

The Visible Scientists

by Rae Goodell

Adept at capturing audiences on TV and in the press, a few scientists have emerged as public figures

That a change should be taking place in the visibility of scientists is not surprising. Like politicians, actors, or football players, scientists gain visibility largely through the communications media, and the media have undergone revolutionary change in the past few decades. Concurrently, the uneasy relationship between science and the public has been changing, as technological ills have increasingly plagued society. These changes have, in turn, put pressure on science to update its antiquated concepts of how much to tell the public, when, and how.

In short, dramatic changes in science and in communication are forcing changes in science communication, and, in the process, the kind of scientist who communicates.

Today's scientists become visible primarily neither for discoveries, for popularizing, nor for leading the scientific community, but for activities in the tumultuous world of politics and controversy. Aggressively taking advantage of the new communications media, they seek to influence people and policy on science-related subjects—overpopulation, drugs, genetic engineering, nuclear power, pollution, genetics and IQ, food shortages, energy shortages, arms control. Circumventing the traditional channels for influencing science policy, they take their message directly to the public.

The scientific community is as uncomfortable about the democratization of science communication as the rest of us are about some of the other effects of technology. The new visible scientists are often seen by their colleagues almost as a pollution in the scientific community—sometimes irritating, sometimes hazardous. The new scientists are breaking old rules of protocol in the scientific profession, questioning old ethics, defying the old standards of conduct.

"They are no longer scientists," said Nobel laureate Arthur Kornberg concerning Paul Ehrlich and Barry Commoner. "They have become publi-

cists or entrepreneurs." Margaret Mead finds, "What my dear colleagues do—and remember I am the only woman in the group—they meet me at meetings and say, 'Oh, my wife is so interested in your articles—she reads them at the hairdresser.'"

Yet the visible scientists circulate in science and society as if protected by an invisible shield. Criticisms abound, but careers do not crumble. To everyone's surprise, the ax never falls.

Reflects Carl Sagan, "The negative comments tend to be peripheral, told to someone who tells you. But the only people who ever tell me critical things are good friends of mine. The people who are upset virtually never say a word to me. . . . I've been nicely insulated from the hostile comments. So I've gone blithely on, not realizing that people are offended."

"I expected it would totally destroy my scientific career," Paul Ehrlich said recently of his public visibility, "not because I expected to get out of research, but because the average scientist is basically toilet-trained to the point where if what he does is comprehensible to the general public, it means he's not a good scientist. That's what I thought. I was wrong. The reaction of my colleagues in population biology has been so close to one hundred percent favorable it's stunning to me."

One form of protection for the visible scientist is academia's version of job security: tenure. Nearly all the visible scientists were tenured professors and scientifically successful before their popular activities began to demand much time or attention.

Linus Pauling began protesting against war and the use of atomic weapons after World War II; he was a full professor at Cal Tech in 1931, although

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not a Nobel laureate until 1954. Ehrlich first became popularly known in 1969 and 1970; he was a full professor in 1966. Barry Commoner did not achieve national fame until the late 1960s, after the environmental movement came to prominence; he was a full professor in 1953, which was also before he began social involvement in the American Association for the Advancement of Science and the St. Louis Committee for Nuclear Information. William Shockley's first speech on dysgenics was in 1964; he joined the Stanford University faculty as a tenured full professor in 1963, after becoming a Nobel laureate in 1956. James D. Watson began writing *The Double Helix* in 1965; he was a full professor at Harvard by 1961, and received the Nobel Prize in 1962.

Even better protection for visible scientists: money. Financially, a young teacher usually does better to concentrate on getting promoted; the increased salary will bring him more money than would the income from popular books or lectures. Paul Ehrlich, however, "would have to be promoted to God," one professor observed, to better his financial success from *The Population Bomb* and popular appearances.

Does the scientific community put the squeeze on visible scientists' research funds? It is, after all, insider, establishment scientists who review research proposals in Washington. But the visible scientists have not found this a problem. "Research support has remained inadequate," Ehrlich says, "but it was inadequate before I got into this. And I guess everybody feels his research support is inadequate . . . If anything, since most of the panels I go to for research support have the same concerns, I think they might lean over backwards in the other direction, if they could. I don't think there has been any leaning in either direction. I think they judge my research as they did before, on my research productivity, which is what they should do." Sagan agrees: "As far as I can tell, there have been no penalties for my visibility, and no benefits either. As far as I can tell, it's entirely fair."

