ESSAYS ON SCIENCE AND SOCIETY

Selling Science to the Public

Roger Highfield

is the science editor of the *Daily Telegraph*. He wrote *The Physics of Christmas* and coauthored *The Arrow of Time*, *The Private Lives of Albert Einstein*, and *Frontiers of Complexity*. He has won several prizes for science and medical journalism, and a British Press Award.

I was the first person to bounce a neutron off a soap bubble. It wasn't much of a contribution to the scientific canon, I know, but it was fun. My choice of project was less driven by an urge to play atomic ducks and drakes than by the lure of a nuclear reactor in Grenoble, where expenses gave me—experiments permitting—a wine-soaked lifestyle I had not been able to enjoy fully as a chemistry student at Oxford University.

The ennui of developing software to process yet-to-come results, the drudgery of dipping Langmuir-Blodgett films (another target of my neutrons), and scarce beam time provided me with the urge and opportunity to try student journalism. Driven on by the grim career prospects in British science, I ended up at Britain's biggest-circulation daily broadsheet, the *Daily Telegraph*.

When I joined Fleet Street in 1986, AIDS and Chernobyl were the big stories. Room-temperature nuclear fusion ("cold fusion") came and went. Next were salmonella and bovine spongiform encephalopathy (BSE), followed by a lamb named after Dolly Parton. Now it is the turn of genetically modified (GM) food, stem cells, and new-variant Creutzfeldt-Jakob disease. Throughout, one factor has remained constant: A story is only news if the readers find it interesting and novel.

Many journalists would like you to think that they are seekers of the truth, but I suspect most are like me: curious gossips who like to show off by sharing hot news with a big audience. That audience distrusts hacks as much as boffins. But scientists could still learn from journalists. Journalists think carefully about their audience and communicate accordingly.

Each day I search through dense scientific jargon and endless releases posted on the World Wide Web to find news of interest to my readers (not to educate them with what scientists think they ought to know). Journalism is not merely about writing but about seizing a story by the scruff of the neck. I have spent most of a day being thrown off the car deck of a ferry to understand what sank the *Herald of Free Enterprise*, sprinted down a road in pursuit of a gene therapist in the quest for a scoop, and told Tony Blair that his science minister should take a bungee jump off the Dome to illustrate Newtonian dynamics for National Science Week. (He didn't.)

I face stiff competition within the paper. To carve out a slot among column inches of murder, politics, and mayhem, I file three or more stories daily. Under this pressure, stories rarely grow beyond 800 words. Most never make it into print.

In one key respect, my job differs from that of my American peers: There is much more competition in Fleet Street. Every day, my efforts are judged against three direct competitors and two midmarket tabloids as we fight for the attention of 14 million readers. Every day, my news editor compares my stories, angles, and intros with those in the other nationals. Every day, I have to justify my existence.

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There is an obvious downside to this aggressive culture. It encourages triumphalism, so that every gene is a milestone on that road to a cure. It nurtures scaremongering, so that every GM crop seems likely to run amok. A quote that pours cold water on a "breakthrough" is often sunk deep in a story. The pressure to be first leads to half-baked copy. The endless emphasis on the reader tempts editors to pander to prejudice and print "talking point stories"—essentially entertaining garbage.

I doubt that the consequences are as awful as some scientists fear. Most readers are ignorant but smart, just like scientists reacting to news outside their field. Years of hot/cold reporting have hardened them against hype. Equally, they are skeptical of bland reassurances, one of the many legacies of the BSE fiasco.

Scientists could learn from the journalist's obsession with the reader. At the *Telegraph*, we have commissioned a dozen polls on public attitudes toward science. It is even more important to create a genuine dialogue with one's "market." Perhaps the best example of this is a series of mass experiments we have run with BBC's *Tomorrow's World* TV program since 1994.

The first experiment, investigating the cues used by people to detect lies, saw more than a million attempts to ring our phone lines. We have since staged hunts for flatworms, studied the sun by measuring its effect on radio broadcasts during the eclipse, staged the Turing test on the Internet, and more besides. Between hundreds and tens of thousands of people take part, and millions watch each experiment unfold. Best of all, the public gets a first-hand glimpse of how science works.

Inspired by a paper in *Science*,* we wanted to find out if fidgeting can help the obese to slim. To ensure that the control group was equally motivated to take part over 4 weeks, half the volunteers were selected at random to "think" themselves thin. The results revealed that 55% of the controls had lost 1.5 kg—about the same as those encouraged to wriggle on the sofa, dance while washing up, and so on. Hard to explain, even embarrassing. But at least the experiment provided the public with a glimpse of the scientific method, the tricky bit that journalists usually ignore.

These mass experiments are a kind of "conversation" with the audience on immediate topics, such as obesity, the environment, or attraction. To work, they must speak to a basic human need. This is the foundation of all good communication. Scientists take note.

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*J. A. Levine, N. L. Eberhardt, M. D. Jensen, *Science* **283**, 212 (1999).

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