

Help, Help, Mr. Webster!

When primitive man first formulated a few simple words and found that he could convey an order or an idea thereby, he took one of the greatest forward steps of our history. The invention of language enabled him to communicate with his fellows and to discuss with them matters that prior to that time had, presumably, merely fermented in his brain. The release of frustrations must have been explosive.

Throughout man's intellectual history, language has been refined and polished with one constant aim: improvement in the precision of communication. Good writers in all fields, not only students of literature, have constantly sought to convey their ideas with increasing clarity and accuracy. Great as was the expenditure of time required, it has been well worthwhile. The expansion of learning over the centuries has been prodigious.

This emphasis on clarity and precision seems, however, to be waning, and in its place has arisen a trend toward more and more careless use of words, many of them inappropriate. It is particularly noticeable in the naming of ideas and concepts, where one must suspect an almost deliberate design to obfuscate. It is abundant in, but certainly not confined to, the literature of economists and social scientists. It has appeared in science and in engineering, where clarity should be prized above all other considerations. If Darwin had written as some of the moderns do, we should probably identify his great work by some such barbarism as *varidynamic normalizing* instead of the simple and accurate *evolution*.

A few examples may illustrate the trend. *Systems engineering* is a phrase that was invented where none was needed. Presumably its mean-

ing, as best one can find out, is the integration of components into a whole. This is, of course, the essence of engineering, and no qualifying word is necessary. In the words of a correspondent of Jerome Beatty, Jr., "systems engineering" fills a "much needed void." In an attempt to define this term better, someone has said, "systems engineering is quantitative dynamics." What that should do to Noah Webster's rotational speed! *Bang-bang control*, another example of the trend, is a catch phrase with no intrinsic meaning; it can only confuse the student who seeks enlightenment in the words he is reading. And it would be difficult to find a more hideous neologism than *dynamic programming*. The ideas and methods thus described are novel and valuable; they deserve a name that clarifies, not one that confounds the person trying to learn about this interesting field. Perhaps the phrase *confidence limits* has already been attacked enough by others; it remains, however, a particularly sorry specimen.

The poor choice of names for new ideas is only one of the unhappy trends in language. Another is the simple misuse of words. In this category a classic example is *trivial*. Here is a paraphrase of a recent item: 'a lot of trivial, but at times important from a practical standpoint, material.' This displays clearly the meaning assigned to *trivial* today, not that designated by Webster. In many instances, A uses *trivial* to describe what is interesting to B and not to A. It is as simple as that.

Let us hope that we engineers who write will do what we can to reverse this trend. We have a special responsibility to our fellows and to the future students in the field to express our ideas in the clearest possible terms.

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