Colleagues of visible scientists often express the feeling that the visible scientist's research has decreased in quantity but not suffered in quality. A close collaborator of Ehrlich's pointed out that Ehrlich has continued to develop new techniques and theories. Although he would have spent more time in research if it were not for his population con-



Clockwise from upper left: Commoner, Mead, Pauling, Ehrlich, Skinner, Shockley, Sagan, Dubos.

cerns, he might well have been just “filling in the holes,” which others could do as well.

The criticism that does filter through the visible scientist’s outer defenses runs a gamut of outrage, insolence, scorn. Visible scientists are not nearly so oblivious to attacks as they like to appear. Commoner, who tends publicly to dismiss his unappreciative peers as “a bunch of jerks,” was reluctant to appear in a *Time* cover story for fear of criticism from colleagues, according to a former *Time* editor. (Ultimately he proceeded with the story.)

B.F. Skinner is renowned for his contempt of critics. “I don’t usually read my critics . . . I didn’t read the famous [Chomsky] review of my *Verbal Behavior* until ten years later, when my students urged me to read it. I had read a few pages and saw he missed the point.” (At the time Chomsky also did not have the reputation he had ten years later.)

While Skinner and his biographers paint him as unscathed by criticism, nonetheless he put together a scrapbook of reviews and reaction (eighty percent unfavorable, he estimates) to his book, *Beyond Freedom and Dignity*. He made another notebook by tearing and interleaving pages from *Beyond the Punitive Society*, a volume of essays that criticized *Beyond Freedom and Dignity*. Recalling Cornell philosopher Max Black’s essay, Skinner says, “I counted 23 different names that he calls me in the article.” Similarly, in 1970, a journalist observed that Skinner’s copy of Joseph Wood Krutch’s famous critique was “lined and triple-lined in pencil.” And Skinner confesses to “some feelings of anger” when he is accused of being obfuscating and unclear. “I have written ten books and I have written them very carefully; if I haven’t made my point, I don’t plead guilty to lack of clarity. I try very hard to make the case. These people jump to conclusions about what I am saying and then attack it—it’s very strange.” In response to these feelings, in 1974, Skinner published *About Behaviorism*, an answer to his critics, a primer of behaviorism, “designed to straighten out people who have grossly misunderstood what it is all about.”

Responding to Criticism

Humanly sensitive, and prone to extremes, visible scientists either ignore criticism or overwhelm it with response. Says Gregory Bateson of Margaret Mead’s reaction to criticism, “She douches it with productivity.” As an example, Mead writes in *Blackberry Winter* that she planned to return to New Guinea for another field trip in the spring of 1931. Shortly before she was scheduled to leave, there appeared a review by anthropologist Bronislaw Malinowski of her book, *Growing Up in New Guinea*, accusing her of not understanding the tribe’s kinship system. “I was so enraged that I got our next field trip postponed for three months while I wrote my mono-

graph, *Kinship in the Admiralty Islands*, to demonstrate the full extent of my knowledge of the subject.”

Like the media, the visible scientist is working toward a better flow of information to the public, as distinguished from the flow among scientists. The relationship between science reporters and visible scientists is symbiotic—each is dependent on the other. Science reporters are so dependent on scientists for their stories that they are often described as parasites in the news process. But in the case of visible scientists, the reporters are using scientists who want to be used. Visible scientists want publicity for their issues and ideas. Direct, quotable, and newsworthy, their messages also stand a good chance of escaping some of the typical censorship and editing of science news.

One finds instances among visible scientists of remarkable cooperation with the press. Skinner, during a long interview at his home with a free-lance writer, found it was nearing time for him to go out for the evening. He invited the reporter to remain in his basement office and peruse his personal diaries. Skinner assumed—falsely, he now feels—that the writer would ask his permission before printing any of the personal material. (In fact, an introspective passage was quoted in *Harper’s*.) Margaret Mead has been known, friends say, when a floundering young reporter is assigned to write about her, to write the story for him.

Most of the visible scientists are generous with their time, giving newsmen long interviews and copious material about themselves and their work—too much at times. Environment reporter Eliot Porter laments the existence of “excess response men,” scientists who deluge reporters with too much material, and pile on extra reading matter, as the reporter backs out the door.

Visible scientists are remarkably tolerant of the failings of the press—not blind to them, but not bothered. They give the press no prizes for accuracy, but they consider the overall quality of science reporting good. They have come to expect, and accept, inaccuracies in news stories. And they handle the problems with sophistication and perspective.

