

investigated a number of problems in connexion with fuel economy, dust prevention, wind pressures, etc., but the work for which he will be best known was on fatigue, cracking and fracture of various materials. The most important papers on this work were: "Fatigue Stresses with special reference to the Breakage of Rolls" (*Proc. South Wales Inst. of Eng.*, 1930); "Fatigue and Corrosion Fatigue with Special Reference to Service Breakages" (*Proc. Inst. Mech. Eng.*, 1933), for which he was awarded the T. Bernard Hall Prize; "The Relation of Fatigue to Modern Engine Design" (*Trans. N.E. Coast Inst. Eng. and Ship.*, 1935). This last paper was in conjunction with two other engineers and was awarded the M. C. James Gold Medal.

A very large number of other papers and lectures on fatigue and allied problems were given to various engineering and technical societies, both in Great Britain and Germany; his last investigation, undertaken at the request of a Government Department, was on the notch sensitivity of certain materials under cyclic stress.

Prof. Bacon devoted much time to the leading engineering institutions; he took a prominent part in the formation of the South Wales branch of the Institution of Mechanical Engineers, was its secretary

for several years and became its chairman. He was also a past president of the South Wales Institute of Engineers and served on the committees of the local sections of the Institutions of Civil and Electrical Engineers.

Although of a naturally reserved disposition, those who knew him best will remember his charm of manner as well as the unstinting interest he took in his students.

We regret to announce the following deaths:

Prof. Frederick Barry, professor of the history of science in Columbia University, aged sixty-seven.

Prof. A. D. Bevan, professor of surgery in the University of Chicago, on June 10, aged eighty-two.

Mr. P. J. Haler, M.B.E., principal of the South-East Essex Technical College, on September 13, aged sixty-seven.

Prof. R. A. von Muttkowski, professor of biology in the University of Detroit, on April 15, aged fifty-six.

Mr. Colin F. Symington, of the Malayan Forestry Service, on September 9.

Mr. C. C. Willoughby, emeritus director of the Peabody Museum of Harvard University, on April 21, aged eighty-five.

NEWS and VIEWS

International Air Transport

A BROADSHEET (No. 208) entitled "International Air Transport", which P E P (Political and Economic Planning) has put forward as a contribution to the widespread discussions now taking place, is concerned with the extent to which the organization of international transport can be entrusted to international bodies. It reaches the main conclusion that there is a strong case for setting up an International Board for Air Navigation and for international public corporations for the operation of certain international services. A start should be made with corporations for Europe and for the North and South Atlantic. It is suggested that out of the large-scale emergency air-services which the United Nations will need to operate in the immediate post-war years to the shattered areas, distributing food and medical supplies, and carrying officials, medical men and technicians, a European airways corporation could naturally grow. Discussing future prospects, the broadsheet considers it certain that air transport will carry more and more international passenger traffic, cost and speed being two of the determinants. Much pre-war ocean travel in the first and cabin classes will be shifted into the air. Air mail is also likely to become more and more important.

The spirit of international co-operation will be essential if the opportunities are to be realized. Co-operation will be essential if air transport is not to continue a creature of nationalism, hampered by lack of freedom of the air and artificially stimulated by subsidies. Co-operation will be necessary to secure common technical standards. Unlimited competition among commercial operators is not likely to be tolerable, pooling agreements to mitigate the waste of competition will be insufficient, and some measure of international co-operation will be essential. This, however, involves reversal of many of the policies pursued in the past. The broadsheet visualizes a system of collective security in which an international

police force plays a part and an international board for air navigation, following the precedent of the International Commission for Air Navigation established under the League of Nations. The possibilities of commercial co-operation have already been demonstrated by the International Air Traffic Association.

Reconstruction of the Social Order

IN a memorandum on the reconstruction of the social order, entitled "Peace and the Threefold Commonwealth" (London: Rudolf Steiner Publishing Co.; New York: Anthroposophic Press, 1943, 1s.), Mr. T. G. Jones gives an outline of the ideas of Dr. Rudolf Steiner as indicated more particularly in his books "The Threefold Commonwealth", "The Social Future and World Economy". The human social order is a threefold structure consisting of a body economic, the sphere of the State and a spiritual or cultural life. These are at present so entangled that none of them can develop fully on its own proper basis. If each of these parts of the social order is allowed to develop on its own proper ground it will bear rich fruit for the healing of social disease, and co-operation of the three parts to establish a threefold articulated healthy social order will then be possible. For this purpose economic associations for each industry and a Central Economic Council are suggested, and while the main task of Parliament would be to formulate and administer the code of rights, the economic associations would contribute from their surpluses to the economic support of the spiritual or cultural institutions.

The two main proposals in the memorandum are the allocation of a fair share of work between the several industries under the code of rights by determining mutually fair hours of labour, and the determination by the Central Economic Council of the total production of any one kind of goods and services. Each association would receive for its output a price comprising what it required to satisfy that