Cancer, Research, and Educational Film at Midcentury

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PART 1

SPONSORING
The Americans

The NCI’s decision to commission Challenge: Science Against Cancer was the brainchild of Dallas Johnson (1912–2013), the first director of the institute’s Cancer Reports Section, recently created to help the agency deal with growing public and press interest after World War II, and to fulfill a mandate to promote public education about cancer. Johnson had not begun her appointment at the NCI thinking of funding a film, and she adopted the idea only after being approached by a young novelist, Bernard V. Dryer (1918–95), who in July 1948 showed her a Canadian screenplay for a film about cancer research. Almost immediately she saw this as an opportunity to address one of the major problems facing the NCI in the 1940s: the shortfall in recruits to cancer research, which threatened to derail plans to expand research during this period. Johnson had earlier been tasked with developing educational materials that might tempt high school and college students to think of cancer research as a career. At first she had been unsure of a strategy to achieve this goal. The meeting with Dryer prompted her to think of using film to anchor a multimedia recruitment and education campaign.

Johnson had been hired in 1947 by Leonard Scheele (NCI director, 1947–48) as an information or public affairs specialist, and eventually as director of the Cancer Reports Section, the first office in the NCI to specialize in targeting a general audience, which would later become its Office of Communications and Public Liaison. The NCI had found itself overwhelmed: juggling countless requests for information from members of Congress, physicians, and the general public, as well as its existing efforts to produce public educational materials and to cultivate public support for the growth of federal support for cancer research after the war. By 1947, it was clear to the institute’s administrators that they needed someone with special expertise in reaching a general, nonspecialist audience, but there was no one on staff who could do this. As a former journalist, writer, and educator, Johnson seemed to fit the bill, and she began her tenure seeking to address the flood of requests for information coming into the NCI
and to develop public education materials which the NCI sorely lacked. However, a short while after her appointment she was given another task: not only to manage public interest in cancer but also to recruit scientists into the field. The beginning of cancer communications at the NCI was thus entwined in postwar efforts to fulfill a long-standing mandate to promote public education about cancer, to manage growing public interest in cancer after the war, and to expand federally supported cancer research.

The dramatic expansion of cancer research after the Second World War has been well documented, especially the roles played by some of those promoting these changes, notably the philanthropist Mary Lasker, but also some leading politicians, scientists, and administrators in various private and governmental agencies. Yet there is remarkably little on the problems of recruitment that threatened the expansion, nor on the role of information officers in the broader efforts to transform this situation. As this chapter will document, Johnson’s endeavors were part of a larger public relations effort to make cancer research a more attractive field to potential recruits by generating public support for expansion, justifying changes in the programs to facilitate it, and by tempting scientists away from more prestigious fields of research such as atomic physics or better-paid positions in industry, which drained the pool of available talent. As such, when Johnson was asked to figure out how to attract young scientists into cancer research, she and her newly minted section were thrust into the heart of efforts to solve one of the key problems facing the NCI in the 1940s. Her decision to make a film the center of her efforts meant that Challenge would be a key part of the NCI’s recruitment campaign.

Dallas Johnson and the Cancer Reports Section

Leonard Scheele’s decision to appoint Dallas Johnson to head the NCI’s public information efforts came of a certain frustration. The deluge of public and media interest in cancer, and biomedical research more generally, left the institute struggling to keep its head above water and raised concerns that that the growing public visibility of research would generate unrealistic expectations of a cure. As Scheele put it: “Many people still refer to the speed with which we solved the problem of the atom bomb and wonder why, with vast spending of money, we cannot speed up research and solve the cancer problem on a similar fast time schedule.”

In Scheele’s view, however, the “miracle” of the bomb was not a good model for cancer. He argued that where the bomb had relied on advances in
developmental and applied science, advances in cancer would rely on basic research, which did not offer a solution in the short term. It could take many years, if not decades. So Scheele began to look for ways of calming such hopes, informing the public that the results of cancer research for patients were likely to come only in the long term, highlighting what was already known, and what, in the interim, could be done to combat this group of diseases. Johnson had the energy and background to take on the task.

