

An Englishman's Impressions of AMERICAN BROADCASTING



READERS will remember reading in our columns a short time ago of the visit paid to America by Dr. Robinson, inventor of the Stenode Radiostat, and Mr. Percy Harris, president of the Radiostat Corporation. In this article, which appeared originally in the "Wireless Constructor," Mr. Harris records his impressions of American broadcasting.

The article is of peculiar interest to us, as it touches upon the receiving sets similar to many used in New Zealand. English conditions, being somewhat different from American, and incidentally from our own, have evolved a type of set that is altogether different from the American type. Upon these differences Mr. Harris makes some interesting observations.

IT is five years since I last visited America in the flesh. I say "in the flesh" deliberately, for in these days of simply constructed and highly efficient short-wave receivers one can visit America "by ear" almost any night, and often during daylight.

But to visit the United States and listen "on the spot" is quite a different matter; and so, within an hour or two of landing in October last I sat down with pleasant anticipation to listen in.

An American Set.

THE set I used followed the present trend of fashion in the States. A handsome and not too ornate cabinet, about breast-high, with doors which opened and revealed a single tuning control, a kind of keystone-shaped illuminated window showing dial degrees, a volume control, a tone control and a radio-or-gramophone switch.

The set easily "plopped" from one station to another as the tuning knob was turned with the volume kept down (I should say about a dozen stations came in in this way), and the quality was good; distinctly good if the "tone control" were kept on "high."

To get any more stations it was necessary to turn the volume control well up, with the result that as you moved past any local or semi-local stations you nearly blew your head off, and, furthermore, the full volume necessary brought in a tremendous amount of mush and background noise.

Still, with all that, it was a very good set in range, sensitivity and quality. The speaker (built-in, or course) was a "dynamic," or, as we prefer to call it, a "moving coil."

A Common Characteristic.

I THEN gave closer attention to tone with the set tuned-in to a station giving good quality (unlike our stations, which are all of high technical quality, American stations vary a good deal), and this revealed what later I found to be a common characteristic of modern American sets—a rather pronounced boom in the bass and a peak at about three thousand cycles to give the impression of good "top." These two peaks—top and bottom—had to be looked for in the particular

set in question, but in many others I tried later these characteristics were most pronounced.

Of a.c. hum there is very little in modern American sets. Careful design of the mains units themselves has something to do with it, but more is due to the increasing use of what are called "power detectors," with only one stage of audio-frequency amplification.

There is a lot of loose talk about power detectors, as if they were something essentially different, but on analysis a power detector differs from the older kind only in being able to handle a loud signal without appreciable distortion.

By producing as much as possible of the amplification prior to the detector, trouble from a.c. hum can be practically eliminated, and, furthermore, the cost of the mains unit can be reduced (a highly important point in view of cut-throat competition), as less filtering is required.

In range the sets are quite phenomenal, judged by standards on this side of the Atlantic, but this is easily understandable when we remember that seven, eight, nine and even ten valves are often used.

The principle adopted is not to force the utmost out of each valve, but to arrange a moderate gain in each of several stages, a practice which personally I think by far the best in commercially-built receivers.

By having a comparatively small gain per stage two big advantages accrue. Firstly, stability is easily obtained, there being practically no unwanted reaction between circuits, and consequently the individual circuits are not unduly sharpened. This is very important from the manufacturer's point of view, as a fairly wide tolerance can be allowed in the manufacture of parts.

Important Commercial Considerations.

FOR example, the units in a gang condenser need not to be matched with laboratory accuracy; although, of course, they have to be matched with a good degree of fineness. The coils, too, can be machine wound to a standard which gives easy matching.

The second important commercial point about a relatively small gain per stage is that accuracy in matching valves is not required, and the customer can replace his valves by any other good ones of the same type without altering the performance of the receiver.

Few Types of Valves.

INSTEAD of the seemingly needless multiplication of valve types, and considerable difference in characteristics between different makes, which characterise valve manufacture in this country, the United States has only a comparatively few types, fairly uniform in standard.

I admit cheerfully that the efficiency of these valves is much below that of ours, but I do know that the American valve manufacturers could easily increase the efficiency if they wanted to, but it is not generally thought advisable.

In selectivity the sets are on the whole very good, but not good enough for the existing conditions. To judge by their advertisements, American radio manufacturers achieved a 10-kilocycle selectivity long ago, but this is an exaggeration.

Regarding Selectivity.

WITH comparatively weak stations most sets will separate stations on adjacent 10-kilocycle channels, but if one of the stations is at all strong it is quite a different story. I tried a number of different receivers, and found they varied very considerably.

Sometimes different examples of one maker's model vary between themselves and this certainly applies to some of the newer super-heterodynes. On most sets a strong "local" would blanket two or three channels on each side—sometimes more; and as most of the programmes one wants to listen to come from more or less local stations, a high degree of selectivity is certainly needed.

An Interesting Demonstration.

FOR this reason tremendous interest was shown in the demonstration models of the Stenode Radiostat brought over by Dr. Robinson and his party. One demonstration which created quite a sensation was given in a private house within sight of station WOR in Newark.

This station was first tuned in, and then as the knob was turned, tuned out, and the next station, WLW (at Mason, near Cincinnati, and only 10 kilocycles away), tuned in quite clear of the slightest interference. Not only was there no interference, but there was actually a blank space between (Concluded on page 9.)

JOAN OF ARC

A dramatic
Radio Play
Produced at
2YA by
Mr. J. F.
Montague
and his
Company
Monday
April 13

