

findings could be integrated into Great Britain's overall economic programme. Mr. Morrison believes that the first problem of economic recovery is one of increased productivity, and the key to this is to be found in more knowledge—knowledge both of technical processes and also of human relationships. The Government is fully aware of the importance of the issue and is prepared to support State and private research with every financial help; thus the trend of increase in cost—£470,000 in 1938, £2 millions last year and an estimated £2½ millions next year—is not a matter for concern but a sign of the ever-growing importance of research and a pointer to bigger things to come. Recent material results have convinced Mr. Morrison that the money is well spent, and he referred, for example, to the technical advances made in pottery firing operations, infra-red drying of paints, fitting of shoes, adjusting of peak electrical loads, production of linen, improvement of iron foundries and development of 'nodular cast-iron', design of more efficient domestic grates, scientific research into better houses, and the improvement of road surfaces. It is important that manufacturers should bear in mind the improvement of quality and lowering of costs in addition to increased productivity. All these problems can be solved by more scientific investigation, and Mr. Morrison considers that research is the spearhead of the advance of industry by which we will determine whether we are going to hold our place in competitive world industry or degenerate into a third-rate Power. Not only must the value of research be recognized, but also the conditions of scientific workers must be improved and their status acknowledged. Responsible people do realize these points, but are they fully understood by the general public? The research associations must publicize their activities and see that the world knows of the excellent results being obtained by British research effort.

Operational Research Club

ABOUT a year ago, a number of men of science interested in operational research began meeting together in the rooms of the Royal Society to discuss the development of methods and the application of this field of science. Papers were read and discussed in connexion with road traffic, productivity in the cotton industry, use of fertilizers by farmers, the organisation of inspection in the steel industry, etc. An "Operational Research Club" has now grown out of these meetings, and a healthy programme of papers for this session has been planned. In order to maintain the informal nature of the meetings, it has been necessary to limit the membership; but it is intended to include representatives from most of the operational research teams working in industrial and other civil fields, together with some from the defence services. The honorary secretary of the Club is Mr. D. Neville-Jones, 24 Rutland Gate, London, S.W.7.

Motor Industry in Britain

A CLEAR picture of the British motor industry is presented in a broadsheet prepared by Political and Economic Planning (No. 284). The broadsheet traces first the development of the industry before the War, examining factors such as taxation which influenced demand in the United Kingdom and the growth of the Nuffield Organisation, the Ford Motor Co., the Austin Motor Co., Vauxhall Motors, the Rootes Group, and the Standard Motor Co. The effect of conversion to war demands and subsequent reconversion is then described, and, after a review of

the post-war structure and home demand, the labour force of the industry is analysed, and its trade organisations and export markets are considered. The broadsheet makes no recommendations as to future policy, but indicates that if the shortage of foreign exchange could be left out of account, there is sufficient shortage of vehicles in the world to give both Britain and the United States ample scope for some time to come. Such comparison with pre-war figures as is practicable suggests that the industry's labour force is about 25 per cent greater than before the War.

The Original Wright Aeroplane

THE original Wright aeroplane of 1903—the first power-driven man-carrying aeroplane to make a free, controlled and sustained flight—was lent by Mr. Orville Wright in 1928 for exhibition in the Science Museum, London, for an initial period of five years. On October 18 it was taken down for packing in crates in readiness for its return to the United States. This machine was designed and built by the brothers Wilbur and Orville Wright at Dayton, Ohio, in 1903, and was flown at Kitty Hawk, North Carolina, on December 17. The first flight lasted 12 sec. and was made in a wind of about twenty miles per hour, the machine being piloted by Mr. Orville Wright; altogether four flights were made on the morning of that day. The last flight was one of 59 sec., when the distance covered was 852 ft.; the machine was then overturned by a gust of wind while left unattended, and the damage caused prevented further experiments at that time. After these first flights, the aeroplane was preserved in the Wright Laboratory at Dayton. Certain parts which were damaged were replaced by Mr. Orville Wright himself, and the machine was restored to its original condition. An exact replica of the aeroplane has now been made and will be exhibited in its place at the Science Museum. Dr. H. Shaw, director of the Museum, is to accompany the machine to the United States, where it will be preserved in the National Air Museum, Smithsonian Institution, Washington, D.C. It should arrive there in good time for the forty-fifth anniversary of its first flight on December 17, 1903.

Economics and State Control

PROF. G. C. ALLEN's inaugural lecture at University College, London, on March 4, 1948, which has now been published (London: H. K. Lewis and Co., Ltd. Pp. ii+18. 2s. 6d. net), emphasizes that while the trend of economic opinion in pre-war days was in favour of a more active intervention by the State in economic affairs, such intervention was not inconsistent with the preservation of the system of private enterprise; it was deemed necessary for improving the operation of the system. Present policy, however, of State intervention goes much further than the achievement of 'full employment', an acceptable distribution of the national income, and the promotion of structural adjustments in industry by fiscal or financial measures. Prof. Allen devotes most of his lecture to an examination of the economic implications of the policy at present being pursued both in the nationalization of industry and in the guidance of private industry by substitutes for the compulsion of the market. He points out the importance in industries that depend to any extent upon innovation of being able to attract the outstanding personalities with initiative and organising capacity; the administration and efficiency of such industries

will suffer under nationalization if such men are no longer attracted by the conditions of service. Similarly, he discusses the difficult question of effective Parliamentary control over the operation of public monopolies, and suggests that the safeguard of publicity can and should be made fully effective.

