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THE PUBLIC RELATIONS OF SCIENCE

In 1985 Kenneth Wilson, Nobel Prize winner in physics and an advocate of the development of supercomputers, helped to convince the National Science Foundation to provide \$200 million for the creation of major supercomputer centers in four universities. He attributes the success of this quest to the publicity generated by a newspaper article. The article, on international competition in high technology, had cited a scientist's statement to the effect that without a nationally funded program the United States would lose its lead in supercomputer technology. "The most amazing thing to me," said Wilson, "was how the media picked it up and [how] a

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little insignificant group of words could change everything." This group of words had worked by establishing a powerful image. Wilson thus learned a basic principle in public relations: "The substance of it all [supercomputer research] is too complicated to get across—it's the image that is important. The image of this computer program as the key to our technological leadership is what drives the interplay between people like ourselves and the media and forces a reaction from Congressmen."<sup>1</sup>

Other scientists and their institutions have come to similar conclusions. The result has been the gradual development of a veritable public relations industry devoted to promoting science for the press.

Traditionally working in a context where success is measured by the judgment of peers, scientists have long assumed that a record of accomplishment is sufficient to maintain research support.<sup>2</sup> Partly because of this assumption, information, the scientist's "stock-in-trade," has been directed primarily toward professional colleagues. Most scientists have not been interested in public visibility; on the contrary, they have feared it could result in external controls on their work. But attitudes in the scientific community are beginning to change. Increasingly dependent on corporate support of research or direct congressional appropriations, many scientists now believe that scholarly communication is no longer sufficient to maintain their enterprise. They see gaining national visibility through the mass media as crucial to securing the financial support required to run major research facilities and to assuring favorable public policies toward science and technology.

This is not an entirely new perception among scientists; public relations in science goes back to the nineteenth-century development of professional societies. However, the scale of public relations efforts and the range of activities employed to attract the press have vastly increased in recent years.

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## Promoting Scientific Institutions

In 1847 Joseph Henry, the physicist and first secretary of the Smithsonian Institution, spoke of the need for greater public representation of science: "In carrying out the spirit of the plan, namely that of perfecting men in general by the operation of the Institution, it is evident that the principal means of diffusing knowledge must be the press."<sup>3</sup> In the nineteenth century, scientists such as Louis Agassiz, T. H. Huxley, and John Tyndall actively publicized their own work by giving popular lectures and writing directly for the press. However, with the increase of private philanthropy and industrial support at the turn of the century, scientists returned to their laboratories; popularization declined, and indeed, began to appear unseemly as a professional activity.<sup>4</sup>

After World War I an expanding scientific enterprise needed greater public funding, and once again scientists sought ways to enhance their public image. Professional associations began to organize public relations departments. In 1919 the American Chemical Society became the first scientific association to organize a news service. It hired a professional science writer to translate technical reports for the public and to write descriptions of scientific research for the press. In the 1930s a number of other associations followed the ACS lead.

Recognizing the importance of the press in creating a favorable public image, leading scientists were willing and eager to collaborate with Scripps when he founded the Science Service in 1930 (see Chapter 6). That decade also brought systematic public relations efforts from the medical profession. In 1937 the American Medical Association tried to establish rapport with science writers in order to counter the growing appeal of quack medicine. It created a press relations office run by a journalist, Lawrence Salton. Also during the 1930s, the American Society for the Control of Can-

cer used the press to implement a nationwide campaign to encourage early detection of cancer.

