

# THE DISMAL LANGUAGE OF SCIENCE

by Brett Wright

**A**ustralian scientists publish more than 10 000 articles a year in the international scientific literature, a paper battlefield where researchers trundle to the front (their reputations protected on all flanks by a cavalcade of caveats), fire off a finding or two and quickly retreat into a thicket of peers.

As quaint as it may seem to the outsider, getting research results published in the better science journals is a deadly serious business, and an activity that has more bearing on the establishment of a nation as a clever country than the rhetoric of politicians.

To date, Australia hasn't done too badly by world standards. In the first half of 1992, according to the American-based Institute of Scientific Information, we out-published India, Sweden and South Africa, reporting on topics ranging from armyworms and drought management to methods of gold extraction and the pruning of grapevines. But we fall short compared with the Netherlands (which has a smaller population), and Canada (which publishes more than twice as much although it has a population only 56% larger than Australia's). Our publication output is about the same as the State of Pennsylvania.

Some of the national differences may be due to cultural bias among editors—most of the top journals are American or British—but it is nonetheless becoming clear that Australian scientists could do markedly better. The solution is not a new Ministry of Science or another crop of cooperative research centres, but scientists who can write.

According to Dr Vivienne Mawson, scientific editor at the CSIRO Division of Fisheries, Australian scientists are 'rather stuffy' writers compared to some of their overseas counterparts.

'Stuffy' writing (which is by no means the sole preserve of scientists) has marked characteristics: a plethora of abstract nouns and a dearth of verbs (e.g. 'examination' instead of 'examine'); a relentlessly passive voice (e.g. 'they were identified by the taxonomist' instead of 'the taxonomist identified them'); precariously stacked nouns (e.g. 'research vessel biomass estimates') and strings of prepositional phrases (e.g. 'it benefited *from* personal feedback *from* a series of

workshops and *from* early users *of* the modules'). The subjects of sentences are hidden in a thicket of verbiage, and punctuation marks are either scattered like confetti or rare as hen's teeth. And always, always, the 'posh' words are used in preference to the 'plain' (e.g. 'commence' instead of 'begin' or 'start'; 'assist' instead of 'help').

'It's surprising', Dr Mawson says, 'that scientists can be so meticulous in their work and so sloppy when they write it up. There are few synonyms in English; words should be chosen as carefully as you choose any other tool.'

'In a survey of American engineering and technical journals, the editors said that poor style was one of the main reasons they rejected articles. From my experience as a divisional editor, I am convinced that a well-written paper has a much better chance of being accepted by a good journal—and accepted quickly—than has a badly written one (assuming, of course, that the science is good). And a paper that is well written is more likely to be read and cited.' The reason? 'Reviewers and editors are not irritated by having to extract the writer's meaning from the morass, so they don't become hypercritical. Most editors of scientific journals don't have the time to rewrite a paper for an author, and many don't have the ability, either, because they themselves are scientists [see *Nature* 360 (6399), pp. 11–12].'

Dr Mawson asked 66 scientists in the Divisions of Fisheries and Oceanography whether they had had any training in writing since leaving school. Only 16 had—and they were either American-trained or had attended Dr Mawson's in-house courses.

'Americans are much more aware of the need for scientists to be given some training in writing', Dr Mawson says, 'and scientific and technical writing courses are common in their universities.' She would like to see Australian universities offering short scientific and technical writing courses. CSIRO could take a lead by offering such courses to its staff, possibly by setting up a teaching unit.

## Further reading

The dismal language of science. V. Mawson. In 'Australian Style into the Nineties', ed. P.H. Peters. *Proceedings of Style Councils 90 and 91*, pp. 142–50. (Macquarie University Dictionary Research Centre: North Ryde 1992).