consumers were already being supplied with natural gas at the end of the last financial year. The cost of these changes is being borne by the area boards.

The Department of Co-ordination and Planning of the Gas Council, designed to ensure that the area boards and the council fit together to form a coherent unit, has expanded its activities in the past year. It prepared a detailed brief of objectives and assumptions on which the 1968 capital development programmes were based, and as a coordinating body it will continue to have a useful part to play.

## INSTRUMENTS

### Golden Jubilee Tarnished

GOLDEN jubilees are usually self-congratulatory affairs, but Mr William Storey, chairman of the British Scientific Instrument Research Association (SIRA), ensured that the anniversary marking 50 years of the association was an exception. At a celebratory luncheon in London last week, Mr Storey raised the spectre of Britain importing more instruments than it exports. If present trends continue, this sobering situation for the instrument manufacturers will occur within a year or two, and Mr Storey said that to remedy the position the industry must increase its annual growth rate to 12 to 15 per cent. The instruments industry is cagey about what the figures are, but it seems that exports last year were running at £74 million, £7 million more than imports. Imports, however, have increased more than three-fold since 1961 while exports have grown much more slowly.

Mr Storey is therefore eager to ensure that the association does not become complacent in its position as the oldest research association still in existence. To rub this point home, some important changes are being made in the way the association is run. To an increasing extent, SIRA is concentrating on solving technical problems which are not general to the instruments industry as a whole, financed by contributions from the interested organizations. A new scheme of membership subscriptions which reflects this trend was approved at the annual general meeting last week. The new subscription rates are meant to fit the payments made by the members more closely to the members' needs, and to expand considerably the range of companies which are members of SIRA. The association feels that too many companies are members "at second-hand" as it were, through SIRA's connexions with the other research associations. Closer relationships with these companies would be mutually beneficial, by forging closer ties with companies which are users of instruments rather than manufacturers. Encouragement of this aim is one of the pretexts of the new membership structure. One result has been the establishment of a membership grade for educational establishments, professional institutions and the like, which, for a fee of between £50 and £100, will be