Public relations activities by scientists increased again in the years immediately following World War II. In 1952 the American Cancer Society (ACS) began the first of a series of laboratory and hospital tours for journalists, a veritable cancer marathon, to interest them in the goals of the ACS. The tour program, which continued for seven years, included visits to the universities, hospitals, and medical centers participating in ACS-sponsored research. One group of reporters visited centers in 21 cities in 20 days. The schedule prompted a poetic response, "The Saga of the Sarcoma Special":

*We heard of work on mouse and frog and newt and  
toad and spider,  
And bee and fly and bird and chick and hen and Arthur  
Snider.  
We heard of cortisone and glands, ACTH, anemia,  
Pituitaries, ovaries, adrenals and leukemia,  
Metastases, removals, series blocks and ugly rumors,  
The breast, the pancreas, the rays that never cure the  
tumors,  
The palliative surgery which might destroy the bone,  
The seven danger signals which all seemed to be our  
own,  
And when we'd heard it all from radiation to mitosis,  
We stood at last as experts in one field:*

*Tuberculosis<sup>5</sup>*

As federal research funding expanded during the post-war period, interest among science institutions in popularization once again waned. But the 1957 Soviet launching of Sputnik brought renewed concern about the gulf between science and the public, and its implications for America's

leading role in international affairs. Harvard physicist George Kistiakowsky expressed what many scientists felt at that time: the need for "the skillful interpreter who can translate scientific results and findings into language that the average reader can understand and appreciate."<sup>6</sup> Scientists once again discovered that, as a public relations officer put it, "the surest way to capture a share of the funds was to do good research and, almost as important, to talk about it."

Scientists in the ensuing years supported the popularization of science out of ideological and cultural as well as economic concerns. In 1960 Jean Rostand, a French biologist and popular science writer, expressed a prevailing view: "The true and specific function of popularization is purely and simply to introduce the greatest number of people into the sovereign dignity of knowledge, to ensure that the great mass of people should receive something of that which is the glory of the human mind . . . to struggle against mental starvation and the resulting underdevelopment by providing every individual with a minimum ration of spiritual calories."<sup>7</sup>

Others, such as Jacob Bronowski, the British biologist and popularizer, talked of the need for a "democracy of the intellect." "We must not perish by the distance between people and power that destroyed Nineveh, and Alexandria, and Rome," Bronowski wrote. "The distance can be closed only if knowledge sits in the homes and heads of people and not up in the isolated seats of power."<sup>8</sup>

As the scientific and technical enterprise grew in complexity and importance, and the demands for research funds began to far outstrip the supply, scientists and research administrators increasingly emphasized the pragmatic goals of public communication about science. In 1971 a conference of biologists and health scientists, for example, concluded that the public must be given sufficient background material to understand the practical payoffs of seemingly irrelevant

basic research so that it would be more willing to provide research funds.<sup>10</sup>

Since the 1960s and 1970s professional societies, academic institutions, and research organizations have all increased their public relations activities in order to enhance institutional prestige, encourage public support of research, and influence public policy toward science and technology. For example, the American Institute of Physics (AIP), which was founded in 1935, expanded its publicity programs in the 1960s, running seminars for journalists and news conferences to summarize newsworthy developments in physics. The AIP now routinely issues press releases and provides instruction to physicists on how to deal with reporters. The National Academy of Sciences, whose press office in the past primarily explained and interpreted technical reports for interested journalists, has recently changed the style of its relations with the press. According to both staff members and journalists, the academy has in the 1980s assumed a far more active role, initiating press releases and seeking maximum press coverage for their reports. In effect, it regards the press as a way to shape public attitudes and to influence congressional decisions on the funding of science.

Government agencies involved in costly technological or scientific developments play the same game. NASA, for example, developed a highly sophisticated public relations apparatus to attract media attention and win popular support for its costly program. So successful was the effort that it completely diverted press attention away from issues of safety and administrative mismanagement. It took the Challenger accident to shift the focus to such issues—and to the effect of NASA's public relations: "Some agencies have a public affairs office; NASA is a public affairs office that has an agency."<sup>11</sup>

Some scientific journals also have come to see the advantage of media publicity. Advance copies of the *New England*

*Journal of Medicine and Science* are sent by first-class mail to journalists, who must respect the mandated release date before writing stories on the articles. These competitive journals want to maintain their image as the key sources of scientific information for the public, and they skillfully use the press to this end.

