

XXIV

The National Medical Audiovisual Center

THE NATIONAL MEDICAL MOTION PICTURE ARCHIVES

THE National Medical Audiovisual Center was a child of World War II. During the conflict the Public Health Service set up in Atlanta, Georgia, an organization called the Office of Malaria Control in War Areas, whose task was to suppress malaria around military bases and war industry plants.¹ The office grew, became very good at its job, and was given responsibility for controlling other diseases. To reflect the increased responsibility the Public Health Service changed the office's name to Communicable Disease Center, and later to Center for Disease Control.

At the beginning, the Office of Malaria Control had to train the men it hired, all unfamiliar with the methods of suppressing the disease. It acquired a cameraman-director to make instructional films showing the techniques of larviciding, ditchdigging, dynamiting, and other control measures. This means of teaching proved so useful that the organization hired additional motion picture makers. Eventually the small film company evolved into a Medical Audiovisual Branch, producing filmstrips, videotapes, and other audiovisual materials for the entire Public Health Service.²

It was through motion pictures that the Library first became associated with the center. At least as early as 1944 the Library considered collecting medical motion pictures, but the institution was being modernized, and there were other tasks much more important to be carried out. The idea of a movie collection arose occasionally thereafter, but no action was taken until 1953 when Director Rogers initiated a survey of the subject. He discovered that no organization in the United States collected old medical motion pictures. The earliest films had already disappeared, either thrown away or disintegrated, and those produced within the last generation or two would eventually be lost if they were not harvested and preserved.

The Library did not have equipment, space, and employees for proper maintenance and operation of a movie collection; nevertheless Rogers thought it was important to begin acquiring films for the experience to be gained thereby. He laid down the following policies. The Library would act as a central repository for documentary medical movies, but it would not produce, distrib-

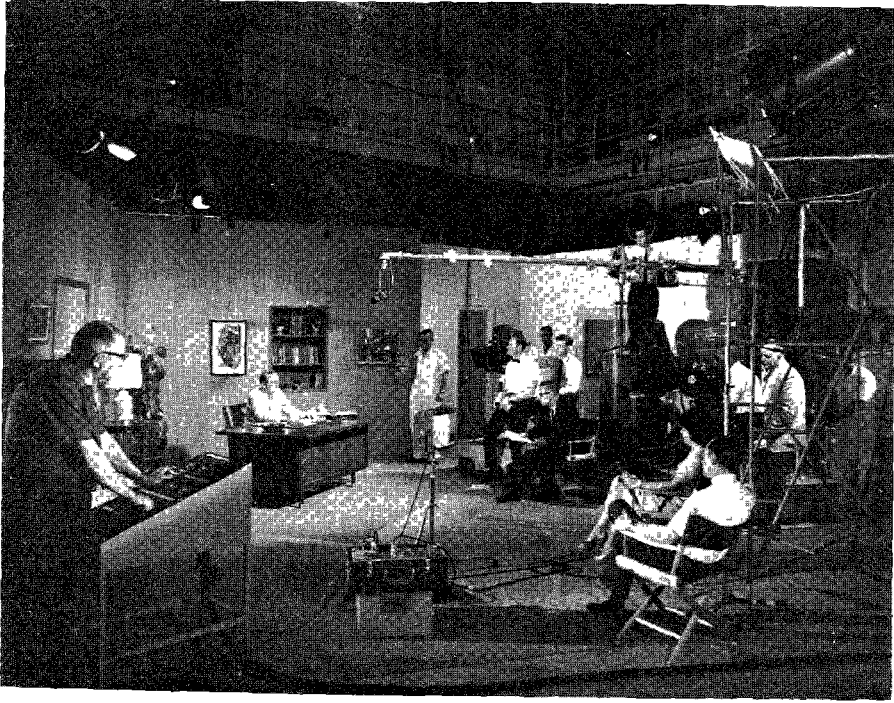
ute, or evaluate them. Films would be available to individuals who came to the Library, but the Library would not act as a theater, showing movies to groups of persons. Reference service would be provided. Films would not circulate.

Rogers appointed Muriel Weins film curator. He also appointed an advisory committee for the first year of operation. The Library circularized its intention of establishing a movie archives, and gifts of film began to arrive from medical organizations, pharmaceutical firms, government agencies, film producers and distributors, and individuals. One hundred and twenty-one reels were acquired in 1954 and 311 in 1955. During the first 5 years of collecting NLM purchased only two films, one on Harvey's discovery of circulation of blood, the other on cardiac surgery. By 1961 there were more than 600 items in the collection, now named the National Medical Motion Picture Archives, and there were promises of many others.

