

as 61.4 per cent. 1966-67 was in fact the first year in which the proportion of doctorates fell to less than half of the total number of higher degree graduates. Except for the applied scientists, higher degree winners in all the other fields chose careers in education rather than industry, public service or anything else. In the arts, for example, 84.4 per cent of men with higher degrees went into education compared with a derisory two per cent in industry.

PUBLISHING

All Human Life is There

AT first sight, there is little similarity between *Progress in Material Science* and the *News of the World*, or, indeed, between Chambers's Encyclopaedia and the Walton Heath Golf Club. But if Mr Robert Maxwell, Britain's most energetic publisher, has his way, they will find themselves under the same management quite soon. Last week, Pergamon Press, Mr Maxwell's scientific publishing house, made a bid for the *News of the World* organization, which, as well as publishing a weekly saga of unoriginal sin, also owns a golf club, several provincial papers, book and directory publishing interests and printing, papermaking and printing machinery businesses. Mr Maxwell, the boss of Pergamon since 1949, has in the past two years made a whirlwind series of acquisitions, although he failed recently to take control of Butterworths, the publishers. But he has succeeded in taking over Bletchley Printers, Religious Education Press, Speedwriting, the History Book Club, the Co-operative Press and Sun Engraving, among many others.

Although Mr Maxwell's methods have made him rich and successful, they have not always gained him friends in the publishing industry. To some extent this is to his credit, and few would deny that since his arrival British publishing houses have had to become more efficiently managed. The Pergamon technique is to calculate with great precision how many copies of any book can be sold to libraries and institutions, and to budget accordingly. Shareholders find this more agreeable than do the libraries which have to pay Pergamon prices, and it is a technique which can hardly be applied to the *News of the World*.

The bid has been greeted with the distaste which always faces any newcomer who has the effrontery to treat a newspaper as a business proposition. Although the bid—now raised by Mr Maxwell—is generous in financial terms, the managers of the *News of the World* were this week making determined attempts to repel boarders. The fact that Mr Maxwell is a Labour Member of Parliament is unlikely to help his cause, although he has disavowed any intention of changing the political character of the paper. The *News of the World* is independent editorially in that extraordinary British way which is indistinguishable from being Conservative. In any case, everybody remembers that Mr Maxwell's ambition some months ago was to start a Labour daily paper, and the suspicion is that he has not yet forgotten it.

As *Nature* went to press, it was not at all clear which side would win. Both Pergamon and the *News of the World* board were buying shares in the market through their merchant bankers, and it seemed clear that Mr Maxwell had cornered the 25 per cent shareholding

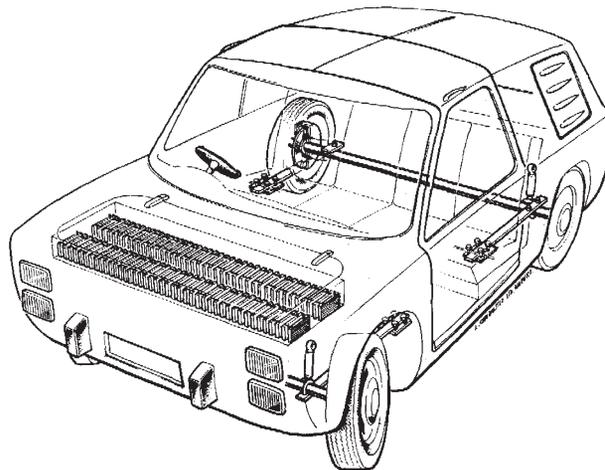
owned by Professor Derek Jackson, once a professor at Oxford and now a man of leisure. But the *News of the World* board were claiming almost 50 per cent of the shareholding, and it seemed quite likely that the bid would be repulsed.