Individual scientists have tried to attract press attention for a variety of reasons—to influence public views, to attract funds or to establish their competitive position in “hot” fields of research. In 1977 DNA researchers initiated a remarkable media campaign to show that genetic engineering research was safe, that its critics were irresponsible, and that regulation was unnecessary. More recently, leading computer scientists have been making extravagant claims to attract public support. Edward Feigenbaum, a well-known artificial intelligence expert, writes that with the fifth generation of computers “revolution, transformation, and salvation are all to be carried out.”<sup>12</sup> Similarly, in his advocacy of the supercomputer, physicist Kenneth Wilson calls the new computer development “a second renaissance.”<sup>13</sup>

Although individual scientists sometimes promote their own work, more often they rely on their institutions to disseminate information to the press. Most major research universities employ public relations professionals (called news officers or public information officers) or outside media consultants to publicize the work of their science faculty and, thereby, to enhance the image of their institution. Good public relations is important to these institutions, which must attract good students and staff, obtain money for research, and maintain public legitimacy. Their public relations professionals may be experienced science writers themselves, but unlike reporters, they work for those they write about. Their job is to insure that the institution’s research is covered prominently, accurately, and favorably in the press. They make contact with journalists, set up press conferences,

and write press releases. They try to make research appear newsworthy and timely, and they work with scientists to prepare them for media appearances. University public relations activities also include the preparation of brochures and news magazines describing the scientific research on the campus. These are mailed to alumni, science writers, and others. Stanford University, for example, which has one of the most active public relations offices in the country, mails the *Stanford Observer*, a newspaper largely devoted to describing Stanford’s research, to 165,000 off-campus readers seven times a year.

Medical schools and hospitals also have extensive public relations activities directed toward influencing the media. They play to a receptive press eager to publish stories on artificial organ research, transplantation techniques, and reproductive technologies.<sup>14</sup> Favorable medical stories bring returns. When ten-month-old Jamie Fiske was admitted to the University of Minnesota Hospital to be considered for a liver transplant, no donor was in sight. Her parents went to the press with a dramatic plea. The case had all the elements of a good story: a personal tragedy, a family in despair, a father fighting bureaucratic obstacles to save his child, and the possibility of salvation through the wonders of medical science. The press responded, and news articles appeared throughout the country. They had an effect: a liver for Jamie Fiske, a letter from President Reagan, and money for both the family and research. Other transplant units enjoyed a remarkable increase in research funds as well as donated livers, including some offers from living people who, unfamiliar with anatomy, offered one of their own.<sup>15</sup>

At the Utah Medical Center, a team of public information officers worked with hundreds of journalists who were reporting on the first human implant of an artificial heart in 1982. The publicity paid off. The hospital received many donations of research funds, and Barney Clark’s family

received free housing and unsolicited gifts. Publicity had negative effects as well. Dr. DeVries, the surgeon who performed the transplant, received a series of bomb threats and a deluge of hate mail accusing him of interfering with God's will.

After Barney Clark died, the artificial heart team moved from the Utah Medical Center to Humana Hospital, a rapidly growing, for-profit medical care system which provided greater resources and fewer regulations. Humana promptly awarded a contract to a public relations firm to manage the media publicity and set up a media center staffed by seven professionals to handle press coverage of its first artificial heart experiment. The publicity surrounding Schroeder's artificial heart implantation in December 1984 cost Humana over \$250,000. Humana's staff passed around briefing books with exhaustive information on the personal as well as the technical aspects of the Schroeder case. They provided telephones, places to work, and even food. It was, in the words of one reporter, "like covering a football game where they hand out statistics at the end of every quarter."<sup>16</sup>

The effect was especially striking if compared to the dearth of information available to the reporters who had covered the Baby Fae experiment only several months earlier. The implantation of a baboon heart in an infant in the Seventh-Day Adventist hospital in Loma Linda, California, had received extensive but vague and uninformed media coverage. The physicians on the case had refused to meet with journalists, who were left alone to search for leads and to speculate on day-to-day details. Indeed, they attended Seventh-Day Adventist church services to get information on Baby Fae.

Humana Hospital gained remarkable media exposure from the artificial heart, publicity that has subsequently served its reputation and helped to fill beds. But there, too, medical personnel soon turned off the information spigot.

