provides for running all the units, the National Institute for Medical Research (which alone costs £1,724,000), grants to universities and research institutes and fellowships and training awards (see Table 2).

Table 2. MRC GENERAL EXPENSES FOR 1969-70 AND 1968-9

	1969-70	1968-9
Administration and central expenses	£794,000	£760,000
National Institute	£1,724,000	£1,565,000
Clinical Research Centre	£514,000	£340,000
Research units and external scientific staff	£7,052,000	£6,283,000
Grants to universities	£3,700,000	£3,252,000
Special grants to institutions	£859,000	£790,000
Fellowships and training awards	£862,000	£741,000

The Institute of Cancer Research, London, which includes, of course, the Chester Beatty Research Institute, is by far the council's most costly pensioner among the research institutes, receiving £485,000. The league table of MRC units is headed by the Laboratory of Molecular Biology at Cambridge with £503,000 followed by the three units at the Carshalton Laboratories (£499,000), the Radiobiological Research Unit, Harwell (£484,000), the two units at the Hammer-smith Laboratories (£395,000) the Biophysics Research Unit, London (£273,000), the Pneumoconiosis Research Unit, Cardiff (£233,000) and the Clinical and Population Cytogenetics Unit, Edinburgh (£232,000). None of the other units receives more than £161,000.

FOUNDATIONS

Charity for Prosperity

UNIVERSITIES whose industrial liaison projects found favour with the Wolfson Foundation trustees are now busy making plans for spending the money. The scheme goes back a year and a half, when the Wolfson Foundation said (*Nature*, 216, 111; 1967) that it would set aside £500,000 over five years for technological projects at universities and colleges of technology likely to help the modernization of British industry and improve the economic position of the United Kingdom. One incidental but important factor in the foundation's calculation was the wish to strengthen links between university departments and industry.

More than 150 applications for specific projects poured in during 1968, and a panel of scientists and engineers under Sir Solly Zuckerman eventually picked out sixteen specific projects on which the trustees agreed to spend £1 million. The foundation's policy has been to favour universities which have already developed close relationships with local industries. Among the largest grants are £225,000 to Nottingham University for an institute for the study of interfacial phenomena. Sums of £130,000 go to the University of Edinburgh for a microelectronics liaison unit concerned with the fundamental properties of electronic materials, to the University of Surrey for a centre for research and development in bio-analytical instrumentation and to the University of Wales for a centre for the technology of soft magnetic materials and their application. Sums of about £70,000 go to the Univer-

sity of Birmingham for the development of a multi-station petro-forge transfer machine (a high-speed combustion driven press), to the University of Liverpool for research to assist manufacturers of vacuum equipment, to Imperial College, London, for compiling a geochemical atlas of part of Britain and to the University of Cambridge for research on electron optical instruments. Other projects include the application of modern control theory to models of the national economy (Cambridge) and a centre at Southampton for industrial noise and vibration control.

Depending on how the scheme is working out by the end of the year, the director of the foundation says that the Wolfson trustees may decide to allocate more money to projects like these.

COUNTRYSIDE

Automobiles Attacked

from our Planning Correspondent

MORE control over the use of the motor car in the British countryside is urged by David Rubinstein and Colin Speakman in a new Fabian pamphlet (*Leisure Transport and the Countryside*, 4s). They say that while the family car is the greatest liberating asset yet known to town dwellers in Britain, it is also the greatest danger to the countryside. Britain's roads are already the most crowded in the world, the pamphlet points out—they were nearly four times as crowded in 1967 as in 1947. At the same time, there will be an unprecedented increase in demand for leisure and recreation. Already the problem of controlling holiday-makers in certain areas at peak holiday periods is acute (as for example in the Lake District National Park and the New Forest), and it will be unmanageable by the 1970s if not dealt with. The authors urge a policy of traffic and transport control in the countryside by an authority whose "aegis extends to the planning of the whole environment of rural areas".

"The traffic problems which accompany increased leisure must make us realize that we have no God-given right to get into our cars and drive wherever and whenever we like." Some restrictions are necessary, and it is suggested that these could take the form of one-way traffic schemes, scenic drives, control of parking, road widening, segregation of traffic, road pricing and motorless zones, "the most sensitive areas", with local variations where necessary.

While the private car must be restricted, the authors say that access to recreational areas by public transport should be made easier, and that future policies for public transport must consider this. They see public transport as an essential part of country planning, and suggest that it takes the form of primary rail and express bus services to recreation areas from centres of large population, secondary services from and to smaller centres and minibus services to the most remote and sensitive areas where it may be necessary to limit the use of motor cars. But the policy must be flexible because each area will have its own particular transport problems and solutions.

If traffic must be reduced, the area available for leisure must be increased, and the authors say that one way would be to provide more parks in towns. "Fun palaces" in which a large variety of recreational pursuits could be followed could be built, and much

more use could be made of derelict land such as old collieries, disused gravel pits, canals and railways. The Government could assist here with increased grants for the reclamation of devastated areas.

