

ENGLISH STYLE IN SCIENTIFIC PAPERS

SINCE the publication in *Nature* of November 5 of Dr. J. R. Baker's article on the use of English in scientific papers and the accompanying editorial article, we have received a number of letters commenting on the situation. We print below a selection covering the main points raised.

DR. J. R. BAKER asks, "How can the standard of English in scientific journals be improved?" It is true that I have sometimes been conscious of an uncharitable desire to be able to write book reviews in the style of Macaulay, a desire which I should presumably not have experienced if I had not read Macaulay; but I do not believe that any substantial improvement will be brought about, at the level which matters most, by relying on the too comfortable doctrine that 'good reading makes good writing'. If standards are to be raised, those concerned with the education and training of scientists, from the early forms of the grammar schools onward, must believe that the writing of good English is important, and must make the weight of their belief felt by means of appropriate sanctions—by making pupils rewrite slovenly essays, by refusing to approve badly written Ph.D. theses, and so on.

But surely the short answer to Dr. Baker's question is "by the refusal of editors to print bad English". When I started to write scientific papers, most of them were edited by the late Dr. Clarence Smith, to whom I owe a great debt of gratitude for what I was at first inclined to regard as tyrannical restriction; on many occasions he showed me how economy of words and clarity of expression went hand in hand, and even when I could not agree with his alterations, I benefited by being forced to think hard about my writing. I am sure that editors still help young authors in this way; but I believe that the more ruthless use of the editorial pen could do much to raise the standard of English in our scientific journals.

On points of detail may I remark first that, although the principles involved in their correct use may be simple enough, in my experience the best advice to give about gerunds and present participles is to avoid them; thus the phrase "on opening the body-cavity" used by Dr. Baker could easily be incorrect in a slightly different context, so that it is much safer, and on the whole more direct, to write "when the body-cavity is (was) opened". Secondly, much clumsy periphrasis is caused by our avoidance of the first person; could we not agree that clarity is more to be prized than false modesty?

E. G. Cox

School of Chemistry,
University of Leeds.

IN his excellent article, Dr. J. R. Baker justly says that understanding is impeded by the misuse of words and by perverse or slovenly syntax. I would like to direct attention to a related problem: the growing inadequacy of the language itself as a means of expression. There are already too few words available to writers and the situation is growing worse.

Since the industrial revolution, the rate of appearance of new things, new activities, and new qualities has been faster than ever before in the world's

history. At the same time, universal education, the spread of literacy, and a willing subjection to the tyranny of the dictionary have restricted the introduction of new words.

Sea-going folk are adequately supplied with words; words which were originated by seamen were afterwards authorized by the dictionary-makers. But the language of aviation is sterile. We have a few cumbersome terms: bomber, fighter, airliner, seaplane, monoplane, biplane, and so forth, some of which have courageously been invented to meet an obvious need. But the rate of invention is not high enough. This is especially noticeable when something new appears. The Rolls-Royce jet-lifted vehicle is a good example of this. Clearly this is a member of the class of aerodynes; but it is neither an aeroplane nor a helicopter. What are vehicles of this kind to be called? Need we descend to the facetious and use such terms as 'flying bedstead' to describe a most advanced piece of engineering.

What are we to do about guided missiles? Many different kinds are being developed now, and the only way of describing them seems to be with the aid of abbreviations, SSM, ASM (surface-to-surface missile; air-to-surface missile) and so on. Many of them use rocket propulsion. But what is a rocket? It used to be the complete vehicle, comprising propulsive means, stabilizing means, container and payload; but as the vehicles grow bigger and we approach space-ships, the word is becoming limited to the motor itself.

Since there is, in fact, no shortage of letter combinations (nor of sound combinations) there seems no reason why new words should not be made concurrently with new things. It is in fact true that there have been considerable successes in this way ('radar' is a good example), but we need many more. The main requirements are common sense and courage. There will be many who will resist any attempt to introduce a word that is not already in the dictionary. Such people may be quite prepared to avail themselves of a modern product such as a cathode-ray tube, but they will not have the grace to allow it a word of its own.

D. M. DESOUTTER

Aeronautics, Tower House,
Southampton Street, London, W.C.2.

DR. J. R. BAKER's description of some symptoms of a linguistic disease will have delighted all concerned with problems of information. May I point out two more of its deplorable effects: (a) the many Continental authors who now write directly for British or American publication may be led to take it as a model, neglecting the study of the very real virtues of American (not to mention English, which some of us in our old-fashioned way think equal to any task, even if it does not make up into such comfortably broad-bottomed volumes); and (b) now that printing is costed almost to the last 'en', one not only has to suffer this pompous verbosity, but also to pay extra for it.

P. J. EDMONDS

Cleaver-Hume Press, Ltd.,
Publishing Division,
31 Wright's Lane, London, W.8.

DR. JOHN R. BAKER and the Editors of *Nature* have indicated some of the unhealthy symptoms in contemporary scientific writing and have made constructive suggestions regarding diagnosis and treatment. One fundamental factor which they have still overlooked is the almost universal evasion of the word "I", which evasion, in my opinion, is responsible for much of the circumlocution, artificiality and apparent 'genteelism' and 'grandiloquence' of scientists and bureaucrats alike.