Scheele wanted someone with experience of the media and education, and—like many information officers of the time in industry, government, and private campaigns such as the American Cancer Society—Johnson checked both boxes. Her interest in journalism dated back to her education at Los Angeles Junior College and Occidental College, where the then Helen Dallas had been inspired by the charismatic president of Occidental, Remsen D. Bird (1888–1971), who persuaded her to edit Occidental’s 1933 yearbook, La Encina. After college, Dallas (and after she married, Johnson) worked for the San Francisco Examiner; as a correspondent for the New York Times; an editor for the Institute for Consumer Education at Stephens College, Columbia, Missouri; a college educator and schoolteacher; and a writer of several educational

**Figure 1.1.** Helen Dallas/Dallas Johnson, right. Helen Dallas changed her name in the 1940s to Dallas Johnson, the result of a short marriage, with Dallas often substituting for Helen as her first name. Courtesy of Occidental College Special Collections and College Archives, La Encina 1933, p. 40.
The deluge of reporting on cancer, however, never seemed to stop, and despite all her energy and experience, Johnson alone was unable to keep up. Within a year her remit had expanded, and she now headed a small team in the new Cancer Reports Section.

The precise date of the creation of the section is unknown. The institute had no unit devoted to cancer education or information activities in 1946–7, which
tended to be spread across the various parts of the NCI prior to Johnson’s appointment. The first mention of the section is in 1948 under Scheele’s successor as NCI director, John Heller, apparently a stand-alone section at first (figure 1.2), and then incorporated into a larger organizational unit called Technical Services, a staff office set up in the Office of the Director, NCI, in 1949. Technical services included three sections: biometrics (which undertook biometrical and statistical activities concerned with cancer control and research); documentation (acquiring, abstracting, and classifying scientific literature on cancer diagnosis and related areas, especially cancer test information); and information (Johnson’s Cancer Reports Section, concerned mainly with public and professional education and outreach). In the official jargon, the Reports Section “collected, interpreted, prepared and disseminated” information on both the cancer problem and the activities of the NCI to the public and professional groups concerned with cancer. It served as the NCI’s liaison office with other organizations, helped to foster better understanding of NCI activities, and collaborated with the NCI’s cancer control program to promote efforts to control this group of diseases.

**NCI and the ACS**

One of the first tasks facing Johnson, as head of the Cancer Reports Section, was to address the matter of the NCI’s dependence on the American Cancer Society’s (ACS) educational materials and to reinvigorate collaboration between the two agencies. The issue went back to the NCI’s creation under the 1937 Cancer Act, which had authorized the institute to cooperate with state health agencies in the prevention, control, and eradication of cancer, a mandate it interpreted to include efforts to educate the public about the disease. The NCI had no educational materials of its own in 1937, so it worked out an arrangement whereby the American Society for the Control of Cancer (ASCC, which became the ACS in 1944) allowed it to mimeograph its pamphlets, meaning that the NCI was almost entirely dependent on the ASCC for educational materials in its early years. In time this would change, and the two organizations began to collaborate to organize public education programs and to publish education pamphlets and posters together, using the former’s unrivaled network of regional and state organizations, often working in collaboration with local and state public health authorities.

It was in this context that the NCI had first became involved in film. The ASCC saw the NCI’s interest in collaboration as an opportunity to relaunch efforts at producing educational films, which had stalled during the Depression. It had limited funds for this purpose, and hoped that collaboration with the NCI
would allow it to produce motion pictures that it could not afford to produce independently, which could be used as part of broader public education efforts. During the early 1940s, the two organizations collaborated on two films aimed at persuading people to seek early detection and treatment of cancer. *Choose to Live* (1940) was a melodrama aimed at women, and *Enemy X* (1942) was in part a detective story, a film within the film, aimed at men. But the cinematic collaboration between the NCI and the ASCC was short-lived. While the two organizations continued to work closely in cancer education, after *Enemy X* no joint NCI/ACS public education films were produced until 1950, when a new coproduction, *Breast Self-Examination*, was released.

