A Decade of Radio

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die off! These figures resemble strikingly those of the early days of automobile ownership, and I think we can look for industrial history to repeat itself. These gaps will be closed up, and with 20 million homes still there as a potential market, to say nothing of replacements, extra sets, portables, etc., there still seems to be a broad market here at home, even without considering the enormous field abroad.

And there are a billion people in the whole world within the range of broadcasting stations now established. That is the potential market. On the basis of five listeners to every set, it would require 200,000,000 sets to provide facilitties for all of them to tune in the programmes available. That is about eight times the present supply. And new stations are constantly being put up as well. One short-wave transmitter of great power is working away out in Kenya, in what used to be Darkest Africa. And then there are those millions of motor-cars, some of which at least ought to be—shall I say "serviced with static"?—to drown out their other squeaks.

The Editor of the Journal of the National Education Association, certainly not an extravagantly-minded periodical, makes the prediction that individual radio receivers for each member of the family will be with us soon, and points out that the use of the instruments in education is only beginning. Millions of youngsters will presently be having some portion of their lessons from nationally famous master teachers.

We can test as well the growing oversea popularity of radio by the recent increase in its exports. You know, of course, that international business in general has been woefully cut into by depression this year; most of our manufacturers lost 40 or 50 per cent. of their normal export volume. Yet in the first quarter of 1931, the number of new American radio sets marketed abroad was 70,000 against 41,000 in the same period last year. The world is obviously supplying itself with a new kind of luxury which is due to become almost a necessity. Probably 26,000,000 sets are now in service all round the globe. Nearly half of them are here, a quarter are in England, Germany, and France taken together, and the rest are spread from Cape Horn to Kamchatka. But, of course, the best way to estimate the popularity of radio in any region is to figure out the sets in operation in proportion to population. In this respect, Denmark, with 63 sets for each thousand people, is second to the United States with its 83 per thousand, and Sweden shows an almost equal interest with 60 per thousand.

With a young industry such as this it would be natural to expect a swift succession of startling new developments in its early stages. And so we have in prospect the perfection of television—the time when the radio will bring its message to the eye as well as to the ear. It is still far from perfect, of course, and I do not want to get myself too far into its scientific problems, but the experts tell me that within a year or two the display of current events in vision and sound will be rather generally practicable. So many unbelievable things have come true that it takes a lot of nerve to challenge the promise of such new wonders.

This brings me to the other side of the radio picture—the broadcasting industry. We have in the United States now 600 radio broadcasting stations. What a growth in this brief period of a little over ten years! It was only on the night of November 2, 1920, that the first lone station went on the air with many sputters and crackles, to give the Harding-Cox election results to a band of valiant souls (about 25, I am told), frantically jiggling their carphones and crystal sets.

And now the provision of programmes and power for the broadcasting end of the industry alone, to say nothing of your receiving sets, entails an annual expenditure in the United States of £30,000,000.

This amazing feverish growth makes us consider very seriously one vital phase of the industry, namely, the advantages of American traditional insistence upon individual freedom and initiative. In most other countries radio broadcasting is a Government monopoly, sustained usually by some form of special license tax on receiving sets. There is no more warrant for a Government radio system in the United States than there is for a Government-controlled chain of newspapers all over the country.

At best, the Governmental systems lean to heaviness and lack of variety in programmes; while at worst, they degenerate—unconsciously or otherwise—to propaganda mechanisms drugging the popular mind with the pet ideas of some controlling bureaucracy.

Radio presents a great field, over which I must skip rapidly in the time which is allotted me. You all remember how last month President Hoover, struggling with the German crisis, was able to utilise the facilities of the radio telephone, never losing touch with his assistants in Paris and London who conducted the difficult and delicate negotiations—which would probably have been almost impossible without radio.

Instances of its marvellous service are innumerable. An American banker in London recently on an important financial mission needed to get honoured a cheque for 1,000,000 dollars. There was no copy of his signature in Europe; banks are naturally careful about the payment of so large a sum. When the situation was explained over the trans-Atlantic radio telephone, an authentic copy of his signature was transmitted by radio, and the cheque was duly paid. A ship at sea, bound for Philadelphia, sustained an accident which necessitated the replacement of one of its mechanical parts. Plans of the ship were in England; but the blueprint design for construction was radioed across the ocean, and by the time the vessel limped into the Delaware River, a new section was ready for immediate installation. The aeroplane on voyage to-day is never out of touch of ground, is fully apprised of weather, work, and course by the radio beacons and messages.

Do you know of the Radio Relay League, that organisation of amateurs, thousands of whom are working their own telegraph and telephone sending and receiving stations, exchanging messages clear around the world in their own code? We hear only once in a while of their wonderful, extemporised feats of communication. It is never going to be possible in the future for disaster to cut off appreciable groups of human people from the help of others again. No matter what stress of storm, flood, fire, or earthquake it is which breaks wires and cables as it overwhelms habitations

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DX Broadcast

FOR the benefit of members of the Round the World DX Radio Club and other DX Clubs in U.S.A., 2YA will make a special broadcast on Saturday evening, October 17, from 10 to 11 p.m. The New Zealand Secretary of the Round the World DX Radio Club is Mr. Spence R. Ellis, of Okato, Taranaki, and it is at his request that 2YA is making the broadcast. The Chief Secretary is Mr. Geo. Viliane, of Los Angeles, California. For the occasion, 2YA will broadcast a programme of old-time dances, during the presentation of which special announcements to dxers will be made.

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That, seeing that we cannot control the sunspot cycle, the seasons, and, in short, all those phenomena that make signal strength at a given distance so variable, will it not become feasible to forecast signal strength over given distances, and to increase the output of the transmitter when conditions are adverse or decrease it under favourable conditions, as the case may be, and so aim at constant signal strength?

To give rein to the imagination, it seems that the broadcast transmitter of the future may be so controlled, and transmit on both higher power and on higher wavelength than at present. Probably radio as we know it is not radio as we will know it.

TABLE 4.

Class of Country.	Wave-length—Metres. 200	300	400	500	1200	1500
Flat	50	80	120	160	480	620
Hilly	24	37	62	75	260	330
Mountainous .	10	17	26	34	110	160
	Miles.					

From figures by P. P. Eckersley, chief engineer B.B.C. Wenstrom and Serigs figures compiled under U.S. conditions were within 1 per cent. of Eckersley's data.