

The survey shows that the number of first degrees awarded in 1971 increased by 3.4 per cent to 49,197, while the number of higher degrees increased by 963, or 8.3 per cent, to 12,365. Of these higher degrees, 7,917 (64 per cent) were in science subjects, and of those 911 men continued further research in the pure sciences and 374 in applied science. The figures for women are 83 and 15 respectively. Of the 1,383 higher degree science graduates who stayed in research 306 went overseas.

MEDICINE

Contracting In

THE Department of Health and Social Security last week launched its long awaited scheme designed to increase the numbers of kidneys available for transplantation. The scheme will rely on potential donors carrying with them a card, supplied by the department, which signifies that the person is willing for his kidneys to be transplanted in the event of his death.

By selecting this method of augmenting the supply of kidneys, the department has chosen one of the less radical alternatives open to it. In 1969 an advisory group set up under Sir Hector MacLennan to consider problems of organ transplantation was divided in its recommendations but a majority urged that a contracting-out scheme be instituted by which a person would automatically be considered to have given consent for his kidneys to be removed after death unless there was evidence to the contrary. Such a scheme would almost certainly produce enough kidneys, but the department has chosen to promote a contracting in scheme whose success will depend greatly on the publicity accorded it.

There is still a large gap between the supply of kidneys for transplantation and the demand. Last year 315 kidneys were transplanted in Britain, an increase of 41 over 1970. But between 1,500 and 2,000 people between the ages of 5 and 55 die every year from kidney diseases. Most of these are teenagers. Professor R. Y. Calne, who heads a kidney transplant unit at Addenbrooke's Hospital, Cambridge, pointed out this week that more than 6,000 people die each year in road accidents—which should supply more than enough kidneys to meet the demand but few of these are transplanted.

Professor Calne said that the new scheme goes some way towards solving the shortfall. But by itself he does not think that it will produce a great increase in the numbers available for transplantation. Its merit, he said, is that it will make doctors, medical administrators and the public aware that there is a severe shortage of kidneys for transplanting.

FAWLEY BLUEPRINT

Another Blueprint

FUTURE generations should direct their talents towards the biological sciences, according to Professor Dennis Gabor, the 1971 Nobel Laureate in Physics. Professor Gabor, who was delivering the eighteenth Fawley lecture at the University of Southampton last week, on "Proper Priorities of Science and Technology", stressed that society must aim at a state of equilibrium, and that this will be chiefly a biological state.

Professor Gabor's recommendation for a swing to the biological sciences does not mean that "the physical sciences or engineering are at a dead end", but "we need urgently all the help which the biological sciences can give so that we can create a hopeful atmosphere in which all sciences can develop".

This suggestion is part of what Professor Gabor calls an idealistic programme for science and technology, which will work towards a state of stable equilibrium.

Professor Gabor's programme to prevent ecological disaster consists of three parts: avoiding pollution, avoiding waste and developing a technology of equilibrium, topics which are of "increasing importance and difficulty".

Pollution, Gabor says, is a major scandal but a minor problem. All industrial pollution can be suppressed if 1.5 to 2 per cent of GNP is spent by industrialized countries. In almost all cases the techniques to clear up pollution are already available. The motor car industry, however, is "pandering shamelessly to the highly questionable instincts of the public", and in spite of more than 140,000 road deaths worldwide every year, the popularity of the car has not declined.

Waste is present in our society because it is profitable and because it gives employment. The profit can be taken out of waste by forbidding the use of metal for tinned food, allowing only biodegradable containers and allowing fashions to change only infrequently. But, said Professor Gabor, in these circumstances what will the unemployed do? Retraining will help, but is not the complete answer.

The basis of any industrial society is cheap and abundant power; there are still hopes for fusion power but so far it has been a disappointment. Fission power, however, is virtually inexhaustible as techniques for mining low grade uranium are becoming economic. The greatest barrier to full-scale implementation of nuclear power—particularly in the United States—is a "partly rational and partly psychological" mental block; people are scared of nuclear power plants.

Of greatest importance in a state of

equilibrium is food, but the problems of feeding the human race are at this stage mostly technological. The green revolution has ensured that there will be enough food provided that there is enough fertilizer available. But the supply of fertilizers, in particular phosphates, is limited.

The solution to this problem, says Gabor, could lie in photoplankton which is rich in phosphorus. He would like to see specially bred strains of plankton bred for harvesting.

ASTRONOMY

Lockyer's Telescope

"ONE of the finest telescopes ever made" was Sir Norman Lockyer's verdict on his 160 mm Cooke refractor in 1892. With it the founder editor of *Nature* made his spectroscopic observations of the Sun, observed its storms and discovered helium. And now the 110-year-old telescope is to be re-erected eight miles outside Exeter by the Torbay Astronomical Society.

Lockyer first used the telescope in his back garden in Wimbledon in the early 1860s. When he moved to West Hampstead in 1865 he took the instrument with him and from there made most of the observations for which he is famous. In 1884, tiring of West Hampstead, he moved, complete with telescope, to Westgate-on-Sea, where he housed it in first one observatory and then another, before moving yet again to Sidmouth, where he stayed until his death in 1920. The telescope remained at his Sidmouth home until plans were made to move it to the Norman Lockyer Observatory, founded by Lockyer himself in 1913 on a hill above Sidmouth. But the outbreak of war in 1939 resulted in the telescope being buried in the garden of Lockyer's Sidmouth home until the end of the war when it was rescued and restored by the observatory. Lady Lockyer planned to build a dome at the observatory to house the refractor but died before plans were complete, and the telescope simply gathered dust until 1964 when Heles Boys School in Exeter formed an Astronomical Society and the observatory loaned it the instrument.

In 1971 the school decided it had no further use for the refractor. But the Torbay Astronomical Society promptly offered to house the equipment and removed the telescope from the concrete base on which it was mounted at the school. The society is now trying to raise the £700 needed to house and restore the telescope, and plans to re-unite it with its original mounting and drive. Mr A. R. Hutchins, the society's secretary, said this week that about £500 has been raised, and that provided the remainder can be found the telescope should soon be in business again.