The end of film collaboration was hastened by changes in the ASCC. In 1944, the old ASCC leadership was ousted by a small group of influential businessmen and advertisers, who took over the organization and renamed it the American Cancer Society (ACS). Much more willing than their forebears to spend money to raise money, the new leaders had little patience for what they saw as a tightfisted old guard and introduced business models of fund-raising and education that involved substantial outlays of resources. The result was that funding increased dramatically for the new organization, its educational programs expanded significantly, and expensive communication technologies such as the movie became feasible: indeed, they became a key to cancer education programs and to efforts to generate political and financial support. Such financial independence allowed the new organization to distance itself from its former reliance on the NCI in the film component of its educational program, and the NCI, without a partner, abandoned filmmaking, releasing no new public education films before 1950. By contrast ACS film production soared. Its new film unit was headed from 1947 to 1951 by Adelaide Brewster, the original Betty Crocker, who oversaw an expanded film production schedule and the hiring of commercial film companies such as United Productions of America (UPA), John Sutherland, and Wexler Films to make its movies.

Thus, by the time that the Cancer Reports Section was created, the film component of the educational programs of the NCI and the ACS had diverged, even as the NCI and the ACS continued to use each other’s other educational materials. Johnson’s appointment did little to change things at first. She seems to have taken little interest in reviving collaboration over film but wanted to reinforce the other forms of collaboration between the two organizations, and to give more of an NCI imprint to the educational materials they both used. Her fear was that, without such collaboration, the messages of the NCI and the ACS might diverge, and that the existence of two cancer organizations with
different messages about cancer would confuse the public, undermine NCI efforts to cultivate public support for increased federal funding for cancer, and harm public education. Scheele and Heller may not have needed much convincing, for the ACS was an ally in advocating for more federal funding for the NCI, and the NCI’s cancer control program was already coordinating with the ACS. On her appointment, Johnson reinforced these efforts, beginning a series of co-publications with the ACS—pamphlets, leaflets, and books.¹³

Johnson’s approach to educating people about cancer drew on her experience of consumer education, familiar from her time at the Institute for Consumer Education, and with the Public Affairs Committee. Johnson’s publications on consumer education in the 1930s had portrayed systematic knowledge—clearly laid out for a public audience—as a basis of social action, and a means of overcoming the confusion of messages put out by interested groups on all sides of the consumer debate. Some of her publications edged toward a participatory imperative in which knowledge provided a basis for consumer protest, activism, and lobbying.¹⁴ Others edged toward a technocratic imperative that asserted the leadership of consumer experts: the mass of consumers were seen as relatively passive, in need of expert leadership, and reliant on consumer organizations to critique business practices and to highlight cost-effective, quality goods and services.¹⁵ Her public education work for the NCI tended to echo the latter approach: it urged the public to beware of quacks, and to actively inspect their bodies, but to trust physicians as the only experts who could identify the disease and treat it. Such knowledge claims provided a basis for asserting the leadership of physicians and scientists. The public, from this perspective, was largely ignorant of the disease and what could be done about it, and ignorant in that it often put trust in inexpert physicians, quacks, and purveyors of patent medicines. Ideally, from the NCI’s perspective, the public should be active only insofar as it followed the recommendations of recognized physicians and the cancer agencies. It needed leadership, guidance from such physicians and agencies.

