

1968. These figures indicate that the colleges will not be able to increase the supply of science teachers to secondary schools, at least in the next few years.

What can be done? The report of the joint working party suggests, as did the Swann Report in 1968, that the supply of science and mathematics teachers will be improved only when there is a better career structure. In particular, it points out that secondary school teachers usually reach their maximum salary in their mid-thirties, when people with similar qualifications in industry can expect to go on receiving increments for many more years. In the short term, the working party recommends several palliative measures. Graduates taking teacher training courses, it says, should no longer be financed in the same way as undergraduates: they should have postgraduate maintenance grants, which are not made up by parental contributions; this would put such students on the same basis as other postgraduates. There should also be more opportunity for science and mathematics teachers to continue their education and bring themselves up to date with their subjects, and special arrangements should be made to enable people to transfer to teaching from industry and government establishments. Such arrangements would include transferring pension rights and providing grants during retraining. The working party accepts, however, that a major objective must be to increase the number of students studying science in the sixth forms. At present, it says, there is a vicious circle whereby fewer good teachers are inspiring fewer pupils to study science and mathematics and become qualified to teach.

PHOTOCHEMISTRY

More Money for Bright Future

CONTINUING its gratifying tendency to publish the reports of internal panels which decide whether certain aspects of chemistry deserve special support, the Chemistry Committee of the Science Research Council has released an analysis of photochemistry in Britain. Set up early last year under Professor J. I. G. Cadogan (University of Edinburgh), the membership of the panel is Professor D. Bryce-Smith (University of Reading), Dr A. K. Gupta (ICI Dyestuffs Division), Dr E. B. Knott (Kodak Ltd), Professor G. Porter (Royal Institution) and Professor G. H. Twigg (British Petroleum Co.). The report follows one on organometallic chemistry, published a year ago, which seems to have encouraged the Chemistry Committee and the old University Science and Technology Board to disperse research grants worth £400,000 in this area during 1968-69.

The areas which stand to benefit now that the Chemistry Committee has accepted the report are listed as fundamental studies of energy transfer in excited molecule reactions, in particular investigation of the factors which govern the absorption, transfer and dissipation of energy; excited state chemistry, particularly of materials which are readily available or have simple structures; and new syntheses based on photoactivation, again with processes involving readily available materials stressed.

The Science Board—one of the two which this summer replaced the University Science and Technology Board—is reserving its opinion until it has heard what chemists think. The Chemistry Committee, on

the other hand, asks for research proposals in the selected areas to be submitted by March 1 next year, but adds that the extra support which the panel recommends for photochemistry will be given only if proposals of high standard are submitted.

According to the panel, the Science Research Council should provide support for an extra fifty workers in photochemistry in three or four years' time, which will go some way towards satisfying those who say that photochemistry needs personnel more urgently than new facilities. The extra workers and their equipment will cost at first about £300,000 spread over two years, settling down to £100,000 per year. The panel seems to be asking for a happy mean between the opposing dangers of selectivity and of spreading the support too thinly. It says that five centres are likely to submit worthwhile proposals, and that each centre might expect £10,000 per year. In addition, it recommends the more widespread distribution of an equal amount of support, in the expectation of good research proposals from centres which are less well known. Clearly the panel is doing its best to prevent the pitfalls which the "centres of excellence" dogma can spring.

The extra funding ought to be enough to give a valuable shot in the arm for photochemistry, roughly equalling the £109,000 spent by the SRC during 1968-69 on new grants for photochemistry. This is about 8.5 per cent of the corresponding figure of £1.29 million for all of chemistry.

What is sad about the report is its comment on the university photochemistry supported by the SRC that "none of the projects supported has a direct application to the type of practical problems faced by industry", although it goes on to concede that the fundamental background provided by many of them is likely to be valuable. The panel also complains that photochemists tend to be concentrated in the traditional areas of chemistry. The establishment of an MSc course in photochemistry would help, the panel says.

The areas of photochemistry singled out for support were chosen to improve fundamental knowledge in the hope that industrial processes will be better understood. Despite what the panel said about relevance to industry, it hoped that the SRC would not neglect the importance of fundamental research.

ROAD TRAFFIC

Towards Saturation

By the year 2010, the roads of Britain may contain 37.9 million vehicles travelling a total of 514×10^9 km a year. These forecasts, which imply that traffic will take up two and a half times as much road space as in 1968, have emerged from the Ministry of Transport's Road Research Laboratory in a report by Mr A. H. Tulpule (available from the laboratory). Of the vehicles, 32 million would be private cars.

The growth rates shown in the figure depend on assumptions about the increase in population, estimated to be 71.7 million in forty years, and an "ultimate saturation level" of 0.45 cars per head, which should be reached by then. City centres would be jammed with half this number of cars, even allowing for road improvements, but weekend jaunts and local shopping are the kinds of motoring that determine the final