There is one standard objection to the use of the personal pronoun: that it is immodest in a research worker because it imparts a personal flavour when science should be impersonal as well as unbiased. The psychologist McDougall¹ has trenchantly refuted this argument: "There is a common form of egotism which consists in ostentatiously avoiding the appearance of egotism. In conversation one avoids the words 'I' and 'me' as though they were among the most disgraceful in the language; one finds oneself most at ease with persons who do not offend one's susceptibilities with blatant egotism and who can appreciate one's freedom from that gross fault, a fault one cannot tolerate. In writing, and especially in early efforts, one refers not infrequently to 'the present writer' or 'the author of these pages', and uses other ponderous circumlocutions in the effort to avoid the solecism of appearing in the first person".

I doubt very much whether ignorance of basic grammar constitutes a major difficulty for the average scientist of research calibre, or whether he really needs more than the occasional second opinion of a friend or the occasional consultation of "Fowler". It is rather that the scientific author, like the official or the honorary official, somehow feels that everyday language is not quite important enough for his purpose. One junior worker among many who have commenced a paper on the lines: "Working out a collection of animals from Katmandu, three new species were found", listened politely as I asked if he realized that he had perpetrated, not only a grammatical monstrosity but an idea-picture which, taken literally, would need a Lewis Carroll or an Edward Lear to do it justice. Would he speak in that way? Would he describe his work in just those words in a letter to a friend? "Well, no," he answered, "but looking through other people's papers I thought that was how you were supposed to write."

I believe that the kernel of the whole problem lies in the individual's choice of reading. Laymen and scientists alike who have delighted in the lucid and majestic language of one of the greatest living masters of English prose may well ponder Sir Winston Churchill's account² of the days when he took his own education in hand and set out to read Gibbon's "Decline and Fall of the Roman Empire" because "Someone had told me that my father . . . knew whole pages of it by heart, and that it had greatly affected his style of speech and writing". Let every young biologist, for example, take Aldous Huxley's essay³ as guide and soak himself in the writing of T. H. Huxley. Let him read (in translation) the communications of old Antony van Leeuwenhoek⁴, as fresh now as when they were written more than two hundred years ago, as precise as the most puritanical of pure scientists could desire, as concise as the most frugal editor could demand and, incidentally, bristling with I's and none the worse for them.

There will be those who, once the elementary requirements of accuracy and brevity have been

met, will belittle the importance of literary style in scientific writing and will apply the adjective 'literary' out of criticism, pity or simulated contempt. I think they will be profoundly wrong to do so. Until a few decades ago scientists and technicians combined with statesmen, public officials, lawyers, clergymen and popular novelists to form an influential community adequate to maintain the purity of our language. To-day the balance of power has changed for the worse. The age of Newspeak may be even closer than Orwell⁵ prophesied.

DENYS W. TUCKER

British Museum (Natural History),
London, S.W.7.

¹ McDougall, W., "Character and the Conduct of Life" (Methuen, London, 1927).

² Churchill, W. S., "My Early Life" (Macmillan, London, 1930).

³ Huxley, A., "T. H. Huxley as a Literary Man" (Huxley Memorial Lecture: Macmillan, London, 1932. Reprinted in "The Olive Tree" (Chatto and Windus, London, 1936)).

⁴ Dohell, C., "Antony van Leeuwenhoek and his 'Little Animals'" (John Bale, Sons and Danielsson, London, 1932).

⁵ Orwell, G., "Nineteen Eighty-four" (Secker and Warburg, London, 1949).

It is stated in *Nature* of November 5 that "The time does not seem far away when high school pupils will have to learn a new table of symbols apart from those atomic". It would, however, appear that such a sad state already exists, the symbols and abbreviations being too numerous for a mere twenty-six letter alphabet.

Another difficulty is that the pupil has to know several glossaries of symbols, to be in line with different authorities.

DAVID WANT

(Sixth-form pupil)

South-West Essex Technical School.

USE AND ABUSE OF PROTECTIVE EQUIPMENT

THE fifth conference of the British Occupational Hygiene Society was held in London on November 4, the theme of the conference being "The Use and Abuse of Protective Equipment". It was divided into four sections dealing with the protection of the lungs, skin, eyes and feet. The proceedings will be published in the March issue of the *British Journal of Industrial Safety*, and reprints will be obtainable from the honorary scientific secretary of the Society, D. Turner, Environmental Hygiene Research Unit, M.R.C. Laboratories, Holly Hill, London, N.W.3.

The morning session was opened by S. H. Wilkes (senior chemical inspector of factories), who warned against using the canister respirator inside tanks, stills or other closed spaces where there may be high concentrations of toxic gases or where shortage of air is possible. Papers on the protection of the lungs were presented by A. C. Peacock, of the Chemical Defence Experimental Establishment, Porton, and by J. Whittaker, of the Central Safety Department, Imperial Chemical Industries, Ltd. After stating that the only fully satisfactory method of protection of the lungs is by suppression of the risk at source, Mr. Peacock described the different respirators available for use when the ideal cannot be realized.