TRANSPORT

No Electric Shocks

WITH tongue firmly in cheek, the Institution of Electrical Engineers chose the week of the Earls Court Motor Show to arrange a colloquium on electric cars, the second in what seems intended to be an annual series. In the event, it has to be admitted that the internal combustion engine, for all its faults, remains very definitely the best way of propelling vehicles from one place to another; supporters of the electric car, for the most part, agreed with Mr L. Martland of Ford, who said that he was "waiting for a commercial battery with several times the energy density of those available at the moment".

One who disagrees is Mr A. Carter, from Carter Coaster Ltd of Tamworth. He declared to a disbelieving audience that "there are no further technical barriers to overcome in producing such a vehicle". Indeed, Mr Carter has already produced one, called the Carter Coaster, which embodies his conception of the ideal electric car. As the picture shows, the Coaster



The Carter Coaster.

is really stripped down to essentials; the suspension, in particular, with single leaf quarter elliptic springs, has a charming vintage air, and the passengers are likely to need the foam plastic seats which Mr Carter intends to provide. The two electric motors are contained in a space no larger than conventional brake drums at the rear, and the power is supplied by an 84 cell 168 volt lead acid battery. The bodywork on the production vehicle would be vacuum moulded ABS (acrylonitrile butadiene styrene), although Mr Carter has been forced to use fibreglass for the prototype by a shortage of ABS in Britain. Like Henry Ford, Mr Carter intends to provide only one colour, and his choice is dark grey. He expects the design to remain acceptable for twenty years, which will keep the price stable at £350 and maintain second-hand values.

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 1d 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.

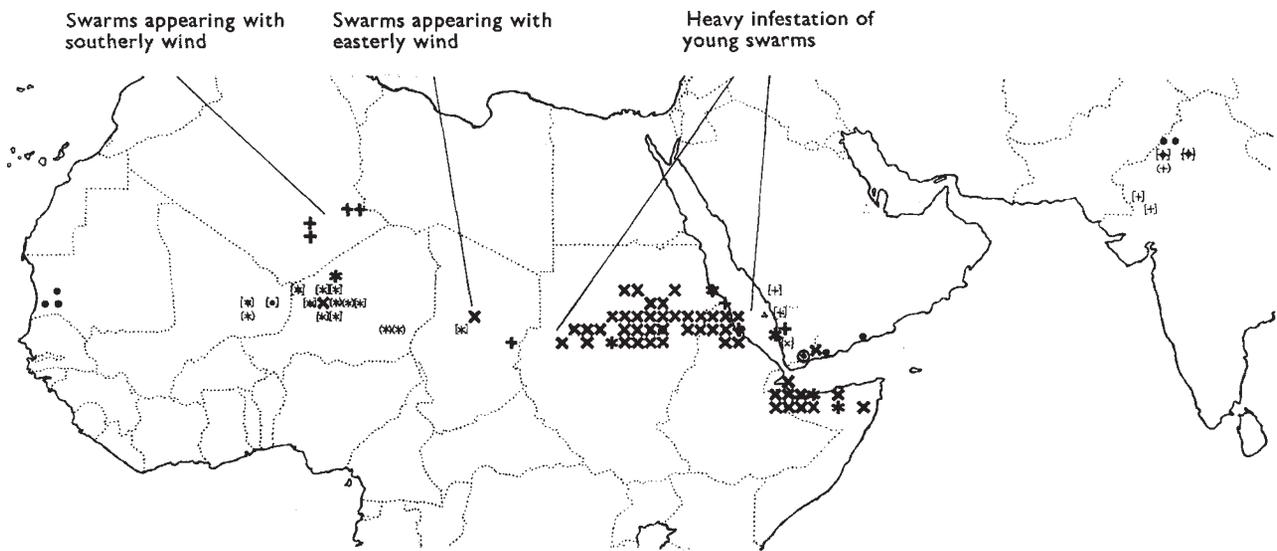
EPIDEMIOLOGY

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). Egg-laying or eggfields ○; hoppers ●; adults, immature ×; adults, mature or partly mature *; adults, maturity unknown +. Locusts not in swarms or bands:—In groups {}; isolated (); unspecified [].