After the initial burst of publicity, hospital physicians began to talk of the "media onslaught," describing it as "intrusive," "invasive," and an "ordeal." As Schroeder's condition worsened, Humana's approach to the press, according to a *Courier Journal* reporter, turned from what he called "NASA style" promotional publicity to "Soviet style" silence, which in effect tucked the experiment under wraps.<sup>17</sup>

The public relations activities of universities, medical centers, and other science institutions can, of course, be a useful source of information for journalists. Presenting complex material in a manageable form, public relations officers serve as liaisons between scientists and journalists, easing the job of reporting science. But what journalists gain in efficiency they may lose in reliability. Public relations officers know how the press works, and they use this knowledge to promote the interests of the institutions that employ them. This is a continuing source of concern to conscientious members of the news media. As reporter Robert C. Cowen of the *Christian Science Monitor* puts it: "We can deal with the Union of Concerned Scientists on one side of an issue and, knowing that bias, can deal with its other side. But when the bastions of professional purity and objectivity begin to worry about budget, jobs, and image to the point of reducing themselves to song and dance, where can science writers turn for objective background on scientific developments?"<sup>18</sup>

Some editors feel that their newspapers are used as pawns for grantsmanship. "When government money was available easily," an editor claims, "you couldn't get a story out of a molecular biologist. Today, I get copies of grant applications in the mail with this thing, 'single cure for blank,' or whatever the hell it might be, circled in red, saying 'we need all the help we can get, fellers'."

Individual scientists seeking publicity can themselves foster misleading coverage of their work. As we saw, scientists investigating gender differences in mathematical ability

encouraged journalistic speculation on the possible implications of their findings for women's rights, sex roles, and job discrimination. Similarly, the scientists who were employed by and owned stock in biogenetic firms contributed significantly to the hype about the immediate benefits that would derive from interferon research.

Editors are especially concerned when the zeal of institutional or individual publicists results in the dissemination of misleading information. During the alarm over oil pollution in the Gulf of Mexico in August 1979, the news bureau of the University of Illinois told reporters that a professor had warned of a possible drought in the Midwest, based on a theory that the oil would cut off moisture from the gulf. The story, it turned out, was undocumented by meteorologists and simply reflected the promotional efforts of a university public information officer. Similarly, in April 1981 Harvard Medical School called a press conference to announce a new process transforming soft tissue cells in humans into bone. The press duly reported the process as a new discovery, only to find out later that the technique had in fact been developed through animal experimentation ten years before. The *New York Times* and the Associated Press then printed a correction of the story, announcing that it was, in fact, old news.<sup>19</sup>

In October 1984 public relations officers at the Dartmouth Medical Center held a press conference at which investigators announced the results of a preliminary feasibility trial of a therapy for Alzheimer's disease. The research was very preliminary, having been tried on only four patients, as was explained in a published technical paper. But the press release failed to mention the study's limitations, and the decision to hold a press conference turned the research into a media event. Not surprisingly, the press headlined the research as a "breakthrough," a "successful treatment," and a "possible cure," raising the hopes and expectations of readers. Twenty-six hundred people called the Dartmouth center to inquire about a cure.<sup>20</sup>

The quest for media visibility also prompted the University of Colorado press office to release a story about an archaeological expedition to an abandoned ancient city in Peru. The press release conveyed the impression that the expedition had found a "lost city," though in fact the ruins were listed in tour books, hardly lost except as a research site. Journalists featured the story as a discovery and only later realized their mistake.<sup>21</sup>

