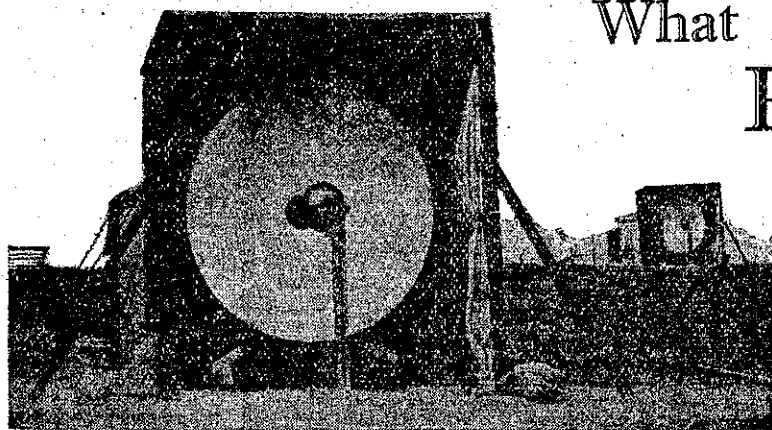


What Has 1931 Meant to Radio Development?

A Critical Analysis of the Year's Achievements

by "Observer"



The Microray may revolutionise radio communication, but . . .

DEVELOPMENTS in radio cannot be portioned into years; they take place in stages, usually separated by long periods and clearly defined so that it is very difficult sometimes to say what has happened in one calendar year.

Up to the present we may divide radio into several clearly defined stages. First, the experimental stage. This was followed by elementary broadcasting which stage the valve ushered in. The gradual improvement of the valve, not only as a receiver but as a transmitter, was responsible for bringing people to realise that radio provided an unequal means of entertainment. Yet radio was not universally popular. It wanted some major improvement in order that it should be enjoyed by all. It was too complicated and too uncertain.

Came the electric set, and this provided means to make broadcasting popular. Almost overnight it grew from an expensive hobby to a serious competitor of all forms of entertainment. Radio has now passed that stage and is looked upon as an everyday affair, simple, efficient and almost indispensable. What our next stage will be it is not very hard to foresee—it will be television. It did not come last year, and it is doubtful if it will come this year, but when it does radio will undergo a sweeping change and more than ever it will become an essential of every home.

Last year, then, is just one of the years which are tucked away in the period which marks the entry of radio into the home. As in the year preceding our radio sets were simplified and slightly improved. Not much improvement can take place in a modern set—it is simple and efficient.

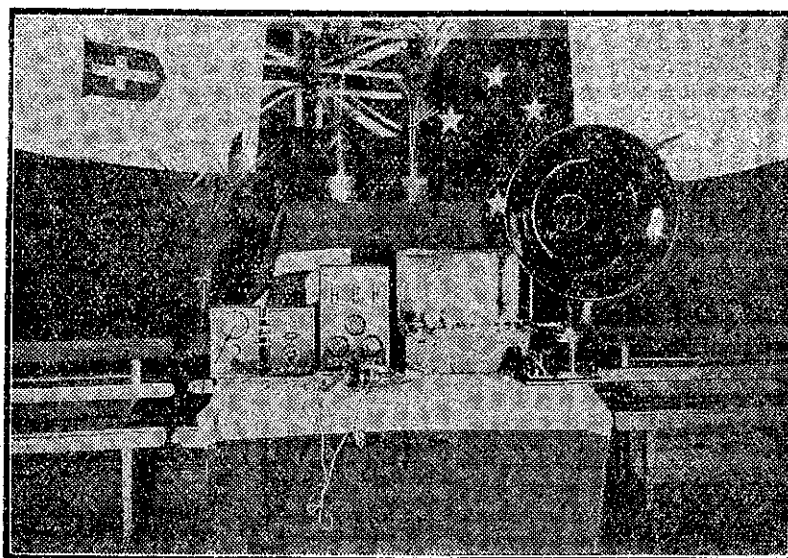
Of course there have been certain changes during the year. As we predicted last year the set has generally become very much smaller, and now probably nine-tenths of the sets are the mantel or compact type, better known as midgets. When the first midgets came they aimed at bringing radio down to a price and incidentally to a size. This they did with remarkable success with the results that the midgets acquired a very bad name. But it was the type of set which appealed. Small, neat and portable, it offered many advantages over the larger and more or less cumbersome piece of furniture which stood back in one corner. After the first midget rush ended, engineers turned toward the problem of compact radio seriously. The result has been that this year has seen many splendid models come out. The most reliable manufac-

turers in the world have turned their attention toward them and turned out machines that have brought credit to their name. In the older sets there was undoubtedly a great deal of waste space. It was thought at first that space was needed to separate the components so that better results could be obtained, but even allowing for components to be spread out there was a great deal of space wasted. Now this has been eliminated.

As we would expect, the idea of minimising space has been overdone. There are sets that are undoubtedly jammed into far too small a space and, what is more, many of them are far too light. There is a point beyond which, at the present time, it is impossible to go. There is a difference between economising and skimping and many of these smaller machines have unquestionably been skimmed with detrimental effects. Many, too, have been made to a price and they have caused dissatisfaction with radio generally.

IN order to economise on the modern set it is essential that the number of components be reduced, but instead the super-heterodyne circuit, which required more valves than the ordinary t.r.f. circuit, was developed. It was because of the development of this circuit that American engineers turned their attention toward the pentode, a valve which had been developed in Continental laboratories some five years earlier and since used in many Continental and English sets. This valve, which has a remarkable amplification, does away with a complete stage—a valve and coupling device, which may possibly be a bulky transformer. The development of the pentode has saved radio a great deal of space. In order to make the set capable of giving more volume and yet maintaining quality, American engineers developed the multi-mu valve—really a combination of two types, the power valve and the high amplification screen-grid valve.

The perfection of these two valves forecasts rather an interesting development, that is the combination of several valves in one piece of apparatus. In order to amplify, certain coupling devices must be employed and, in the earlier days, three in one valves were developed with these coupling devices within the glass. It is likely that although the actual system used will not be further developed, the idea of combining the function of several valves into one will be pursued. Like everything else they are becoming very complicated in



Only a phase in radio development—apparatus used for reception of the early broadcast.

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