But Scheele and later Heller did not simply want Johnson to focus on cancer control. They wanted her to figure out ways of tempting high school and college students to think of cancer research as a career. Johnson herself saw this as an opportunity to demonstrate the value of her Cancer Reports Section to the research side of NCI, which was growing as never before, and eclipsing cancer control within the institute. She had a good relationship with the head of cancer control, Austin V. Deibert (figure 1.3 left), but she struggled to find acceptance among some on the research side, the phrase I will use to refer to both the Research Branch and the Research Grants Branch (see figure 1.1).¹⁶ If her Reports
Recruitment

Recruitment problems were not new to the late 1940s. Indeed, they had been a major reason for the creation of the NCI in 1937. In arguing for the establishment of such an institute, cancer researchers characterized the field as one of immense technical difficulty combined with poor funding for research, and poor pay for cancer researchers—a young cancer researcher with two to five years’ experience in 1937 could expect to earn the wage of a carpenter (US$1,500 to US$1,800 a year).17 No wonder, they complained, that it was very difficult to attract people into the field when a man [sic] could make a name for himself much more easily in other scientific fields, and when pay was better in industry. For some practitioners, the hopelessness of the field reinforced the bonds between this self-styled beleaguered group: “There has been,” one claimed,18 “a singular friendship among cancer investigators owing to the quality of the research and the hopelessness of getting quick results.” But others took a more pessimistic
view of the situation, such as the unnamed distinguished researcher who allegedly “tacked over his laboratory door the warning that Dante found at the gate of Hell: ‘Abandon hope, all ye who enter here.’”

The problem of recruitment dogged the NCI throughout the 1940s and may have worsened. Scheele lamented that “Potential scientists carried arms in World War II instead of being trained as research workers and thus a generation of scientists was lost.” In addition, the rapidly increasing need for scientists and engineers to fight the World War and then to drive the Cold War arms race produced what contemporaries called a “scientist gap” in the 1940s and 1950s; a “gap” stretched further by the low birth rates of the 1930s Depression era. The NCI found itself competing for recruits from a dwindling pool, and just at the time that funding for cancer research was beginning to explode, with a consequent increase in demand for new young blood. Repeatedly, cancer researchers complained that young students were often more tempted by the better prospects of work in industry. As one commentator noted, medical researchers were the “poorest paid professionals.” “Small wonder,” he noted in evidence to Congress in 1946, “some of them do desert to industrial posts where the pay is far better.”

Dallas Johnson echoed the point about industrial competition the following year. But she also highlighted a new threat to cancer research from the growing popularity of (especially atomic) physics as a career choice, then also attracting substantial federal and private support. The notion that physics was attracting more than its fair share of recruits was not new. During the hearings that led up to the creation of the NCI in 1937 the Memorial Hospital physicist Gioacchino Failla noted that in general “students who have an analytic turn of mind, choose for their careers physics or mathematics, but not medicine or allied sciences.” In his view, physics in particular had an appeal that biology or medicine could not match: “The spectacular advances made, for instance, in physics in the last 40 years have served to attract men with these qualifications to this field.” Johnson expanded on this argument in the 1940s. In her view the extraordinary triumph of the atomic bomb and the promise that atomic research held for the future made physics an even more attractive field. “The climate of opinion,” she noted later, “warmed by the atom, was drawing the best students into the physical sciences; the physical problems of man were being neglected.” Her job, as she saw it, was to develop a program of materials that would help to turn this around and prompt students to think of cancer research as a career.

The need to do something about poor recruitment was particularly acute at the time of Johnson’s appointment. The 1944 Public Health Act had removed
a US$700,000 cap on the annual appropriations of the NCI, and its budget expanded dramatically. The US$2,500,000 allotment for grants for cancer research projects in fiscal year (FY) 1948 virtually doubled the total amount the Institute had had available for such grants in the preceding ten-year period 1937–47. Officials noted that this would permit support to cancer research in outside institutions on a much more extensive scale than had ever been possible before. Scheele looked optimistically toward an “increase in our research scientist pool, because there are now enough students in our colleges and universities to double our present pool within the next decade.” But the NCI also worried that the expansion of research would exacerbate the recruitment situation. They needed qualified people available to apply for the money.