TRANSPLANT LAW

Surgeons and Lawyers

"THERE are times when the bold medico makes the cautious lawyer gasp." So said Lord Justice Edmund Davies in an address to the Royal Society of Medicine this week. Lord Justice Davies took a legal look at transplant surgery, and his eloquent and brilliant speech clarified many of the difficult problems posed by modern medical practice.

Living donors are frequently used for kidney and skin transplants, and, even when they have fully and freely consented to an operation, under present British law the surgeon is not absolved from future legal action. "It is unlikely that the existing law keeps many transplant teams awake at night," said Lord Justice Davies, "but there is a risk, and I advocate legislation to remove this chance of civil or criminal liability." He emphasized, however, that a prospective donor must be fully informed of the dangers he faces, that he must have a reasonable motive for his act (for example, relation to the recipient), and that he must be of sound mind. Further, the surgeon should make sure if he can that no family pressure has been brought to bear on the donor.

Should prisoners be allowed to make symbolic amends to society by acting as donors? This was the practice in Colorado hospitals for some years, though it has now been discontinued. Lord Justice Davies thought that prisoners were so susceptible to institutional pressures as to make the practice unsound. Similarly with minors, in Massachusetts a fourteen year old boy recently donated a kidney to his identical twin brother, who would have died without it. United States law apparently sanctioned this operation and it was argued that the transplant safeguarded the healthy boy, who might have been the victim of ruinous guilt if he had not saved his brother. Lord Justice Davies, however, thought that, even in that case, English law would have condemned the operation, regardless of the boy's and parents' wishes.

Terminal patients raise some overwhelming ethical problems. There have been cases of dying patients being subjected to tissue typing test without their consent, to determine their suitability as future organ donors. Lord Justice Davies made it clear that he considered such tests to be tantamount to assault, though he added that legal and medical opinion is divided on the point. The removal of organs from corpses poses problems of a different order. Medical practice has moved some way from legal practice, just as corneal transplants were standard some years before the 1952 Corneal Grafting Act clothed them in legality. The 1961 Human Tissue Act stipulates that surgeons may not dissect cadavers without making reasonable enquiry that this is not against the wishes of the dead person and his near relatives. The law does not waive this demand even when the clinical urgency is great. Relatives have the power of absolute veto regardless, indeed, of the stated wishes of the dead person. The situation is thought by many to be unsatisfactory, and

Lord Kilbrandon has made the sweeping proposal to dispense entirely with the need to ascertain the wishes of the deceased and his relatives. Lord Justice Davies acknowledged the need for reform, but argued that the opinion of the surviving spouse or near relative should still be solicited. He explained that in some hospitals in the United States it is standard practice to ask all incoming patients about their willingness to donate organs in the event of their death.

A new medical definition of death is an urgent necessity now that some transplant surgeons routinely remove beating hearts from patients dead in terms of the EEG. Lord Justice Davies argued that this problem is predominantly medical, although some distinguished members of his audience dissented from this opinion during the discussion. Dr David Kerr, MP, was adamant that legal minds must shoulder some of the burden of reaching a new definition of death. Professor Roy Calne reminded the audience of the hundreds of kidney patients who die unnecessarily each year for lack of a transplant.

MEDICAL RESEARCH COUNCIL

One for the Melting Pot

THE Medical Research Council confirmed this week the long-standing rumour that the Metabolic Reactions Research Unit housed at the Biochemistry Department of Imperial College, London, will be disbanded in 1971, when the honorary director, Professor E. B. Chain, reaches the MRC's retirement age. The MRC says that this closure is simply an example of the policy of building units around directors and closing them when the director retires or leaves, so long as there is no obvious successor or no compelling reason to keep the unit in existence. Professor Chain will be sixty-five in 1971, and, although he will still have two years to serve as professor of biochemistry at Imperial College, where professors are retired at sixty-seven, the MRC has held firm to its decision not to make an exception and extend the life of the unit for the two years. No other senior staff will be affected by the closure of the unit, which has been characterized for some time by a lack of senior people, apart from Professor Chain. One member of the unit, Dr S. P. R. Rose, has already accepted a new appointment as professor of biology in the Open University.

The future of another of the MRC's units in London, the Biophysics Unit at King's College, one of the largest MRC units in the country (see page 510) with a budget this year of £273,000, has still to be decided. There is, of course, no question that it should be disbanded when Professor Sir John Randall retires in about two years' time. At the same time, negotiations within the MRC and with the college seem to be dragging on for longer than seemed likely last September, when the council was on the point of announcing its intentions. It is not clear who has had second thoughts, but at one stage the plan apparently was to split the unit into two units coinciding with the chief lines of current research—one devoted to research on muscle and contractile proteins and the other continuing the work on nucleic acids for which the unit is renowned. The MRC said last week that discussions with King's College were still continuing and there was no sign that an announcement was imminent. It remains