

# Radio Trends in America and Europe

**T**HE subject I have chosen to discuss should be of real interest to the British listener interested in the constitution of broadcasting services.

My knowledge of American broadcasting does not include detail. But I can, at any rate, give facts from personal observation and deduce from these certain tendencies. I have visited the United States twice—once in 1924, and the second time a few weeks ago.

One traces the history of broadcasting in America and finds its progress basically identical in general direction with that of the history of any public service in the U.S.A., such as the telephone, the railway, or the electricity supply. Government control of any kind is abhorrent to the American; he insists upon development by private enterprise; with at least the appearance of open competition.

## THE FIRST MODERN NATION.

Thus in the early 1920's the Westinghouse Manufacturing Company, a large manufacturing electrical concern, started a wireless telephone station with the object partly of seeing what sort of public reaction there might be, partly what sort of results could be achieved, partly, one supposes, what kind of advertisement they themselves might obtain from it. So great was the interest displayed, first by the 'amateurs,' and secondly, through the Press, by the public, that other commercial concerns took up this novel form of publicity getting. Development was very rapid, and, like mushrooms in the night, broadcasting stations sprang up in clusters around the dense centres of population.

Space does not permit, nor does my detailed knowledge extend far enough to detail the way in which the large commercial firms arranged among themselves to share the profits which so obviously accrued to them as patent holders, not only by the sale of receiving, but also, of transmitting sets. Suffice it to say that in general one firm was allowed the monopoly of the sale of transmitters, while a few others profited by receiver sales. Naturally, many persons started manufacturing receivers, neglecting the fact that the patents they used were owned by large corporations, and a considerable war developed to restrain any "pirate" who had become wealthy enough to be worth proceeding against. This situation was largely analogous to that which existed in England some years ago.

## RAPID FORTUNES MADE.

During this time of growth, considerable fortunes were made and lost in the "Radio" trade—a new trade with an incalculable market and no criterion by which to assess economical production and efficient design. In the early stages the listener's demand was for quantity rather than quality; reaching out sets

Interesting contrasts and summaries of the radio trends of different countries are made available by the views of prominent radio engineers who have recently visited America for the World Radio Conference. In one such review, Captain P. P. Eckersley, chief engineer to the British Broadcasting Corporation, gives British readers of the "Radio Times" his view of the tendency of American radio to arrive substantially at the same general standard as British broadcasting, but by a different method. Confirmation of his view is afforded by news of the closing of 300 American stations in 1928! A further interesting view of world radio is afforded by a German review of the differences between German and American standards. By these comprehensive statements opportunity is afforded for assessing the value of the respective systems and the suitability to our conditions of the method adopted in this Dominion.

were the vogue, and the happiest he who could hear furthest.

In 1924, therefore, I found a situation in America profoundly interesting but profoundly different from our own. We had frequently been told that American broadcasting was infinitely superior to our own because they had 700 stations and we had only twenty, because an American listener could hear stations 2,000 miles away, and we had only crystal sets. It was argued mildly that a reliance on quantity was not necessarily a guarantee of superiority—quality of service given was an often neglected, but nevertheless a sounder basis, on which to build. An art gallery might hang 7,000 lithographs round its walls, but in the end its rival, a small room perhaps, in which hung Mona Lisa, would be adjudged the more important place to visit. Certainly, however, the quantity of American broadcasting was remarkable. Seven hundred stations registered millions and millions of dollars' worth of receiving apparatus, listeners hearing over thousands of miles, fortunes made and lost in a season. I think the situation was inevitable.

## THE ESSENCE OF ENTERPRISE.

Every broadcasting station erected in America was, as said before, erected by private enterprise. Philanthropy in the newspaper sense of the word is usually associated with those who have been clever enough to amass a private fortune in competition with others, but is seldom practised by those who hope one day to be in a position to be philanthropic. It is not surprising, therefore, that those who erected broadcasting stations expected to make a profit from their venture. The only profit they could see was indirectly by advertising. The artistic side of the programmes was the bait for commercial gain and in some of the less reputable stations lacking revenue, the bait was far from tempting and the catch too poor to justify flogging the public stream any longer. It costs a tremendous amount of money to supply a bait for which the public will rise; if it is insufficiently tempting, they will rather rise against it! Thus gradually during the period 1924 to 1927 the poorer-class station was ousted from the ether not only because relatively it could not appear attractive, but because absolutely the programmes it offered were below public taste. In the race to provide a service worthy of those

concerns, only the largely capitalised concerns held their own. Thus we see how the two systems, British and American, converged from a widely different starting point. In each case the determining factor was public taste and public need. In America the public automatically rejected the cruder programme; in Britain progress towards a better service has come about because with every development the public have more widely supported the central authority, and with wider support the authority has been able to make further improvements.