In these cases journalists, looking for a dramatic story and pressed for time, were inclined to believe their scientific sources and to rely on public relations professionals. But even when reporters suspect that publicity seeking lies behind dubious scientific claims, they may feel compelled to publish them. For example, all during the early fall of 1985 articles on the AIDS virus were appearing daily in the press, relating stories of awful illness and frustrating efforts by scientists in the United States and France to find cures. Then in November of that year a group of French scientists announced a "successful" trial of a drug that they claimed had reversed the course of the disease on several patients. Experienced science reporters were dubious. They knew that a trial on only a few patients was unlikely to be significant and that the time elapsed since the drug had been administered was too brief to mean very much. Moreover, in light of the intense international competition among AIDS researchers and the commercial potential of a new drug, they suspected the motivation of the announcement, which indeed was very premature. Some reporters preferred to ignore the story, but what were they to do? Given the public appetite for AIDS news, the preoccupation with the disease, and the competition in the news business, no scientific claims on this important subject could simply be ignored. Yet there was no way to check out the research. Reporters felt they had no choice but to report the information as provided by the researchers—and few had the confidence to report it with the skepticism it deserved.

## Scientists in Industrial Public Relations

Just as academic institutions sell the importance of their science to attract a favorable press, so many corporations use the prestige of science to enhance their goals. There is, of course, a long tradition of using scientific images in advertising to enhance public confidence in products. But today firms are also using scientists themselves in their public relations efforts.<sup>22</sup>

Industrial firms have tended to develop and expand their public relations departments in response to crises that affect their reputation. Their formal public relations efforts developed at the turn of the century, first as an adjunct to advertising and later as a means to influence public policies that might bear on government regulation. Du Pont, for example, first formed its public relations department in 1934 after a Senate investigation of the gunpowder industry created an image of the company as "a merchant of death." More recently, after the Three Mile Island accident, the utility that ran the plant, Metropolitan Edison, expanded its public relations staff in order to counter its negative image in the press. Since the saccharin dispute, the Calorie Control Council has spent about \$3 million a year on public relations for the artificial sweetener industry.

Industries engage scientists to provide technical information to the press, to enhance corporate credibility, and to legitimize company claims. Richard Tucker, a scientist and the president of Mobil Diversified Businesses, suggests why: "In an atmosphere like that of Times Beach or Love Canal or Three Mile Island, what has been generally missing is the voice of the calm, responsible scientist. To combat unreasonable fear, scientists must communicate more with the public and the media. . . . Public fear of chemistry is unlikely to be abated unless we try."<sup>23</sup>

One means of engaging scientists appears in a new kind of advertising published on the editorial pages of major

newspapers. Called "advertorials," these columns resemble news items or editorials more than ads in their format, and they deal with contemporary issues such as government regulation or environmental health and safety. The chemical industry, for example, advertises its competence and public concern by printing photographs of scientists or engineers (sometimes accompanied by their children). Some of the captions are as follows: "My job is managing chemical industry wastes. What I do helps make the environment safer today and for generations to come"; "As a chemical industry engineer, I work hard to keep my community's air clean. After all, my grandchildren breathe it too"; "Just like you I want clean air and water"; "We will engineer out risks, impose detection techniques, expand studies"; "We have a technical staff of 10,000 specialists whose job it is to protect the environment."

Other activities of scientists in industrial public relations are more geared to shaping the news, especially the coverage of disputes over health risks posed by nuclear power plants, toxic waste disposal, and other products of modern technology. For example, during the controversies over the safety of nuclear power plants in the 1960s and 1970s, the nuclear industry developed an elaborate public relations apparatus that engaged scientists both at the national level, to convince the public of the safety of nuclear power, and at the local level, to show that utilities are good neighbors. In 1965 Hal Stroube, the public relations officer of Pacific Gas and Electric, outlined his strategies to "enlighten" the press. It was first necessary to gain the confidence of reporters, he said. "No one thing is more important to us. . . . We spent countless hours with the editors, science writers, and newsmen on dailies and weeklies around our 94,000 square-mile system. . . . We answered their questions honestly and fully. . . . We won the respect of the newspeople on our system and with it we won entry to the minds of our public through the news media."<sup>24</sup> As part of his strategy to influ-

ence the press Stroube proposed that industry spokesmen eliminate images and language that might work against them. He recommended that the Atomic Energy Commission (AEC) cancel a study on reactor accidents that could be used by antinuclear activists and that firms do "some semantic soul searching" to eliminate objectionable language: "palatable synonyms for scare words such as 'hazard' or 'criticality'" would facilitate public understanding of nuclear energy.<sup>23</sup> Thus nuclear plant sites became "nuclear parks" and accidents became "normal aberrations."

