



International Perspective on Science Communication Ethics

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ONE MAJOR REASON for encouraging students to study abroad is to expose them to the way that different cultures deal with similar situations. In particular, the point for science students is to learn how many decisions in science depend on different values. These include decisions about what problems to explore, what solutions to choose, what issues to emphasize, and so on.

For example, at a recent meeting of the American Association for the Advancement of Science, the AAAS's president was describing how her research team tried to eliminate cholera-bearing organisms from the water supply in Bangladesh. The "Western" solution was to boil water and add chlorine. In Western terms, the energy cost of boiling water and the material cost of chlorine were pretty small. But in a developing country like Bangladesh, paying attention to economic costs is a more important value than in the West. It would have been unethical to devote so many resources to solving just one of so many social problems. So, instead, the research team looked for other solutions—eventually discovering that straining water through layers of sari cloth would accomplish the same purpose (Colwell 1996).

Today, I want to use my own field of science communication, and especially science journalism, to explore some of these competing values. I want to give examples of the kinds of issues that can be raised for students who go overseas, and suggest the types of thinking and learning that these issues can stimulate.

When journalists in this country discuss "ethics and values," their first reaction is usually to turn to various professional codes of ethics (Day 1991). These codes deal with issues like freedom of the press, truth and accuracy, fair play, and conflicts of interest. They don't deal with social or cultural values. Yet as soon as you look at similar codes in other countries, you discover that professional ethics and values cannot be separated from the surrounding culture (Amnesty International 1984). Even in England, for example, which has a press system very similar to the United States, the notion of "freedom of the press" is very different, because England has an "Official Secrets Act" that lets the government censor the press in ways that we, in the United States, would find unethical.

Although scientists, and those who work in related fields, often prefer to consider science a culture unto itself, with values that transcend national boundaries, empirical studies have shown that scientific values also vary across cultures (Shrum & Shenhav 1995). Thus it seems worthwhile to pursue the question of ethics and values in a field that combines journalism and science: the public communication of science and technology.

Throughout the world, many people engage in the public communication of science and technology: science journalists; public information officers for government, universities, nonprofit, advocacy, and industrial organizations; museum exhibit developers; extension agents; scientists who speak or write to nonprofessional audiences; and others. Each of these professional groups has its own set of values and goals; conflicts among them and between them and the scientists from whom they acquire information are frequently due to differences in values. Some conflicts come from different meanings of what "science" is, while others come from differing national and cultural values, such as commitment to economic development, individual rights or aesthetic surroundings.

For example, journalists in the United States often describe their activities in terms of commitments to "objectivity" and "accuracy" (Hulteng 1981; Klaidman & Beauchamp 1987). Those commitments seem similar to the ideals of "disinterestedness" and "truth" that scientists are taught to venerate (National Academy of Sciences 1989); indeed, journalists say that "Truth is our ultimate goal." But scientists and journalists interpret these terms differently. For journalists, objectivity means presenting both (or all) sides of a conflict, while for scientists disinterestedness means avoiding personal commitments while evaluating the evidence-but then committing to the "right" answer once the evidence has been evaluated. For journalists, accuracy means getting "the facts" right, on deadline. For scientists, accuracy is equated with truth, with taking the time to test information against misinterpretation before expressing an opinion.

The growing international nature of science communication poses new challenges. As science writers from Africa, India, Asia, Latin America, the United States, and elsewhere have begun to communicate with each other, they are discovering that an apparently common commitment to journalism, for example, takes on different meanings in different national contexts. In 1991, a leading American environmental journalist defended "objectivity" and "balanced reporting" as central to the concept of the press as an independent watchdog on other social institutions. At the same meeting, a Philippine journalist called for science writers to become "missionaries" for the environment, abandoning Western ideals of objectivity-because only then, he said, could the press be independent of other social institutions whose activities were degrading the environment (Cornell 1991). Thus, like the conflict between scientists and journalists described above, a value commitment expressed in superficially similar terms ("independent" journalism as a watchdog on social institutions) can represent almost diametrically opposed positions in different national contexts.

