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EDITORIAL

Style, hyphens and the split infinitive

Authors of scientific papers always await referees' reports with trepidation. Nothing can be as disheartening to authors as a summary rejection of their manuscripts by editors, who often base their decisions on devastatingly worded comments from 'peer reviewers'. Many referees seem to delight in dismissive language; anonymity provides an impenetrable shield. Sometime ago, I received referees' reports on a paper that I had submitted to a journal published from the United States. The editor's covering letter seemed promising, requesting the inevitable revision. But one of the reviewers, while grudgingly accepting that the mundane science described in the paper was publishable, went on to launch a vigorous attack on my language. He (and here I speculate on the sex of the referee) charged me with 'violating' two of his 'pet peeves'. First, he came down heavily on my use of the 'split infinitive'. Second, he was pained by my use of 'nouns as adjectives to modify nouns that are used as adjectives without hyphens'. He did add, somewhat condescendingly that it was all a matter of taste, implying clearly that while we might even agree on matters of science, our differences on points of grammar were irreconcilable. Upon re-reading my own manuscript I realized that I could neither recognize split infinitives, which were undoubtedly strewn all over the paper, nor could I decide on the location of the missing hyphens. Stung by the criticism I refrained from submitting a revised version of the paper, waiting for an opportunity to clear my increasing doubts about my own grammar. At one of the symposia where booksellers display their wares, I came across a copy of *Scientific English* by Robert Day (Universities Press, 2000). Reading a book on writing scientific papers is not easy. But, Day's preface was both encouraging and entertaining. He quoted both Plato and Confucius. The former had said: 'Beauty of style and harmony and grace and good rhythm depend on simplicity'. The latter was characteristically brief: 'In language clarity is everything'. A little further on Day came to my rescue rather forcefully: 'I have good news. You *may* split infinitives. In fact, you may, on occasion, violate every one of the "rules" dreamed up by generations of grammatical fussbudgets. ... The obvious purpose of grammatical rules is to facilitate clear communication. When rules of gram-

mar do not serve this purpose, they should be disregarded' (p. xi). On the hyphen, Day was equally encouraging: 'The hyphen has a number of uses, most of them confusing' (p. 92). For good measure he concludes by quoting John Benbow: 'If you take the hyphen seriously, you will surely go mad'. Even *Fowler's Modern English Usage* (ELBS and Oxford University Press) is harsh on the hyphen, quoting Winston Churchill's famous dictum: 'One must regard the hyphen as a blemish to be avoided as far as possible'. In protesting against the hyphen, Churchill argued 'that you may run them together or leave them apart, except when nature revolts'.

Indian scientists (and undoubtedly scientists from many non-English speaking parts of the world) are often admonished by British and American referees: 'The authors should have their manuscripts read by a *native* English speaker'. This kind of comment is received even when the language is passable, often motivated by a casual reading of the authors' address, rather than by an analysis of the manuscript's grammar. Despite my current aversion for grammar, stimulated by a disagreeable referee, I must confess that as a reader and editor I often wish that many authors paid some attention to writing style. There is nothing more disheartening for an editor than to receive a letter for publication, which is completely incomprehensible. Summary rejection of such contributions seems unfair; improving them by editing seems impossible. This journal's office appears to be receiving an increasing number of manuscripts, which are very poorly written, carelessly proof-read and often display a complete disregard for the suggested format. After years of glancing through manuscripts in diverse fields of science, I have reached the inescapable conclusion that compulsory instruction on writing scientific papers might be an invaluable exercise for research students. The habit of consulting dictionaries and style guides is to be encouraged and analysis of the text of published papers, for the manner of their construction, might be helpful. Interestingly, even as I was thinking about grammar and style a book entitled *Communicating in Style* by Yateendra Joshi was received in our office for review. This reasonably sized (about 250 pages) and moderately priced (Rs 300) book, published by The Energy and