In 1975 consultants for the electric power industry outlined a "nuclear acceptance campaign," a strategy to "use the right medium to communicate the right message to the right target audience." After proposing appropriate messages to be directed to women, young people, and lower-income groups, the consultants advised that scientists should be the medium: "The public has faith in science, believes scientists and would listen." The campaign should "put articulate scientists out front."<sup>24</sup>

Accordingly, Westinghouse developed its Campus America program, designed "to increase positive media coverage of nuclear power." The company sent its own engineers and scientists around the country to lecture and make themselves available for interviews with reporters. Public relations firms that specialized in running political campaigns trained the scientists for public debate and taught them how to approach the media. From 1976 to 1982 the Westinghouse scientists and engineers visited 22 states and 125 university campuses, made 300 public appearances, and helped 300 newspaper interviews.

The chemical industry uses similar strategies. Michael Tabris, the director of corporate communications for Occidental Chemicals, sees the industry as "under siege" from a medium that intends "to lay bare the supposed transgressions of the powerful against the powerless." Occidental's strategy was to provide "the facts that rebutted the errone-

ous stories that were gradually becoming a part of the Love Canal background."<sup>25</sup>

Like their counterparts in the electric power industry, executives and public relations officers in the chemical industry are preoccupied with language and image. Industrial spokesmen say that the press is disseminating material that is creating irrational fear, hysteria, "cancerphobia," and even "chemophobia." They seek to use the press to teach the public that chemicals are natural, benign, and essential to life. Richard Tucker of Mobil emphasizes increased efforts to reach the press: "We must get across to the public the value of chemicals in our lives. . . . Scientific organizations and chemical companies alike must renew their efforts to find audiences to hear their story."<sup>26</sup>

In 1975 Dow Chemical established a "visible scientist program," sending scientists from the company on media tours to influence public opinion. Its goal in creating such a program was to affect the public response to the Toxic Substances Control Bill, then under congressional consideration. Later, when the press began to cover the link between cancer and some synthetic chemicals, the program was expanded. Each year Dow scientists ("credible scientists, not corporate spokesmen," according to company brochures) talk to civic groups and reporters around the country. Participating scientists have included toxicologists, biochemists, and environmental researchers. A public relations firm trains them in communications skills and on ways to project a rational, nonemotional image. The scientists travel to areas where chemical issues are of special public concern (for example, near major chemical plants or toxic waste sites). They convey the message that chemicals are necessary and that Dow is a leader in safety. In 1982 alone, 16 scientists visited 26 "media markets," held 24 newspaper interviews, and appeared on 62 television and 76 radio shows, reaching an estimated 9 million people with one or another variant of this message.<sup>27</sup> Often their arguments are reported as facts.

A New York City public relations firm, Hill and Knowlton, also runs a visible scientist program for corporate clients, arranging meetings between corporate scientists and the "right" editors. It has established an Industrial and Scientific Communications Service (ISCS), which publishes a monthly newsletter circulated to 2500 trade editors and science writers. Hill and Knowlton also prepares statements on controversial products for its clients. It orchestrated the Calorie Control Council's public relations campaign in opposition to the proposed saccharin ban. It was engaged by Metropolitan Edison after the Three Mile Island accident in order to increase its press credibility and by Ayerst Laboratories to offset the negative publicity about risks of estrogen replacement therapy.

Public relations efforts are also evident in the proliferation of conferences on science, technology, and the media, or on technological risks and the media. These conferences, often sponsored jointly by corporations and universities, bring journalists together with representatives of industry, government, and the scientific community. Their ostensible goal, as stated in the brochure of one such conference (convened to discuss the reporting of technical information on toxic substances), is "to provide a forum for open discussion of the various problems encountered by the media in obtaining and communicating accurate, well-balanced information on toxic substances to the general public. . . ." Industrial scientists and public relations officers, however, are the dominant voices at these meetings; seldom are neighborhood activists, union representatives, or other critics to be heard. Systematically focusing on the "problems" of the press in communicating technical information, these discussions are often simply a thinly veiled effort to create a science-based consensus that is compatible with the industrial agenda. By organizing the meetings, the sponsoring universities lend their credibility to promotional efforts.