In their efforts to attract qualified people, the NCI not only allocated more money to research, but also changed the ways it could be used. Until 1948, grants had been made only for specific projects that had to be outlined in some detail as to material, time, personnel, and funds. Scheele described this as a hand-to-mouth annual existence, and he urged reform. He wanted to provide surplus funds over and above immediate needs that could be banked against the future to ensure continuity in projects. He similarly advocated for the creation of block or institutional financing, which would allow institutions to select their research problems without interference from the groups providing the funds.

Scheele had trained as a cancer fellow at Memorial Hospital from 1937 to 1939 and had had worked at NCI from 1939 to 1942 before leaving to serve in the European theater during World War II. He returned to the NCI and was appointed assistant director to Roscoe Spencer. The year he would spend in this post, before he succeeded Spencer as director of the NCI in 1947, would largely be devoted to coming up with new ideas for the reorganization and expansion of the Institute, including its grants program.

Under Scheele’s direction a new grants policy emerged that aimed to give research institutions greater freedom to determine their own activities and would allow scientists greater leeway in following research leads. Scheele intended such changes to permit the coordination of many different phases of cancer research in a single institution and make the field more enticing for qualified researchers. NCI researchers and administrators complained that one of the most serious deterrents to cancer research had been the lack of assured long-range support for projects, and they hoped Scheele’s reforms would create a future in which grants could be given to research groups for at least two years ahead.

In addition, they also pointed to a new feature of the grant-in-aid program under Scheele, which was to give funds for the acquisition of land and the
construction of laboratories and clinical research facilities. The hope was that it would lead to the development of a small number of large cancer research centers in various parts of the United States, and that increased assistance could be given to support research beds and more clinical research in hospitals. All these developments would need staffing, and while officials hoped that brand new facilities would attract the right sort of people, they were not convinced that growth was sustainable given current recruitment patterns. As a 1949 report put it: “The current unprecedented expansion of research facilities, by both public and private institutions, has created a widening gap between the number of qualified workers needed to staff them and the supply.”

To help solve this problem the NCI expanded an existing program of research fellowships established in 1938 which made advanced training possible for qualified young men and women wishing to devote themselves to a career in science and needing financial assistance. With the enlarged appropriation for 1947–48 the program was stepped up. The fellowship program in 1938 had had twenty fellows, and fifty had passed through its programs by 1947. By 1948 there were more than 100 active fellows, and the NCI also sought to improve recruitment among women, traditionally better represented in medical and biological research than in the competing fields, especially physics. Nevertheless, officials continued to worry about the long-term future, and it was for this reason that Scheele, and later Heller, turned to Johnson for help. Her efforts to recruit budding scientists into cancer research was thus part of a broader reform of cancer research at the NCI, and it took her in a new direction—targeting students and young adults.

Children and young adults

In targeting children and young adults, Johnson at first turned for inspiration to cancer educational programs that began in the 1930s, mixing efforts to teach students the biology of cancer with efforts to persuade them to recruit their parents as patients into programs of early detection and treatment. Among the first was one established by the Westchester Cancer Committee (founded c.1929), a component of the ASCC based in New York state, which came to be both a model of cancer educational efforts aimed at children, and a lesson in the problems of establishing such programs. In the view of the committee, children were a key to the future of cancer control because they were unlikely to share the prejudices of their parents about the disease—they did not generally regard it as incurable, nor did they exhibit the excessive fears of the disease and
its treatment of their elders. Their minds were ripe for molding, impressed with positive messages about cancer.

Thus in 1936, it began working with school superintendents and science teachers to develop ways of teaching children about the biology of the disease, and four years later, in 1940, the committee published *Youth Looks at Cancer* for use in biology classes. It turned out, however, that educating students involved much more than handing out booklets. The problem was that many high school teachers did not feel qualified to teach the text *Youth Looks at Cancer*. So the committee arranged for physicians to talk to classes about cancer, and for a biology teacher from Memorial Hospital to offer school educators a short course of four lectures followed by a tour of Memorial Hospital. Fifty-six teachers accepted the invitation to attend the course in its first year. Learning from such programs nine years later, Johnson began planning to recruit science teachers by commissioning a guide to help teachers make use of *Challenge* in the classroom.