## UNIFICATION FORCED.

Today, therefore, in America, the fewer and better-class stations which remain are mostly controlled by single organisations and give out more costly and better programmes. This is not to say that many single stations do not remain. The above is a generalisation. To make this opinion more convincing, I will quote an interested and interesting American observer who said: "I see the future of broadcasting here as three or four chains of stations stretching from coast to coast, each controlled by rival organisations—the day of the single small station is dead."

## 300 STATIONS TO GO.

An interesting light upon Captain Eckersley's article is given by the following item:—

Nearly 300 broadcasting stations now on the air will lose their licenses February 1, the United States Federal Radio Commission announced recently.

This drastic use of the "big stick," which will cut the number of stations in operation to about 400, is essential to give the listeners real service, according to Commissioner Sam Pickard.

Small stations, of low power, and those rendering little or no public service, must go, the edict said.

The commission's new policy follows to a degree recommendations of National Radio Engineers, who asserted that not more than 30 stations can be accommodated if radio is to give real service.

## CASES FOR THE COURTS.

The drastic action undoubtedly will result in a number of battles in the federal courts and the testing of the law in the U. S. Supreme Court. For the first time since radio broadcasting has attained national importance, listeners will be able

to obtain heterodyne-less reception on most of the channels between 600 and 1,000 kilocycles, provided the wave-clearing operation made effective December 1 proves the "as advertised" panacea.

Chicago, by reason of its location, has been given five cleared waves. From the standpoint of the tremendous audience which listens to programmes transmitted from Chicago, this city was regarded as entitled to preferential treatment.

Cincinnati, St. Louis, Cleveland and Detroit were given the opportunity to share with Chicago in providing programmes for the Middle West.

Recently at midnight frequency shifts, power changes and time division orders were made effective to setup what the Federal Radio Commission believes will prove national radio highways over which programmes may travel from coast to coast without interference.

## GERMANY AND U.S.A.

### COMPARED.

During a recent visit to the United States, Baron Manfred von Ardenne, the young German radio engineer who is co-inventor of the Loewe multiple tube, thus summarised the difference in broadcast methods in an interview to the Press:—

"Organisation of broadcasting in Germany is such that most listeners have not the choice of different programmes offer in the United States. That conditions is to be remedied in near future by the erection of a station at Zeesen, near Berlin, with 100 kilowatts of power in the antenna, using a wave-length of 1250 metres. This station will commence working at the beginning of next year and ought to be picked up across the Atlantic. It will relay every night the best programme running in Germany, from whichever city it is being given, and will thus be the first station of its kind in the world.

"In a country where the same programme is broadcast through the networks by many stations, all on different wavelengths, it may be of interest to hear that in Germany successful experiments have been carried out between Berlin and Stettin with a new arrangement which may be of great importance in the future of European broadcasting. By means of quartz wavemeters two or more broadcasting stations are tuned to exactly the same wave-

length and broadcast the same programme without the slightest interference. (This principle has been employed during the past year by two American stations, WBZ and WBZA.—Editor "Radio News.") Thus only the number of programmes, but not that of stations, is limited; a fact of the greatest importance in Germany, where every larger town desires its own station, in order to make strong reception possible with the simplest of receivers. The crystal receiver is still very widely used over there.

"Interference from coastal stations and ships is not serious in Germany because most of them transmit with plain continuous waves on longer wave-lengths.

"As regards the technical quality of broadcast transmission, I have the impression that the microphones in use in Germany, especially the well-known Reisz microphone, are very good in the transmission of the violin, the soprano and the distinctive instruments of large orchestras. The main reason for this is that the German stations transmit the high frequencies faithfully. The American stations, however, seem to me to reproduce the lower notes extremely well.

"Another remarkable fact is that, in spite of the far greater distances here in America, the land-line relays are better than those in Germany. This is probably due to better land-line equalising, which cannot be carried out in Germany to the same extent for lack of sufficient means; although the theory of these equalisers is very well known over there.

## LICENSING OF LISTENERS.

"Programmes, on the whole, are on a rather high level in Germany, because, thanks to the licensing of broadcasting listeners, relatively large sums are placed at the disposal of the programme committees of the broadcasting stations. These committees are composed of leading educators, civic workers, and artists.

"The educational value of broadcasting in Germany is very great, since the less prosperous and educated part of the people constitute by far the greatest number of regular listeners; while in the homes of the more wealthy and highly-educated there is a surprising lack of radio equipment. Germany, being the land of Wagner and Beethoven, these people, expect too much of radio in the line of classical music to be much interested. But, with the advent of new devices now being developed, which will make reproduction practically perfect, radio is sure to gain ground in these circles as well.

"The technical development of broadcasting in Germany practically always moves along theoretical lines, and the theory of radio and kindred subjects is very far advanced over there; while in the United States I have found the practical side extremely well developed. A union of the two would be sure to bring about a great advance in the science of broadcasting."