Public relations officers have clearly observed that scientists have greater credibility than corporate clients. Thus, several public relations firms have advised corporations to develop "parachute teams" or "truth squads" of scientists, ready to move into risk situations in order to defuse the opposition by presenting technical "facts."<sup>30</sup>

The use of science in public relations is not limited to industrial interests. Environmental and science advocacy groups also use public relations techniques, engaging scientists to enhance their credibility and to legitimate their point of view. Members of the Union of Concerned Scientists tried to keep in touch regularly with reporters during the debate over nuclear power in the 1970s, for example. Individuals such as physical chemist John Gofman and physician Helen Caldicott used their credentials to win credibility for the antinuclear movement. Caldicott created a style attractive to the press by publicizing herself as both "scientist and mother." Antinuclear scientists worked with folk singers and rock artists to attract the media. Their books bore such colorful titles as *Poisoned Power* and *Nuclear Madness*. They drew Nobel laureates into the debate to publicize their position. In effect, they, too, saw the press as a means by which to create public attitudes sympathetic to their point of view while neutralizing the opposition.

Science is also a marketing resource. Corporations often try to sell their products directly through the press by publicizing new therapies as newsworthy scientific discoveries or significant medical advances. The publicity about estrogen replacement therapy, described in Chapter 3, was but one of many examples. In 1978 Merck sponsored a press conference on an arthritis therapy; this therapy was then hailed in the press as a "major medical advance," though it was primarily an effort to sell a product.<sup>31</sup>

Lilly's arthritis drug, Oralflex, was also marketed through science-based public relations directed at the press. In 1982

the firm's public relations office sent out 6500 press kits, promoting this new drug by making scientific claims of its effectiveness in relieving arthritis. Lilly also dispatched scientists around the country to contact smaller newspapers. Some experienced science reporters refused to cover the story, suspecting that Lilly's claims were exaggerated. However, the product was covered as science news by 150 newspapers and television stations. Prescriptions for Oraflex increased from 2000 to 55,000 a week. When a report showed its harmful side effects, the Food and Drug Administration (FDA) intervened and, after only twelve weeks, Oraflex was withdrawn from the market.

In 1986 the FDA again intervened to ask a drug firm to recall its press release on a drug called Virazole. The press release claimed that the drug's effectiveness in combating numerous diseases had been demonstrated by worldwide clinical research. Defining such publicity as an extension of drug labeling, the FDA accused the company of exaggerating its effectiveness and misrepresenting the safety profile of the drug in its communication to the press and thereby to the public.

Individuals also use their scientific credentials to market products. Several physicians have used science marketing techniques to promote the use of cortisol antagonists in the treatment of anorexia. This controversial therapy, designed to reduce the level of the hormone cortisol in the brain, was based on a study of 33 patients. Rather than submitting their work to a scientific journal, the physicians announced the findings at a press conference organized by a public relations firm and at a television talk show. "One can't afford to take the time it takes through the medical journals," said one of the doctors. The rush, according to an article in *Forbes*, was related to their effort to market a proprietary line of nutritional products and to expand a private anorexia clinic.<sup>22</sup>

In June 1984 David McCarron, a scientist with the Oregon Hypertension Program, reported in *Science* on research

indicating that lower levels of calcium in the diet are sometimes associated with high blood pressure or hypertension and that calcium supplementation beneficially reduced blood pressure. McCarron's research, which is partly supported by the National Dairy Council (a trade research group for the dairy industry), is controversial and a subject of debate in the scientific literature. Other studies of the relationship between diet and hypertension point to the side effects of calcium supplements and argue that the data is too limited to warrant dietary recommendations. Yet on the recommendation of the Dairy Council, McCarron hired two public relations firms to promote the *Science* article in the press.<sup>23</sup>