These international conflicts in professional visions were evident over the last twenty years in UNESCO debates on a "New World Information Order" (NWIO), which made clear that even the stated ideal of journalism as an independent watchdog on other social institutions is not universal (Institute for Developing Countries 198G; Lent 1982). The NWIO would have imposed uniform licensing, censorship, and responsibility codes on journalists worldwide. Supported by journalists and writers in many developing nations who saw journalism as a tool to be controlled for national development, the NWIO was fiercely opposed by journalists in many developed nations. Though many issues were at stake in the NWIO debates, one crucial one was the degree to which professions like journalism should be committed to individual rights or to government-determined visions of overall social good. In the developed world, where Enlightenment ideals of governments that serve the will of the people are well established, the importance of individual rights over the collective social good is highly valued. In developing countries, however, the collective social need is often seen to be so severe that it justifies, on moral grounds, suppression of individual rights.

It is differences like these to which students need to be exposed, not just through books, but by living and studying in other countries, seeing on an everyday basis how scientists and other

people working in other cultures make their decisions.

Let me give some more concrete examples. The first one shows that journalists need to study abroad just as much as scientists. Here's a quote from an American environmental reporter who was at the first meeting of the International Federation of Environmental Journalists in Paris, in November 1994 (Bronstein 1994):

Especially surprising to some of us, the question of reporter ethics is approached quite differently in many other countries. Questions over what is acceptable or not acceptable as gifts from sources became a point of heated discussion in Paris. All through France right now, for instance, reporters typically accept gifts of meals, lodging, originally paid travel from companies and sources they are writing about.

By American codes of ethics for journalists, accepting gifts of this sort is considered completely unethical. But the reporters were in France, not the United States.

The problem, as Bronstein realized, is that once gifts have been built into the system, they are very hard to give up. This is especially true when large amounts of money are involved:

For many reporters from France, India, and other countries, accepting such favors is not only common, but necessary. "Without these, we would never travel at all in our country on assignment," said Darryl D'Monte, IFEJ board member and a journalist from India. "This is how it's done here, and I don't really see that it has to compromise vs in any way," added Claude Marie Vavirot, who organized the conference.

But others, typically from the wealthier countries, disagreed:

"This is totally against our principles as good, respectable reporters," said Jan Lothigigs, a journalist from Stockholm, after he found that little necklaces were left in small leather pouches on all the plates prior to one four-course lunch with wine, paid for by the clothes company Esprit.

Now the question is: Whose ethics should determine what to do? The values of journalists from developing countries, who need the subsidies? Or the values of journalists from wealthier nations, who have learned to live without this kind of support?

The conflicts identified at the IFEJ meeting were by no means unique. In China, a phenomenon known as "youchang xinwen," or "paid news," permeates journalism. According to Chen Jian, a Chinese science journalist who recently spent two years studying at American universities,

It is common now in China for journalists to demand payoffs for attending corporate news conferences, to receive payments in the forms of lavish dinners, free travel, expensive gifts, or cash {A public relations practitioner in Beijing in 1992} had just organized a press conference to announce some recent research results and high-tech products. Journalists from radio and TV stations and some national leading newspapers were invited for a dinner, given 100 Yuan (Chinese currency) and an art article as presents. The reporter from the Guangming Daily was given 200 Yuan because there was an agreement that he would write a long story. In China, on average, a journalist makes about 1,000 Yuan (\$50) per month in salary. (Chen 1997)

Similarly, in Poland in recent years, the drastic economic difficulties forced magazines to use their editorial content as currency in negotiations with advertisers. Subscriptions and newsstand

purchases could not sustain publications when a single copy cost 20,000 zloty and the average daily income was only 100,000 zloty; advertising revenue was crucial.

Thus a great number of magazines started desperately to scramble for advertisements, pinning down for obtaining them not only the marketing staff but also the journalists themselves. A difficult situation entailed where linked transactions sprang up: "Advertisement in exchange for an interview." Under such conditions, articles began to lose their objectivity. Also, the critical outlook of journalists on the presented problems and institutions began rapidly to get blent. Over the advertising firms, editorial offices enrolled their protective umbrellas. (Panek-Gondek 1997)

To explore these issues, we had a meeting in 1994 in Montreal. Some of the recurring issues were these:

. The notion of "accurate, detached, objective facts." This is a Western ideal, and certainly one fundamental to most understandings of what science is. But other cultures value other approaches to the natural world, ones that emphasize spirituality or aesthetics.