Resources Institute (New Delhi, 2003), appears to have been generated for in-house use. But, this book is not for those interested in clarifying the nuances of grammar; it seems more directed towards those interested in presentation. Curiously, the cover carries a blurb attributed to John le Carré: 'A gem. Courteous, unafrightening and essential. A perfect companion to Fowler's *A Dictionary of Modern English Usage* for today's communicators'. I would prefer Fowler and common sense. A book more directly addressed to scientists is *The ACS Style Guide* (Dodd, J. S., ed., *American Chemical Society*, 1997). Although this book focuses primarily on chemistry, it would undoubtedly be useful to writers in all branches of science. Most satisfying, I found both the split infinitive and the hyphen discussed. The ACS committee decreed: 'It is acceptable to use split infinitives to avoid awkwardness or ambiguity'. Hyphens are elaborately treated, as the literature of chemistry is replete with broken words; scanning through long lists of 'unit modifiers' (two words that together describe a noun, e.g. electron-diffraction, excited-state) I could not help but feel that the ACS had ignored Churchill's dictum. The *ACS Style Guide* is the kind of book that ought to be lying around in our laboratories, in the hope that students may idly turn its pages and in the process come across useful nuggets for improving the style and presentation of papers. There are sections in this book which go beyond writing style, providing useful tips on copyright matters and oral presentations of science. In these days of facile internet access and rapid 'downloads', many seminars are delivered in which figures, data and even animated movies of real and imagined interactions of atoms, molecules, cells and organisms are projected. Most often, there are no references to the site from which the illustrations have been taken. Computers, the 'world wide web' and 'Powerpoint' have made plagiarism of sorts a routine event in many presentations, both oral and written.

While the paper written for a professional scientific journal can get away with a significant degree of obscure language, articles addressed to a more general audience must be clearer. This journal, for instance, has a section entitled 'general articles', which should hopefully be accessible, at least in some part, to a non-specialist reader. Unfortunately, most submissions in this category are manuscripts which are unintelligible; their sole claim to being 'general' is the absence of original research normally found in a scientific paper and the lack of scholarship that one associates with a 'review'. In an essay on *How to write a popular scientific article*, J. B. S. Haldane provides compelling advice: 'The first thing to remember is that your task is not easy, and will be impossible if you despise technique. For literature has its technique, like sci-

ence, and unless you set yourself a fairly high standard you will get nowhere... . You must ... know a very great deal more about your subject than you put on paper. Out of these you must choose the items which will make a coherent story'. For articles that do not have to be published immediately, Haldane has an interesting prescription: 'When you have done your article give it to a friend, if possible a fairly ignorant one. Or put it away for six months and see if you still understand it yourself. You will probably find that some of the sentences which seemed simple when you wrote them now appear very involved. Here are some hints on combing them out. Can you get in a full stop instead of a comma or a semicolon? If so, get it in. It gives your reader a chance to draw his breath. Can you use an active verb instead of a passive verb or verbal noun? If so, use it' (*On Being the Right Size*, J. B. S. Haldane (ed. Maynard Smith, J.), Oxford University Press, London, 1985).

The growing technical complexity of the scientific literature makes even 'reports of research focused on an outstanding finding whose importance means that it will be of interest to scientists in other fields', impossible to comprehend at first glance. I took the above quote from *Nature's* guide to authors (cf 2004, 427, 84). The provocation was my attempt to read a letter entitled 'Bcl10 activates the NF- κ B pathway through ubiquitination of NEMO' (Zhou *et al.*, *Nature*, 2004, 427, 167). Undoubtedly important, the paper illustrates the difficulty that non-specialist readers face in reading papers in many disciplines of science. Abbreviations and acronyms abound. Some have been introduced into the literature to satisfy a momentary humorous impulse of an author. NEMO took me back to Jules Verne and *Twenty Thousand Leagues Under the Sea*. The literature of molecular biology is full of genes and mutants with curious names—*hedgehog*, *sevenless* (and, of course, *son of sevenless*) and even an apparently familiar, *laloo*. Biology's literature is rapidly becoming as intractable as chemistry, with nomenclature providing an impassable obstacle for a general reader.

Writing style is, of course, a 'matter of taste' as my referee correctly pointed out. Grammar can serve as a guide, not a shackling constraint. Ultimately, a published paper must be useful. For this, it must be understandable. A little attention to style and technical crafting while writing a letter, a paper or a report would help readers (and copy editors). Reminding authors of the rules of grammar, on occasion, may be valuable. I, for one, will look with respect at both the hyphen and the split infinitive, in future.

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