The boundaries between promotional news and commercial advertising are further blurred when prominent scientists engage directly in commercial promotion. In 1976 Bloomingdale's advertised an "antiaging" cream developed by the heart surgeon Dr. Christiaan Barnard with "a team of Swiss cell biologists." In the ad Barnard writes about his clinical experience with process of aging. "Unlike a defect in the heart, the manifestation of aging is readily apparent to everyone. . . . This has led my colleagues and I to identify a substance much more abundant in younger skin than in older skin. . . . The patented ingredients," he claims, represent an important "scientific breakthrough."

Public relations professionals see themselves as "an important arm of the media," a means to save editors hours of work tracking down the news.<sup>24</sup> Their professional society defines its principles as follows: "In serving the interests of clients and employers, we dedicate ourselves to the goals of better communication, understanding, and cooperation among the diverse individual groups and institutions of society."<sup>25</sup>

True, in the area of science, public relations officers do contribute in important ways to informing the public about products, ideas, and services. They often serve as "marriage brokers," bringing together scientists and science writers,

teaching each group how to approach the other.<sup>36</sup> However, they also have to make their clients look good. Thus, many reporters see public relations less as a source of information than as "a means to promote, protect, and enhance the image of an institution, company, or product."<sup>37</sup>

From the earliest days of public relations, journalists have regarded such efforts as a means to subordinate journalism to private interests. In 1919 Frank Cobb of the *New York World* complained that direct channels of news were increasingly closed as information was filtered through publicity agents: "The great corporations have them, the banks have them, all the organizations of business and of social and political activity have them."<sup>38</sup> It was the influence of public relations on the news that prompted Upton Sinclair, in 1919, to define journalism as "a business in the practice of presenting the news of the day in the interest of economic privilege."<sup>39</sup>

Today, with stepped-up public relations pressure from science as well as business, journalists' negative attitudes have extended to this field as well. Science journalists complain of the endless stream of public relations professionals: "I get calls from Doctor Knowledge, the world's leading authority on X disease or Y technology who is also president of Z society." They refer to "pesky PR types" or "the flacks" who follow press releases with endless phone calls. "Any story that you might want to plant with me will, upon receipt of the phone call, have as much chance of making the pages of the *L. A. Times* as a run over dog."<sup>40</sup> One reporter describes the "law of public relations lunches: The quality of news you get is inversely proportional to the quality of the lunch."

Resentment of public relations is evident in the National Association of Science Writers (NASW), the professional society of science journalists. Reflecting the employment realities in the field, a growing percentage of NASW members are public relations writers working in universities or industrial firms. Though many are ex-science reporters and

still freelance for science magazines, they are only allowed to be "associate members," unable to hold office or vote. Not surprisingly, they resent their "second-class citizenship" and joke about the "caste system" and "separate toilets." But debates about their status in the profession persist, as reporters continue to suspect their obligations to promote the views of their clients.

Journalists' suspicion of public relations is by no means limited to the information coming from industry: "They're all grinding the same axe, from breakthrough university to wonder pharmaceuticals to the National Institute of Nearly Cured Diseases." However, reporters still tend to trust scientists as sources, contrasting them to politicians: "When you talk to a scientist, you're talking to a fellow who is usually going to give you straight facts. His word is his bond. . . . When you talk to a politician, he is not worried about accuracy or truth; he usually reacts verbally and will say anything that comes to mind. He'll stretch the truth." Or, "We would rather talk to scientists than to politicians because we know that they are getting at the truth." The fact that journalists resent manipulation by public relations officers and overeager scientists does not diminish their influence—especially when sensitivity to manipulation is dulled by the prevailing faith in science as the ultimate, authoritative source of objective information. What is more difficult for journalists to accept is the reticence of scientists and their frequent efforts to avoid reporters. For a part of public relations is an increasing effort to withhold sensitive information or otherwise exercise communication controls over the news conveyed to the public.