Two years after publishing *Youth Looks at Cancer*, in 1942 the Westchester Cancer Committee expanded its efforts, broadening the focus of its campaign from educating children about the biology of cancer to recruiting them into programs of cancer control with the publication of a booklet, *Detectives Wanted!*

“CALLING ALL BOYS AND GIRLS,” the booklet began, the FBI (“the Family Bureau of Investigation”), wanted children to be “G-men” to fight “Cancer the Gangster, one of the worst diseases in the world.” They were to learn the “CLUES FOR CANCER THE GANGSTER,” to remind family members to be on guard for any of the clues (“grown-ups are careless about its earliest signs”), to urge immediate examination by a doctor if they spotted any of the clues, and to root out and punish the gangster by surgery, x-rays or radium.

“Remember! Cancer the Gangster may be at work in your home! Be on guard!”

The booklet was published in early 1942 and by November more than 50,000 copies of *Detectives Wanted!* had been sent to schools, doctors, health officers, and others, part of a broader campaign in which over 100,000 pieces of other literature had been mailed to doctors and to the public. And it also served as a complement to *Youth Looks at Cancer*, the latter teaching students about the biology of cancer, the other seeking to encourage them to persuade their parents to seek help. By October 1943, every high school and college in Westchester County had been supplied with copies of both booklets. In 1946, local papers noted great things about the campaign: “Results show that the subject of cancer is losing its stigma, and that children are urging their parents to attend cancer clinics. They ask intelligent questions, they write essays on the disease, and they are learning that, caught in time, it is curable.”
Whatever the truth of such claims about the impact of the campaign, the ASCC/ACS (and by extension the NCI, still depended on the society for much of its educational material) continued to mix an approach that targeted children both as students of biology and as recruiters of parents. *Youth Looks at Cancer* was never out of print in the 1940s and 1950s, new editions were printed periodically, and copies circulated in schools across the United States. *Detectives Wanted!* was also widely distributed outside of Westchester County, and the two pamphlets came to form part of a broader effort by the ACS and NCI to get cancer teaching into schools.47

As part of these efforts, the ACS commissioned a film eventually called *From One Cell*, which, together with *Challenge*, was the first educational film about cancer aimed at school and college biology classes. In fourteen minutes, the movie traced the complex subjects of embryonic, regenerative, and degenerative cell behavior; and introduced the topic of the abnormal growth of cancer in part to clarify concepts of normal growth and in part to provoke interest in the as-yet unanswered questions of abnormal cell behavior. A pamphlet, *Teaching about Cancer: Thoughts for School Administrators* was mailed to 25,000 principals and 7,500 administrators of secondary schools.48 “Students of biology are the doctors and research scientists of tomorrow,” the ACS noted two years later,49 “The Society’s film *From One Cell* seeks to rouse their interest in cancer as a still unsolved biological and medical problem, as well as to teach facts about the disease.” The ACS had begun to see film as a way of recruiting students into cancer research, at just about the time that Dallas Johnson also turned to film.50

What strategy?

Yet, when Scheele and Heller had asked Johnson to develop educational tools to recruit scientists into cancer research she had not immediately thought of film. It was clear to her that this task would require a different approach to that which she had already adopted for cancer control, itself borrowing from her earlier work in consumer education. Whereas public education efforts tended to encourage people to follow the advice of their physicians and to seek early detection and treatment, recruitment efforts meant persuading students to become involved in a different sort of activism, by becoming scientists themselves, and creating the knowledge upon which future medical practice would be based. The general public might have to follow the advice of physicians, but physicians, it was suggested, would in the future be guided by the scientists Johnson recruited, at least after suitable training.
A further problem concerned the place of cancer within the classroom. The NCI was already aware that some high school and college students undertook special projects on cancer, but recruitment efforts would, Johnson felt, require something much more than the occasional school or college project. So Johnson was faced with relying, once again, on the ACS’s *Youth Looks at Cancer*, still in print and by far the best short introduction to the subject for the audience, along with the few biology textbooks that incorporated extensive discussions of cancer. Given her desire to cooperate with the ACS, it seems likely that Johnson would have considered this possibility of relying on ACS publications, and she was also aware of moves to develop the ACS film that would become *From One Cell*. But she was also struggling to establish her new section within the NCI, to make it relevant to the research side of NCI, and to insert an NCI perspective into educational materials. Reliance on the ACS was not the best way to achieve these ends.

