The Coaster is extraordinarily light; empty, it weighs only 500 lb, less than half the weight of the Ford prototype, the Commuta. Like the Commuta, the Coaster would manage a top speed of 40 m.p.h., with acceleration from rest to 30 m.p.h. in 10 seconds. The cost of running the car, Mr Carter says, would be derisory—only 1*d* per 15 miles. Rolling resistance has been cut to a minimum by using special tyres at higher pressures than usual, and the total resistance is less than a quarter that of the Mini. But despite these herculean efforts, the range of the Coaster would be only 40 miles on each charge, or, as Mr Carter puts it, "60 miles under favourable conditions". This is almost exactly the same as the range achieved by the Commuta, but, unlike Ford, Mr Carter believes that it will be enough to achieve a reasonable market. He proposes that 80 small privately owned production plants should be set up, each capable of producing 50 vehicles per week from 50 employees—"efficiency four times higher than any existing motor assembly plant in Britain," he adds darkly.

Certainly other participants at the conference had the feeling that Mr Carter was ushering in the new age before the old had been properly laid to rest. The cheerful salesmen at Earls Court showed no signs of looking uneasily over their shoulders. One participant at the conference, with a foot in both camps, said that the electric car would be a reasonable proposition at the moment only if it could carry around with it a generating device for recharging—and the only possible recharging device would be a generator driven by an internal combustion engine. Mr Weston, from the Transport Research Assessment Group, pointed out that any electric vehicle that required regular charging would, if successful, impose a tremendous strain on electricity generation and transmission. He estimated that the amount of capital investment required would be something like £50 to £100 for every car sold. The best chance, many agreed, was the development of fuel cells, possibly the hydrazine–air fuel cell. In the meantime, there is little the electric car can do that cannot be equalled by the internal combustion engine. Seventy years of development, and enormous capital investment, have made it a formidable opponent.

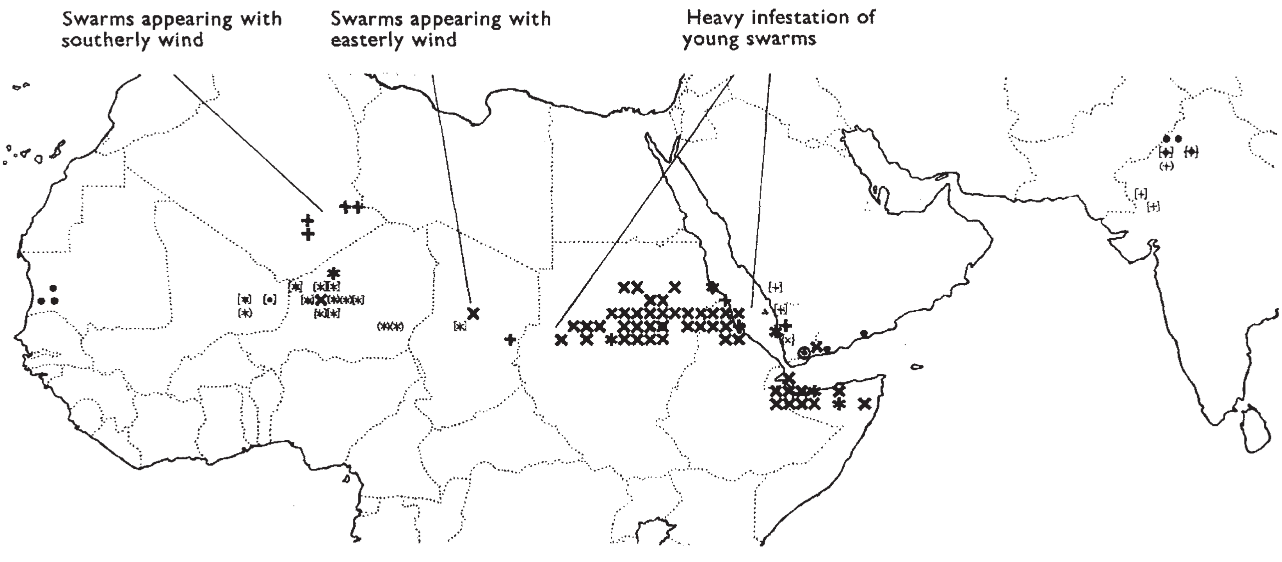
EPIDEMIOLOGY

Locusts Fight Back

In 1960 the Food and Agriculture Organization instituted a desert locust project to develop more effective and less expensive control procedures and ultimately prevent the outbreak of plagues. The project was concluded in 1966, and the FAO has now issued a final report of its operation. Nearly all countries affected by the desert locust cooperated in the project, contributing assistance in kind as well as $1,400,000 in currency, while the UN contributed a further $2,500,000. The money was spent establishing eleven new field stations, on research and on courses to train future control personnel.

But perhaps the two central tasks of the project were a detailed ecological survey of locust breeding areas, and a thorough trial of aerial spraying techniques. The ecological survey team explored breeding areas across Africa, in the Arabian peninsula, in Persia, Pakistan and north-west India, and concluded that rainfall determines the success of a breeding area, though distribution of rain through the year may be more important than the total annual amount. The nature of the local vegetation seems only to be of secondary importance. The spraying trials can be counted a success. In Pakistan and India severe pre-adult swarms were completely wiped out by aerial dieldrin spray, and reconnaissance flights were also effective in detecting areas that had received rain and were therefore potential breeding sites.

The project started, in 1960, in the midst of a serious locust plague, but by 1962 the plague was abating, and no more swarms were seen during the project's life. Opportunities to study control techniques were therefore curtailed, but the project planners felt more



The reported distribution of locusts in Africa and Arabia from September to mid-October 1968 (from Desert Locust Information Service). Egglaying or eggfields ○; hoppers ●; adults, immature ×; adults, mature or partly mature *; adults, maturity unknown +. Locusts not in swarms or bands:– In groups {}; isolated ( ); unspecified [ ].

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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

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