Prof. Allen offers no answer to the fundamental question whether it is possible for the State to formulate far-reaching plans for the disposition of economic resources intended to promote objectives of which men in their political capacity approve, and at the same time to afford adequate opportunities in the industrial sphere for the free movements of the mind and will, without which progress is in jeopardy. Certain dangers and problems, such as those of economic discipline, of the transfer of important categories of decision from the individual to the bureaucracy, and the establishment of an administrative machine capable of reaching speedy and wise economic decisions in those fields, and the danger of perpetuating the *status quo* in circumstances inherent in 'gentlemen's agreements' between the Government and organised bodies in industry, are indicated. Prof. Allen, while indicating the limits and dangers of such methods, believes that we are likely to be so hard put to it to find help in pursuing the middle way that we should not reject any method which offers even moderate prospects of success.

Permanence of Residence as a Social Factor

A PAPER by Dr. H. M. C. Luykx, "Family Studies in the Eastern Health District: IV. Permanence of Residence with Respect to Various Family Characteristics", reprinted from *Human Biology*, is one of several studies in a district of the city of Baltimore. Its findings are summed up in a table showing the family characteristics associated with the highest and lowest proportions of families remaining in the district between the triennial censuses of 1933, 1936 and 1939. The highest proportion of permanence was found among whites, owning their houses or paying the highest rent, with children and several wage-earners in family, where the family head was a skilled worker or foreman, middle-aged, foreign born, and not highly educated. With the present concern over labour mobility between industries, this study has considerable 'social significance'. Education, and renting rather than owning houses, seem indicated as favourable factors that social policy can control.

Directory of Natural History Societies

IN December 1943 the Committee of the Amateur Entomologists' Society agreed to compile a Directory of Natural History Societies. Quite independently, Miss R. S. Shove suggested in *School Nature Study* of January 1944 that a list should be prepared of school natural history societies and field clubs. As a result it was decided to trust the entire work to the Amateur Entomologists' Society, the School Nature Study Union agreeing to assist in the preparation of a schools section. In its early stages the compilation was directed by W. G. Rawlings; he was later succeeded by H. K. Airy Shaw. The Directory has now been completed and contains a list of all organisations with any biological interests, excluding bodies of an economic or professional nature. All societies, past and present, of which the Society could find any record in the British Isles, have been included. These have been arranged first to give information about national societies and then local societies, arranged in order of counties. The material arranged

under each entry in the Directory is sufficient to guide naturalists in a distant county to a group of like-minded individuals. Not the least important parts of the Directory are the particulars of so many school natural history societies. The Directory can be obtained from the Secretary, Amateur Entomologists' Society, 1 West Ham Lane, London, E.15.

Nairobi Scientific and Philosophical Society

IN spite of the speed of modern communications, the sense of isolation arising among scientific men working in the Colonies and elsewhere overseas is still very real; one way of mitigating the difficulty is the formation of local scientific societies. The Nairobi Scientific and Philosophical Society is such a body, which arose from the need for co-operation between various scientific and technical officers working in Kenya. A meeting was held at Nairobi on April 9, 1947, at which the chairman, Mr. A. Walter, stressed the need for a central meeting place for scientific men, and the first formal meeting took place a month later. Now the Society has been able to issue vol. 1, part 1, of its *Proceedings*, and to claim a membership of fifty within six months of formation; this shows a very creditable interest among the necessarily small number of scientific and technical workers within reach of Nairobi. The *Proceedings* includes accounts of five meetings held by the Society; the subjects dealt with include *radio-sonde* in meteorology, the sociologist in industry, primitive agriculture in the modern world, development planning for the African and hormone weed-killers. The sociological bias shown is accounted for by the facts that advantage had to be taken of the availability of visiting guest speakers, and that the Society itself has arisen in a country where the development of a primitive people is taking place at an unprecedented pace. The Society is to be congratulated on the progress it has made as a centre for the discussion of problems of broad scientific and technical interest in Kenya. The officers of the Society are: *President*, A. Walters; *Vice-Presidents*, Dr. E. B. Worthington and V. A. Beckley; *Joint Honorary Secretaries*, W. A. Grinstead, P.O. Box 931, Nairobi, and H. E. Watson, P.O. Box 560, Nairobi; *Honorary Treasurer*, Dr. D. Harvey; *Honorary Librarian*, Dr. H. C. Pereira.

Earthquake in Iran

ON October 5, a great earthquake shook large areas in the province of Khurasan in north-eastern Iran, together with parts of Russian Turkestan. The large area of destruction appears to indicate either that the depth of focus of the shock was greater than normal, or that there was more than one shock. Two hundred people are reported killed and thousands injured at Meshed, with two hundred killed at Dereges. Askhabad, a Russian town with 150,000 inhabitants, suffered severely, four hundred people being reported killed. Six thousand injured people have been evacuated by air, and a temporary water supply has had to be organised to replace the town's water supply disrupted by the earthquake.

The area is a particularly seismic one, 140 earthquakes of varying intensity having been experienced during the last seventy years, and large earthquakes having occurred, according to Sir Arnold Wilson, at Kuchan in 1852, 1871, 1872, 1893 and 1895, at Meshed in 1673 and 1895, and in the whole area in 1929. This latter shock was also reported in *Nature* of May 11, 1929. On May 1, 1929, twelve distinct