A more general problem concerned the changing aim of high school science education. Prior to the 1940s, the principal aim of high school science education was to show that science had something of value to offer students and the general public: its content or method provided tools that could be used in a variety of situations, often outside of institutional science. This began to change with the growth of federal investment in scientific research and development during and after the war. Increasingly, a goal of sustaining the professional science community itself came to displace a goal of meeting the needs of the general public. Put another way, the goals of science education changed from improving the lives of students and citizens, to ensuring the success of the scientific enterprise itself. Such changes were a mixed blessing for Johnson, however. On the one hand, they provided an opportunity to turn science education to the benefit of the NCI, ensuring that it helped to draw young people into cancer research and biology. On the other, these changes also meant that the NCI found itself in competition with other areas of science for new recruits.

Johnson was thinking through all these issues in the first year or so of her appointment at the NCI, but there is little evidence that she had come up with a strategy to deal with them. It was at this point that in July 1948, she learned from Dryer that the Canadians were independently planning a film on cancer. Dryer had recently met with the National Film Board of Canada (NFB) in New York, where he had been given the script of a cancer movie which the NFB had in the works. The NFB was looking for a partner in making the film, and Dryer was enthusiastic enough to pass the script on to Johnson, who loved it and began to discuss the possibility of cooperation with the Canadians and how the script
might be adapted to the needs of the NCI. At last, Johnson had a project that would allow her to pursue her ambitions for the Cancer Reports Section, to place it at the heart of efforts to expand cancer research in the United States and indeed internationally, to put an NCI mark on cancer educational materials if the ACS decided to join in, and go on independently if the ACS decided not to come along.

Cooperation promised the possibility of pooling resources to make a movie more ambitious than the NCI alone could undertake. The Canadian funding was already in place, and an international coproduction had the advantage of giving the project a visibility that one financed solely by the NCI or with another American organization would not. It also had the advantage of allowing the NCI to draw on the resources of the National Film Board of Canada, which had developed a reputation as an innovative documentary filmmaker on a range of social and scientific issues. Canadian reports noted that the US authorities specifically requested that the film be produced in Canada, because Canadian health education films—notably the Mental Mechanisms series sponsored by the Department of National Health and Welfare—had already made a strong impression in the United States. American reports are unfortunately less revealing about their dependence on the Canadians. Johnson later recalled that they were cheap.

The Medical Film Institute

The Canadians might have been cheap, but Johnson’s budget was small, and her Cancer Reports Section did not have enough to fund the NCI part of the collaboration. Johnson therefore tried to get the NFB to apply for a grant from the NCI, but the application came in too late, and some members of the National Advisory Cancer Council (NACC), the NCI’s advisory body, doubted that a film could do the job of reaching potential research workers. There were also concerns that a film on research might exacerbate the problem of unrealistic expectations, and undermine interest in cancer control; Johnson wanted to demonstrate her relevance to cancer research, but not to burn her boats with cancer control. There was also the problem that because the NCI was a US government agency, bringing in the Canadians could mean a lot of bureaucratic red tape, and Johnson feared the involvement of the State Department. Her solution was to do an end-run around the State Department by persuading a US organization, the Medical Film Institute (MFI) of the Association of American Medical Colleges (AAMC) to apply to the NCI for a grant to make the movie,
and for the MFI to make the arrangements with the Canadians.\textsuperscript{60} The solution had the benefit for Johnson of financing the movie from the better-endowed NCI Cancer Control Branch under Deibert, rather than Johnson’s depleted funds—the Cancer Reports Section was not authorized to issue grants—so also keeping an alliance with cancer control even as she reached out to the research side of NCI. It also had the advantage, Johnson believed, of allowing the AAMC to involve the Canadians without the fuss of the State Department. As will be discussed in later chapters, the NFB had acquired a reputation as a subversive agency among conservatives in the US and Canada, tainted with rumors of Communist infiltration, and staffed by people who espoused progressive causes. The State Department, she feared, could have created all sorts of problems for this collaboration.

