Bringing down the barriers

Public communication should be part of common scientific practice.

Jaap Willems

The public is fascinated by science, particularly astronomy. But despite most researchers recognizing the necessity of communicating to the public, many of them fail to do so. Although the media is the main source of scientific information for most people, scientists throw up barriers to their work being publicized. Scientists need to popularize their subject as, sooner or later, society will have to deal with the results. Not only do people need to keep up to date with rapidly changing knowledge, but ignorance often leads to fear.

Although some scientists accept that the public must be kept informed and interested if they are to obtain funding, many are puzzled by the suggestion that the popularization of, for example, chemistry is important for creating public support. Surely science no longer needs to justify itself, they ask? Furthermore, many researchers would — quite wrongly — treat with derision the idea that scientists need to popularize their work if they are to reach fellow professionals in their own or related fields. Yet various surveys have revealed that communication between fellow professionals often takes place through the mass media.

Most public communication about science is channelled through daily newspapers, special-interest magazines and television. In the Netherlands, articles written by researchers themselves are occasionally published in newspapers or in popular science magazines such as *Natuur & Techniek* and *Greenpeace*. However, about 90% of these articles are written by science journalists, most of whom do not have scientific qualifications. And according to surveys in the Netherlands, Germany and the United Kingdom, the public is dissatisfied with the media's reporting of innovations in science and technology. Media reports can heighten public fear of certain areas, for example biotechnology, according to Eurobarometer (http://europa.eu.int/comm/public_opinion).

A different approach is needed. Science communication professionals have long advocated a shift from the one-way channel of the mass media, towards interactivity — science and discovery centres, public lectures and company or institution open days — to bring researchers into direct contact with the general public. If nothing else, the resultant dialogue is a useful addition to media reporting in conveying accurate information and reducing fear of new technologies.

But scientists must also find ways of improving communication through the media, as this is familiar to many and is the most efficient way to reach large numbers of people. Yet our survey (see footnote) reveals barriers to such communication, such as unreasonable demands from researchers that journalists' reporting must be full and complete, or the lack of appropriate expertise by journalists — ignorance of basic technical terms, or a desire to sensationalize or exaggerate the discovery.

Management and public-relations (PR) departments frequently block contacts between scientists and the media. Our survey indicates that only one-third of researchers in the Netherlands can decide what they tell journalists. The rest have to defer to managers and PR departments, even in universities. The PR department initiates contact with the press. Of course, PR officials have a better understanding of the media and more contacts than scientists. Nevertheless, many Dutch scientists do not want to help PR departments popularize their research as they would prefer to do it themselves.

PR officials, of course, are usually only interested in good news about the research in their institutions. Journalists are more interested in bad news (such as risks associated with genetic modification) and would prefer to publicize details before the full work is published in scientific literature. These separate, selective agendas provide further barriers to the communication of science.

That 90% of scientists in our survey believe that a journalist's reporting should be full and complete, and the journalists should allow the scientists to check their story and make requested changes before publication betrays an ignorance of journalistic methods. As journalists would naturally not agree to these conditions, scientists are very reticent about cooperating with the press. Virtually none of our respondents knew the names of the science editors of the major Dutch quality newspapers, many of whom have been writing about science for years.

Finally, almost half of our respondents had never written an article for a wider general readership, while a further 40% did so only very rarely. Only 10% regularly write articles about their own speciality for a general readership, a fraction that included a disproportionate number of ecologists writing about environmental issues. Although not every scientist can be expected to write popular and/or accessible articles about their work regularly, and the media could not handle the resultant volume of material, the fact that so few biologists take an active part in popularizing their work highlights, once again, their lack of interest in public communication.

Many scientists, used to writing scientific articles, lack the rather different writing skills needed to bring their work to a wider audience. In addition to this, many feel that popularization would reduce their status among their peers. Yet almost every university offers courses in science communication, and although scientists go on these courses, they are generally regarded as being on the margins of university education. If we truly want the media to expand and improve its coverage of science and technology, more researchers need training in public communication and must be prepared to use these skills by participating in public events, writing popular, accessible articles, and cooperating constructively with science journalists. ■

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Revolution: to capture public support, scientists must smash the obstacles between them and the media.