

What's in a name?

More views on technical terms

By Cathode Ray

As long ago as 1934 (Nov. 23 issue) I took it upon myself to attack, by ridicule, the many absurd and inappropriate "technical terms" that had come into use in the world of wireless. The attack was renewed in 1945 (April issue), "non-linear" (distortion) being one of the targets. It was encouraging to note that by 1954 the British Standards Institution had admitted "non-linearity" to BS.2065 as an alternative, and by 1955 "non-linear" had been banished from BS.661. Although I have continued to fire at "targets of opportunity" whenever they arose, the fact that an article devoted wholly to misconceived terms has not seemed needful for the last three decades is evidence of an improvement in this respect, though how much (if any) is due to my campaign and how much to a growing sense of logic among electronic engineers I can't say — nor can anyone else.

But seeing (in WW, May 1975, and elsewhere) the word "slew" used in a sense apparently quite unconnected with its actual meaning, has stirred the old instinct once more. I do not, of course, refer to the past tense of "slay", but to a type of movement. (It can alternatively be spelt "slue".) The origin of the word is obscure, but there is no doubt that an essential feature of the movement it refers to is turning or twisting. A sailor might use it to refer to the swinging round of a boom, or even a turning movement of the whole vessel. So it could hardly change in an unchanging direction, as applied, for example, to deflect a cathode ray (you see why I am affronted by this usage!) across an oscilloscope screen. I hope that whoever started misusing this word will kindly explain why he did so. He would make an interesting case history in psychology, no doubt under the heading "Humpty Dumpty complex". (Mr H. Dumpty was, of course, the character who claimed the right to make words mean just what he chose.)

Since I first protested against the use of "ground" (instead of "earth") by non-Americans, and in particular such expressions as "grounded base", or even "earthed base" (instead of "common base") by anybody at all, there has been a marked reduction in the latter offending usage. I won't repeat the whole story; the nub of the matter is that in this context the description "grounded"

or "earthed" is not the essential feature of the type of connection so described. A transistor (or triode valve) used for amplification has a pair of input and a pair of output points, and its performance depends very largely on which of its three electrodes is common to both pairs. The fact that quite often this electrode is also earthed, directly or indirectly, is beside the point; it need not be, in order to qualify as any one of the three possible configurations. It is quite possible for a transistor to have one electrode common and a different one earthed. So the usage complained of is clearly wrong.

Incidentally, it is meaningless to apply a common-electrode distinction to an oscillator, but the Editor considers this too obvious to need explaining. I hope he is right.

My impression is that there has been a noticeable improvement in rejection of such absurdities as "d.c. current", "d.c. voltage", and "i.f. frequency". I wish I could say the same of "at d.c." (meaning "at z.f.") and "d.c. to 10 MHz" (meaning "0-10 MHz"). Why should frequency be stated in terms of current?

I'm afraid "mixer" (applied to frequency changers) is a lost cause. If this wrong term were abolished, students would be more likely to grasp that just adding together signals of different frequencies (as in the correctly-named audio mixer) does not create other frequencies, any more than just mixing nitrogen and hydrogen produces ammonia.

My only other complaint just now is of a misusage that is far more widely distributed than in technical literature, being spoken by broadcasters and written in *Times* leaders, to give but two examples. But whereas in these examples it can often be dismissed as mere poetic fancy, in technical contexts ambiguity must be avoided at all costs. It happens that in English there is one word, and one word only, to mean "one or the other but not both". That word is "either". When one wants to include two alternatives there is the correct word "each". Or, if you prefer, "both". As if the choice of these two were not enough, however, certain lewd fellows of the baser sort, as St Luke might well have described them (Acts, ch.17, v.5), perversely reject both of these and see fit to use (or rather misuse) instead the only word that means *not* both. (Again

the Bible provides a fitting comparison, with the rich man who wantonly took the poor man's only lamb rather than kill one from his own flock. David declared indignantly that this man — actually himself — should surely die.) People who say or write "on either side" when what they mean is "on each side" or "on both sides" are guilty of murdering the English language. As a result of this, when one wants to make quite sure that "either" (correctly) is meant there is no way left of doing it. To this day I'm not sure what the writer of an article in *Electronics & Power* meant when, describing a new electric train, he wrote that there was a motor unit "at either end". Was he using or misusing the word? Only he could tell, and if he really meant "either" he was not to blame for the failure to communicate his meaning unambiguously; the blame would lie on those who won't use either of the words provided but have to steal the one word available for conveying a certain different meaning.

There are of course quite a number of English words which through ignorance or carelessness are so often wrongly used that one is forced to abandon them altogether for fear that they would probably not be rightly understood. Such words as "infer" (in place of "imply") and "protagonist" (supposing it to be the opposite of "antagonist"). But they are not very relevant to *Wireless World*, so I refrain from further comment.

English is a wonderful language for precise communication — if it is used with due care.

Editor's footnote: Our respect for the English language has to be tempered sometimes by the overriding need for effective communication in a complicated subject. This means that we have to follow common usage in technical language, just as everyone has to in ordinary language. Common usage may not produce the most elegant or logical expressions but it's what everyone understands. And, of course, it does bring changes in terminology. The term "antenna", for example, is gradually replacing "aerial" in the UK, and although some people may deplore this as an Americanism it is in fact a perfectly good, and descriptive, English word to be found in the Oxford Dictionary. We apologise to readers if our terminology is not always consistent, but we live in a rapidly changing world.