Johnson’s approach was a timely one from the point of the view of the AAMC. Movies had become increasingly important to medical education in the 1940s, notably after the federal government had produced medical and health education films during the war. The problem was that these movies were of variable quality, and there seemed to be little agreement as to what constituted a good educational film.\textsuperscript{61} Thus in 1947 the AAMC established a Committee on Audiovisual Aids,\textsuperscript{62} and in 1949 a Medical Film Institute (MFI), under David S. Ruhe (1913–2005) (figure 1.3 right). A United States Public Health Service (PHS) officer on a five-year leave from the service and a graduate of the Temple University School of Medicine in 1941, Ruhe had begun his medical career during World War II as a malaria researcher with the PHS before joining the MFI.\textsuperscript{63} The MFI aimed to help in planning films, to create and foster high standards in film production regarding scientific content, educational value, and cinematic qualities. It did not generally make films but reviewed them for quality and effectiveness and acted as a consultative body during their production.\textsuperscript{64} This last function was largely the role it undertook with \textit{Challenge}, though unlike most of its other movies, \textit{Challenge} was not a medical training movie, but one aimed at recruiting people to science.

The MFI thus emerged as much more than a convenient channel by which Dallas Johnson could direct money to the Canadians. It also provided a means of ensuring scientific oversight of the film. It helped in the appointment of the medical filmmaker and illustrator Vito F. Bazilauskas as a special consultant on the animation sections of the movie (Bazilauskas advised the animators on the scientific accuracy of their representations of the body and proposed a technical solution to the animator’s problem of showing environmental threats to the cell). Bernard Dryer advised on the script and when the shooting was
completed helped in the revisions to the narration. Both men—together with David Ruhe—were present at the showing of the rough cut and provided advice on how the final cut should be edited. Ruhe also worked closely with the NFB, acting at times as a second producer, monitoring costs, advising on location, helping with contacts with relevant scientists, and overseeing the animation. Yet their oversight was rarely seen as unwarranted. In interview, the film’s director, Morten Parker, noted the light hand of the MFI: it understood the process of filmmaking, where to advise, and where to draw back.65

This last point highlights another role of the MFI. It not only provided advice to the movie makers on the scientific aspects of the movie, but also mediated between the movie makers and the cancer researchers. Many cancer researchers had strong feelings on what should be represented in the movie, but little understanding of filmmaking or public education according to the filmmakers and information specialists.66 Such ignorance, however, did not stop some from telling the NFB how to do its job. For the NFB this was a one-off film, an important one, but nevertheless a one-off, and it may have been tempted to ignore some of these concerns, especially since—as will be discussed in chapter 5—the producer of the film feared the interference of sponsors too often led to bad films. But Johnson was in a different position, and if the filmmakers ignored the advice of powerful scientists within the NCI, it could undermine her work as an NCI information specialist. Hence the importance of the MFI as a mediator. As physicians and scientists, they had the ear of the scientists at NCI; as film experts they had the ear of the NFB.

But in 1948/9, this mediating role was still in the future. The first thing was to formalize an agreement to make the movie. In February/March 1949 a memorandum of agreement was drawn up between the NCI, the MFI, the National Film Board, and the Canadian Department of National Health and Welfare in which the NCI and the Canadian Department each agreed to contribute $20,000 for the Film Board to produce the movie. The NCI’s $20,000 was in the form of a grant to the MFI which would be the responsible American agent in the production.67