

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.

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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 Dobell, 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.

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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.

Characteristics necessary in types suitable for continuous wearing have necessitated a compromise in design between degree of protection and acceptability to the wearer. A review of the standard of protection demanded will sometimes result in a very much more wearable device.

Mr. Whittaker emphasized the importance of a good fit of face-pieces, which is easier to secure with full-sized face masks, going under the chin, than with the small kind covering only the mouth and nose. The larger the protective appliance, however, the greater is the aversion to wearing it and the risk of its being surreptitiously discarded. Discipline in the atomic energy field in this respect is better than in older industries because the workers are well aware of the danger and are accustomed to imperceptible risks.

The second section of the conference consisted of papers on the protection of the skin by Prof. J. R. Squire, of the Department of Experimental Pathology, University of Birmingham, and by Dr. A. Lloyd Potter, of the General Chemicals Division, Imperial Chemical Industries, Ltd. Prof. Squire described how the outer layer of the skin is chemically inert but swells in alkalis and, being a protein, can react with or absorb substances containing $-NH_2$ or $-SH$ groups. It can be destroyed by reducing agents and cracked if dried excessively. Loss of water is normally impeded by a surface film of fatty material which is replenished naturally after removal with solvents in about two hours. Mechanical abrasion, leading to wear of the horny surface faster than the germinal layer can replace it, is occasionally encountered in industry. Chemical irritants produce their effect rapidly when they act as sensitizers, in which case an intense reaction may follow a second exposure, even to very small quantities, after an interval of ten to fourteen days. Carcinogens require years to produce even precancerous effects, and the peak incidence of skin cancer is twenty to thirty years after exposure. Repeated exposure is necessary, and the action decreases when less of the carcinogen reaches the skin.

Dr. Lloyd Potter said that in order to affect the skin a substance must wet it, either by being itself liquid or by solution in perspiration or other liquid. Water, alcohol and weak acids do not greatly affect the skin; but alkalis and fat solvents penetrate to the sebaceous layer. Liability to dermatitis is not detectable at pre-employment medical examinations. Protection of a process by complete enclosure may be nullified if the final product is packed by hand. Protective clothing should not add to the risk of contracting dermatitis by causing sweating and chafing. Proper washing facilities should be provided for and used by workers, and, in this connexion, barrier creams are good because they encourage washing.

Speakers in the afternoon session were introduced by Sir Harold Roberts (chief inspector of mines), who stated that mining is the most dangerous of industries, being closely followed by shipping in respect of fatalities. The death-rate in coal mining is nine times as high as the death-rate in factories, major catastrophes being responsible for only a very small proportion of the casualties in mines; the major toll is taken by falls of ground and by transport operations. Owing to improved standards of lighting, the incidence of nystagmus has been greatly reduced.

Dr. D. R. Campbell, director of research, Birmingham and Midland Eye Hospital, in a paper on ocular

injuries and hazards, said that eye injuries constitute 4.26 per cent of all industrial accidents and are mostly preventable, being due to flying particles. Goggles are liable to steam up; they restrict vision and are uncomfortable to wear. They are better received if the worker is given a number of kinds to choose from. Ocular injuries are often repairable, now that the complication of infection is largely absent, but even a small scar on the centre of the cornea can cause dazzle in artificial light. Eye protection, she said, should be compulsory when striking and chipping with metal tools. Burns from molten metals and chemicals, especially caustic soda, are dangerous, though immediate irrigation with water may save an eye.

The legal obligation to provide eye protection against certain hazards was then explained by G. V. Thom, safety officer, Plastics Division, Imperial Chemical Industries, Ltd. Protection built in to a machine is more desirable than protecting the operator, and he showed typical examples. Various devices for personal eye protection were described. In the particular case of welding, protection against infra-red rays is needed, and against ultra-violet as well in electric-arc welding.

H. Bradley, director of the British Boot and Shoe and Allied Trades Research Association, was the first speaker in the session on the protection of the feet, and outlined the steps which have led to the drafting of British Standards for safety footwear. These contain a steel toe-cap which has to resist an impact test. He was followed by H. E. Thomas, head of the Safety Department of the Ford Motor Company, who said that, in his experience, the standard safety boot did, in some cases, give protection but that many toe fractures while wearing them continue to arise. He thought these could be avoided by extending the toe-cap backwards. It is true that it would then be unable to pass the impact test, but it is evident that considerable deflexion of the toe-cap is possible without injury to the wearer's foot.

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THE FUNCTION OF LIBRARIES

AT the annual conference of the Library Association, held in Southport during September 20-23, two speakers concerned themselves particularly with the university library. Sir Philip Morris, in his presidential address on September 20, drew on his experience in visits to universities overseas since the Second World War, when he found that there was no university which was not either replanning or developing its library, designing a new library and library service, or had just completed some new library undertaking. In Canada and the United States last year he saw, and discussed with those responsible for, five large new libraries completed within the past two or three years. All were different, and while there appeared to be no single answer to the problem of library design, the physical environment, arrangement and facilities of a library profoundly affected its service, and there appeared to be a growing need for much more co-operation and interdependence between libraries. Sir Philip believes that the efficiency of a university might be said to be a function of the adequacy and efficiency of its libraries, and, apart from this factor of co-operation, he emphasized the importance of books being avail-