. The wide variety of values that affect media coverage of science and technology:

- economic development;
- environmentalism;
- superstition;
 - o journalistic commitment to investigation vs. government or powerful industry commitment to smooth social relations;
 - o urban vs. rural; materialist consumption vs. indigenous values;
 - o fatalism vs. possibility of change;
 - o historical relationship with science vs. power of science as agent of change;
 - o exclusion leads to lack of trust;
 - o individual rights vs. collective rights;
 - o mythic power of science to provide all the answers;
 - o public (or "audience") values vs. science or media values.

Sometimes, competing values can be an opportunity, because they let you explore new possibilities. But that's not always possible. Consider superstition, which was addressed by Helene Knorre, a veteran Russian science writer who served as public information officer for Boris Saltykov, the Russian Minister of Science.

"Irrationalism" of the Russian society has long exceeded a dangerous level. Impostors, sorcerers, astrologers, adepts of extreme sects and savage cults feel so well established on TV and in the press that scientists do not even dare to popularize rational knowledge, to apply the scientific picture of the world. The scientifically valid outlook and science as it is have nearly completely disappeared from mass media, and together with these have disappeared} rational mentality and an adequate attitude to life, including politics. (Knorre 1997)

In other words, if you believe in superstition, you can't believe in science. But sometimes it's hard to distinguish between active anti-intellectualism and beliefs that come from societies that just haven't developed as much as we have, scientifically. A reporter from Argentina, for example,

noted that Herbal medicine, for instance, is widely present all through the Third World: it may even be considered a reservoir of empirical knowledge on active principles contained in plants, potentially useful for treating disease. Shamans, when not playing cunning tricks, may prove to have deep insights into the human mind and effective skills in controlling pain, curing psychosomatic disorders or self-inducing psychotropic states.

The problem may be even more basic, suggested a Canadian journalist who worked for many years with the International Development Research Center. "Some local languages do not contain terminology suited to science communication," David Spurgeon said, "and the world views of traditional cultures may be ill-adapted to a scientific understanding of natural phenomena. While living in Nairobi I remember reading in the press stories about witchcraft or magic without editorial qualifications, as though they were questions of fact" (Spurgeon 1996).

Given these problems, should scientists or science communicators be committed to changing their own countries? The answer may not always be clear. A Sri Lankan environmental journalist noted that many environmental journalists have "found that their advocacy of environmentally sound national policies and practices places them directly against national governments, local politicians or power, national and trans-national commercial interests." Yet defining "sound national policies and practices" is not a simple matter, and the independence suggested by an advocacy of environmental issues can also be turned to the State's purposes: According to Nalaka Gunawardene, an Indian Minister of State for Environment and Forests called journalists "social engineers" who could be "effectively utilized for transforming the values and ethics of society toward environmental protection" (Gunawardene 1996).

Similarly, as noted by a science writer in Nairobi, "a science communicator in Africa finds himself or herself dealing with issues linked to basic human needs-health, food production, water shortage, poor sanitation, lack of basic infrastructure like roads and others which are taken for granted in most developed nations A science writer in Africa has the basic responsibility of constantly reminding the readers, policy makers and experts that there is salvation around the corner if science and technology is given the practical attention it deserves" (Owuor 1996).

Given these competing values-of professional independence versus national goals-the Montreal sessions made clear that no single approach could universally be seen as "ethical." What these discussions do suggest is that we can use international experiences to help students understand the different values that are held by different cultures. We can also give them tools for analyzing those differences. For example, in the case of ethics, we can teach them the differences between the main models for ethical decision making. These include Aristotle's Golden Mean, Kant's Categorical Imperative, John Stuart Mills's Utilitarianism, and more modern compromises like Pluralism (Patterson and Wilkins 1991).

This has been a quick survey of how thinking about the ways in which ethics and values issues differ in different countries can be an incredibly powerful tool for educating our students. I used science communication examples, but I'm sure you all can identify more specific science issues as well.