

In pursuit of comprehension

Nature is injecting increased effort into the readability of its papers. This is a task in which authors can help by trying out their texts on colleagues before submission.

To have "intimate relations with the little band... of nature's servants in every civilized region of our planet" was one of this publication's expressed intentions at its outset, in November 1869. But intimacy can breed withering exclusiveness, rather than stimulating inclusiveness, if it expresses itself in private language and with hidden rules. Such an approach is at odds with one of *Nature's* original prime ambitions: "to place before the general public the results of scientific work..." and downright harmful to another: "to aid Scientific Men themselves by giving early information of all advances made in any branch of natural knowledge throughout the world and by affording them an opportunity of discussing the various scientific questions which arise from time to time..."

Exclusiveness is all too frequent nowadays. Like other professions, science thrives on language that becomes shared by practitioners only by dint of their participation and which is therefore often, in effect, private. Similarly, science flourishes on hard-won knowledge of phenomena and principles that rapidly becomes taken for granted by cognoscenti. To the extent that this knowledge is consequently implicit in publications, it is hidden from outsiders. Worse still for readers with wide ranging interests, the range of esoteric (and sometimes downright whimsical) terminology is growing rapidly.

Transmitting such breadth without compromising scientific impact is still one of *Nature's* goals, and is, thankfully, one to which an increasing number of readers are willing to subscribe. Regrettably, the general public may benefit from our news, opinions and correspondence, but will feel well and truly excluded from the original science. But nowadays the papers — the Articles and Letters — too often prove daunting even to a broad scientific readership. Is that situation inevitably going to get even worse?

Nature believes, on the contrary, that things can get at least a little better. On the one hand, recent internal exercises by editorial staff exploring the potential comprehensibility of Letters indicate that it would be a hard task indeed to make the introductions of, for example, all molecular biological papers easily understandable by, say, geologists. On the other hand, those same exercises suggest that the introductions of many life-sciences Letters could be more readily accessible to most biologists, that an analogous task can be tackled in the physical sciences, and, most encouragingly, that there are still a significant number of occasions when introductions can be presented so that all readers have a hope of quickly grasping a paper's principal conclusion.

More editorial attention is accordingly being placed on the readability of the introductory summaries of our Letters. Feedback suggests that those efforts are bearing fruit, though there is more to be done. But the people who can do most to help are our authors. Acceptance of a paper in any journal, after all, represents not only a reward but also an opportunity to maximize impact — and all the more so when the journal is as widely read as *Nature*.

To that end, it is salutary for authors writing the introduction to a paper to consider at what stage in their education they first came across terms they use. (They might then be less shocked on realizing that, for example, some respectable biologists do not know what "anisotropic" means, more than a few physicists do not know what a phylum is, and that there are plenty of both who have forgotten the meaning of "epimerization".) In considering their

work's readability by scientists in other disciplines, authors might take the trouble to refer briefly to classic textbooks to remind themselves what comprehension cannot be taken for granted. More directly, they can try their own texts out on appropriately remote colleagues.

They should at least respond positively when *Nature's* editors prod them to remove the *n*th unexplained acronym in their first paragraph. And they can reflect on what anyone in the book trade knows well: no science publisher ever lost sales by underestimating the knowledge of specialists outside their specialities. □

Winning is not everything

Germany is to use competitions to boost university–industry collaboration. The idea has merits — but also pitfalls.

COMPETITIONS of all types usually have two functions: not only do they reward outstanding achievement but — at least in principle — they can also stimulate improved performance in those who take part. Germany's research minister Jürgen Rüttgers seems to have been taken with this idea as a way of supporting closer collaboration between academic scientists and industry. Last month, when he announced the results of the BioRegio competition, designed to challenge regions to develop ideas for boosting biotechnology, even losers admitted that they had benefited from the experience of taking part.

Entering the competition had required considerable efforts in preparing detailed proposals for collaboration. The main prize turns out to have been the prestige of winning. But all the entries still exist — as do the contacts between academics and industrialists that developed during their preparation.

Encouraged by the apparent success of his strategy, Rüttgers has introduced four more competitions (see page 500). This time, his challenge to both researchers and industry includes the task of defining *Leitprojekte* — research areas of strategic economic and social importance. The idea is not unique to Germany; Britain recently awarded financial support (and the accompanying prestige) to collaborative projects selected as winners in its Foresight Challenge competition, based on priorities identified through the Technology Foresight programme.

Competitions can certainly help to overcome the inertial forces that have tended to keep industry and academic institutions apart. But Rüttgers must be careful not to take the idea too far. For one thing, prizes are to be taken from existing — and shrinking — ministry budgets. If too much public money is set aside for the market-orientated research programmes that the competitions are designed to inspire, other funding could suffer badly.

Second, Rüttgers should remember that part of the attraction of the BioRegio was its novelty — and thus the relative inexperience of participants in such activities. Once they become aware that entering competition requires considerable effort, with the prospects of little financial reward, enthusiasm may evaporate. More substantial prizes may then be needed to maintain momentum. Could German science afford it? □