## ELECTRICAL PROGRESS

### A WONDERFUL STORY.

When we consider what radical changes have taken place in this world of ours in the last few hundred years, is it any wonder that we sometimes try to look ahead and visualise what will have taken place in a few hundred years' time?

The use of electricity for wire communication took many advancing steps during the nineteenth century. Morse produced the telegraph in 1835, but it was bettered the next year by Wheatstone, an Englishman, who developed the electro-magnetic telegraph. Gintl, an Austrian, found out how to send two messages simultaneously over the same wire in 1835, and in 1874 Thomas A. Edison demonstrated quadruplex telegraphy, thus doubling the country's wire's capacity without straining an additional mile of line. In 1895 Preece in England went still further when he invented telegraphy through the air by the use of low frequency electric waves. Marconi came along next year with high frequency, long distance waves—now known as wireless.

In 1879 Edison made the first incandescent lamp, thus giving electric light to the world. The filament was a delicate thing of burnt thread that broke at the slightest jar, but it grew red-hot and gave off a little light inside its glass globe.

After that all sorts of filaments were used, year by year, until the industry learned how to make sturdy ones of tungsten. The first electric carbon

lamp, known as the arc lamp, was invented by Brush in 1879, and soon came into common use for street lighting. In 1876 Alexander Graham Bell invented the telephone. 1927 saw the first Empire broadcast. So the world goes on; inventions revolutionise the world, and are later improved on to such an extent that the original method becomes obsolete, whilst its principles make other men famous.

## STATION FOR WALES

### B.B.C.'s LATEST PLAN.

The London "Wireless Export Trader" states: "It is interesting to note that under the new British Broadcasting Corporation's regional scheme it has been definitely decided to allocate one station to a Welsh site to serve the whole of Wales and the South-west of England.

"This station, we understand, will offer two alternative programmes to crystal set owners in the whole of the Welsh area, while a considerable part of one of the broadcasts will be devoted to Welsh items.

"In this connection it may interest some of our readers to learn that in Wales (according to census), 929,183 people speak Welsh, and 1,477,741 speak only English. The majority of Welsh speakers use both languages. The suggestion is that a Welsh alternative programme would increase and preserve the use of that language by the 'man in the street' of Wales."

## REMOTE CONTROL

### NEW RADIO INVENTION.

An electrical device contained in a little box which can be carried about the house or placed on the arm of a chair has been invented for the purpose of tuning a radio set no matter whether it be in the living room, attic or cellar (states the New York "Times"). There are no intervening wire or mechanical connections between the receiving set and the control box. The inventors are Bowden Washington and Wilson Aull.

The system comprises three units or methods of application, which, the inventors contend, can be successfully applied to receiving sets, making it possible to completely control the circuit by the manipulation of two knobs on the little box.

The receiver can be controlled from any spot convenient to the operator without manipulation of the tuning dials of the receiver proper. It is pointed out by the inventors that the main set can thus be installed in an out-of-the-way place and forgotten until a tube replacement or a maintenance adjustment must be effected.

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## A VALVE CURE

### FILAMENT TOUCHES GRID.

It sometimes happens that the grid of a valve touches the filament or, if the valve is mounted horizontally, the filament may sag on the grid.

When this occurs some remedy is necessary, for the set will not operate with the valves in that condition. If the grid has not stuck to the filament it can be jarred away by rapping the tube on the palm of the hand. At times, however, this is not sufficient.

If you are not sure whether the grid and filament are touching, or something else may be wrong, you can find out easily by connecting two volts from one cell of your storage battery across one of the filament contact pins and the grid contact pin. If one-half the filament lights, you may know that they are touching. Do not apply the full voltage, for that might burn out the filament with only one-half of it offering resistance in the circuit.

If the grid and filament are stuck together connect both filament terminals together and put two volts across the grid and filament connections. Then, while the filament is dimly lit strike the tube on the palm of your hand gently. This will cause the grid to become disengaged. Then it can be jarred back into its place.

## RADIO FOR ARCTIC

### SPECIAL PROGRAMMES.

On Saturday, December 3, from 10 to 11 p.m., Westinghouse Station KYW and The Chicago Evening American inaugurated a series of programmes intended as a special feature for the listeners-in of the far north, and especially for the outposts of fur companies and Canadian police, where radio sets have been installed for wireless reception.

There are four of these programmes—Saturday, December 3, 1927; Sunday, January 1, 1928; Saturday, January 28, and Saturday, February 11. The New Year's Day programme was to be the usual greetings of the day to those whose only association with the outside world is the ether wave.

By this means, KYW and the associated sections of the Westinghouse Company, KDKA, WZ, WBZA, and KP/KX have been able to be of a real service to these men. Radio reaches the listener-in within a fraction of a second and permits them to actually attend a church service, theatre, or studio programme.

KYW and The Chicago Evening American will broadcast a musical feature during each of the four programmes mentioned, and will also transmit personal messages of importance from the families of these men.