When visible scientists assign blame for science news problems, reporters usually get the benefit of the doubt. Headlines are a common complaint, and always with the recognition that they are not written by the reporters. Said Joshua Lederberg, “Sixty percent of the problems are the headlines, and what the scientist at large doesn’t know, what the public does not know, is that the guy who writes the headlines is not the guy who wrote the article, and he [the reporter] is just as furious as anybody else.” Visible scientists also recognize that the reporters’ stories are changed by editors above them.

More surprising, the visible scientists often blame themselves for stories which misrepresented and misquoted them. Understanding the reporter's problems, they feel it is up to themselves to be more careful—if a remark has been misinterpreted, they should have made their point more clearly. Margaret Mead explains, "I expect small inaccuracies. If there are major inaccuracies, I usually consider that I made a mistake." Citing an example, Mead described the background behind a recent flurry of stories in the press that she favored legalization of marijuana. During Senate testimony, she was asked if there was too much use of pharmaceuticals in this country: "I simply gave them a lecture on the whole attitude towards drugs in this country, and in a subclause I said that legalization of marijuana would help some but not much. That's all I said. But I did use the term 'legalization.' . . . I know enough never to say 'legalize' anything people disapprove of. You see, you don't say 'legalize'—in the United States that means sanctify. I've never made that mistake with abortion. I've always said, 'No, I don't believe in legalization of abortion; I believe in repealing the laws against abortion and returning it to the church and medical profession.' I made a technical error. Now, I think I'd have been bitter at the press at that point, if I hadn't made an error myself."

Careful Contacts with the Press

Even when the error is clearly the fault of the press, Margaret Mead says, "I don't get mad at them. Most people get mad for ridiculous reasons." Instead, she tries to be careful, and discriminating, in her contacts with the press. "Most people don't pay enough attention. They are busy doing other things." She recalls a time when she refused to finish a radio interview for one of the major networks because she found out the session was being taped while she was questioned by one interviewer, then was going to be edited and fitted to questions interposed later by a national commentator, Bob Conidine. Afterwards, one of the men who had been operating the recording equipment shook her hand and congratulated her for her decision. Others, she found out, did go ahead with interviews and were shocked to find that what they said was "chopped up in little pieces."

Mead also knows, in the reverse situation, why, when she wants to get something in the press, it may not appear. At the time of the furor about her remarks on marijuana, she taped a television response which was never used because of a plethora of other stories breaking that weekend. "I know how journalism works. I know if you die at nine o'clock in the evening you will never have an obituary in *The New York Times*. No matter who you are, virtually. You

might rate the front page; not an ordinary obituary."

Not all the visible scientists have the sophistication of Margaret Mead in their dealings with the press, but, like her, they learn from their mistakes. B. F. Skinner recalls that the first time he was ever on a television talk show, "something came up and I raised the question—which had bothered me—a question raised in the first place by Montaigne. He asked, 'Would you, if you had to choose, burn your children or your books?' Montaigne said he would burn his children. I had talked with both my children, saying, 'I would burn you, too; I'd burn myself. I believe that my contribution to the future through my genes is not as great as my contribution through my work. And I just want you to know that's the way I feel. Fortunately, I don't have to do this.' Well, I brought this up on the show, and you can imagine the reaction!" Although Skinner still feels his answer was correct, and he has explained the issue to his two grown daughters, he has learned to avoid such inflammatory statements in the media.

Talk shows are trying experiences, even for visible scientists. Typically, visible scientists have appeared on talk shows—"Today," Johnny Carson's "Tonight" show, William Buckley's "Firing Line," and others. And the scientists have not been impressed. The talk show host does not do his homework, they say. Instead, he gets off the subject, and centers attention on his own antics. Barry Commoner recalls one who confused him with Paul Ehrlich and asked about his vasectomy. You learn, Jane Goodall says, to brush aside a stupid question, and with a "that reminds me" proceed to say what you wanted to say.

The highly visible scientists tolerate the inconvenience and close calls largely out of a sense that television is a very powerful and important medium. According to Margaret Mead, "Television is the best medium. It is not a good medium for a long substantive communication, but the more you are on television, the more others pay attention, read your books, come to your lectures . . . There is nothing like it, because television appears to be extremely frustrating—Americans want to be in the same room with people and they don't feel that television puts them in the same room . . . So if they have seen you on television, they read your book or they go to a lecture—they drive fifty miles to sit in the back of a hall with two thousand people, because they have seen somebody on television . . ."

"There are fifty employees in this building," Mead added, concerning her apartment building on Central Park West, "and they change all the time. But when we moved in here, our first job was to get to know fifty employees—so I went on the Johnny Carson Show right away and then everybody knew me." □