

Rediffusion and Teleprogramme Systems in Broadcasting

'REDIFFUSION' is a method of distributing a broadcast programme over an independent line network to a number of subscribers. 'Teleprogramme' is the method which enables a telephone subscriber, by means of a small amount of additional apparatus, to receive the ordinary radio broadcast programmes over his telephone network. The object of both systems is the same, namely, to reproduce the broadcast programme in the subscriber's home with the maximum fidelity; but the means employed are quite different.

A good paper by Mr. A. R. A. Rendall and Mr. S. Van Vierlo discusses the two methods in *Electrical Communication* of October. Both methods are in use in various parts of the world. In rediffusion, the programme is usually received by radio; but it is better, when possible, to get direct reception from a studio. An amplifier station delivers the oscillations at such a level that all the subscriber needs to do is to bridge his loud speaker across the terminals. The sounds are then heard at the proper loudness, no adjustment being necessary. The choice of programmes is restricted, as although alternative programmes are easily provided, they add appreciably to the cost of the service. Recently designed systems offer a choice of four programmes. Considering this is all that is generally heard free from interference at an ordinary receiving set, this is satisfactory.

The success of the system depends a great deal on the position chosen for the amplifier station and the cables used for connecting it with the consumers. It should be near the centre of gravity of the load, and shielded cables should be used. In these undertakings, the maintenance of a high and uniform standard in the quality of the reception is essential if they are to compete successfully with receiving sets, the prices of which are being continually reduced. A partial failure or even periods of poor quality would seriously affect their prospects of success.

In a teleprogramme system, the radio broadcast is received on the subscriber's premises over his ordinary telephone network. This additional use of his telephone is sometimes a boon when it is not much used during the day and rarely in the evening. It is obviously a serious inconvenience to have the programme interrupted by a telephone call. Hence for subscribers with a high calling rate, an additional telephone cable is necessary to convey the programmes, and this adds to the expense. In most cases the subscriber has a choice between several programmes. By controlling a step-by-step selector at the telephone exchange, he is able to get the programme he wants. In this system it is necessary to limit the service to the normal speech level, and so an amplifier as well as a loud speaker has to be employed. In the rediffusion system this is not necessary as the transmission level is much higher. As the mere act of taking his receiver off the switch hook disconnects his amplifier, the subscriber can always use his telephone by interrupting the programme.

When considering the apparatus necessary for the supply of a group of 500 subscribers, it is customary to assume that not more than 60 per cent of them will be connected to a particular programme at the same time. In this case the amplifiers are usually rated for a power varying from 2 to 40 watts.

University and Educational Intelligence

CAMBRIDGE.—Mr. W. V. D. Hodge, University lecturer in mathematics, has been elected into a fellowship and appointed lecturer and director of mathematical studies at Pembroke College. Mr. Hodge was educated at George Watson's College, Edinburgh, the University of Edinburgh and St. John's College, Cambridge. He obtained a first class in Part 2 of the Mathematical Tripos in 1925 and was awarded a Smith's Prize in 1927. He also studied at Princeton University while holding a Senior 1851 Exhibition in 1926-31. He was on the staff of the University of Bristol and held a fellowship at St. John's College from 1930 until 1933.

EDINBURGH.—The Cameron Prize for 1935 has been awarded to Prof. Julius Wagner-Jauregg, emeritus professor of psychiatry and neuropathology in the University of Vienna, in recognition of his discoveries regarding the malarial treatment of general paralysis.

LONDON.—The following titles have been conferred in respect of posts held at schools of the University: professor of chemistry, Dr. J. W. Cook, the Cancer Hospital (Free); reader in organic chemistry, Dr. G. A. R. Kon, Imperial College—Royal College of Science.

The William Julius Mickle fellowship for 1935 has been awarded to Dr. Solly Zuckerman.

The Carpenter Medal for 1934 has been awarded to Dr. R. J. Lythgoe.

MANCHESTER.—Dr. A. H. Gibson, Beyer professor of engineering, has been appointed a pro-vice-chancellor, for a period of two years as from January 23, 1935, on the resignation of Prof. Lapworth.

Dr. F. P. Burt, reader in stoichio-chemistry, has been elected dean of the Faculty of Science for two years from January 1935.

Dr. W. N. Bailey, senior lecturer in mathematics, has been appointed Richardson lecturer in pure mathematics.

The Research and Standardisation Committee of the Institution of Automobile Engineers has presented to the Engineering Department an experimental petrol engine, and Mr. Charles Day, of Messrs. Mirrlees, Bickerton and Day, Limited, has loaned a Ricardo Diesel engine complete with all testing equipment.

THE American adult educational enterprise known as "The University of the Air" is now entering upon its third year. Prof. John Dewey, addressing an audience of sixteen hundred on December 8 at New York City Hall on "Radio's Influence on the Mind", claimed for broadcasting that it is the most powerful instrument of social education the world has ever seen and one urgently needed to redress the balance between the modern means of exchange of physical things and those of knowledge and ideas. One of the most crucial problems of to-day is how to ensure the employment of this instrument for the social public interest, in preference to its use for propaganda designed to distort facts and mislead the public mind. The 1935 programme embraces talks on: education for a new social order, economic planning, psycho-analysis and studies in a museum.