During these years NLM found out that it had greatly underestimated the resources needed to maintain a film collection. Old movies had been made on nitrate base film that deteriorated with age and could ignite spontaneously. NLM had no place to store dangerous film and had to borrow space in the Library of Congress' film vault at Suitland, Maryland. For the proper operation of the archive special equipment was needed for editing, cleaning, splicing, and rewinding film, for transferring 35 mm to 16 mm film, and for transferring images from nitrate to safe acetate base film. NLM did not have funds for the equipment and to hire personnel.

Rogers sensed a growing interest in the application of audiovisual materials to medicine, but he did not want the Library to be drawn into this field willy-nilly. He felt that the institution had its hands full with the development of MEDLARS, the move to the new building, the advent of an extramural program, and in trying to control published literature. During the summer of 1961 he visited the Public Health Service's Communicable Disease Center and reached an agreement with the Director to transfer NLM's films to the CDC's Audiovisual Branch, soon renamed the National Medical Audiovisual Facility. The collection of 665 films was sent south in January 1962.

The Library and movie archives remained apart for several years, then began to come together. The reunion started in 1966 when a House subcommittee examined the organizational structure of the Public Health Service. James Lieberman, Director of NMAF, desired to transfer his agency to some other part of the PHS, where it could obtain a larger appropriation and broaden the scope of its program. A subcommittee staff member asked Director Cummings if it would be logical to place the facility in the Library. After several conferences it was agreed that the work of the organization could dovetail with the programs being carried on in Bethesda. As a result the Secretary of DHEW ordered the transfer to take place on July 1, 1967, and changed the name to National Medical Audiovisual Center.



The NMAC motion picture staff shooting a training film.

THE NATIONAL MEDICAL AUDIOVISUAL CENTER

At the time of its transfer to the Library,³ the center included the largest medical motion picture studio in the United States, a completely equipped television production center, a studio for the production of graphic and photographic art useful in medical teaching and communication, a repository for still pictures, and an international center for distribution of motion pictures and other audiovisuals. It was staffed by approximately 130 persons and had operating funds of more than \$2 million.⁴ About half of NMAC's funds were channeled into the production of motion pictures, television programs, and other audiovisuals. Some of these were made for such government agencies as the Communicable Disease Center, National Center for Air Pollution Control, National Institute of Neurological Diseases and Blindness, and National Center for Urban and Industrial Health, which used them for education and dissemination of information. Some were made to be sold or loaned to schools of medicine, dentistry, osteopathy, podiatry, veterinary medicine, pharmacy, nursing, and to hospitals for use in teaching. A large proportion were on subjects of everyday health, such as the importance of brushing teeth, and were aimed at the general public and high school audiences.



An NMAC television workshop in which students were instructed in the art of designing audiovisual products.

About one-fifth of NMAC's resources were spent acquiring, distributing, and cataloging audiovisuals, and providing reference service. The center maintained the International Index of Medical Film Data, the centralized source information bank on audiovisuals in the field. This index contained information on more than 26,000 citations and was growing by several thousand each year. The center published the *National Medical Audiovisual Center Catalog* and catalogs in special fields as heart disease, cancer, and stroke. It loaned more than 73,000 audiovisuals in 1967, and this number increased annually. It maintained a still picture collection of more than 100,000 items: in 1967 more than 8,400 searches were made in this collection for patrons. NMAC continued to acquire old movies for the National Archives of Medical Motion Pictures: in 1967 the Archive contained 1,500 films.

Approximately 6 percent of NMAC's funds were devoted to studies of and development of the application of audiovisuals to education. The center provided instruction for a group of students enrolled in a graduate program in biomedical communication offered by Tulane University in association with other colleges. The staff gave advice on the effective use of audiovisuals to U.S. and foreign hospitals, health organizations, and schools of medicine, dentistry,

THE NATIONAL MEDICAL AUDIOVISUAL CENTER

veterinary medicine, and nursing. Members of the staff lectured at meetings, seminars, and symposiums. The center conducted workshops and conferences in Atlanta and elsewhere to encourage medical organizations and schools to produce and use audiovisuals. Staff members visited schools that asked for advice on the design of classrooms in which audiovisuals were to be employed. They prepared conceptual designs of classrooms and audiovisual departments for institutes intending to construct such facilities.

NMAC also carried on special programs, the most important of which was the community medical television system, CMTS. This was a prototype closed circuit system for the Atlanta area, developed by the center in cooperation with a dozen hospitals. Live and taped programs were televised, and several grand rounds and conferences were presented weekly.

REDIRECTING NMAC TO THE GOALS OF THE LIBRARY

Shortly after NMAC became a part of the Library, Director Cummings sent a small task force of consultants and staff members to Atlanta to examine the operations of NMAC in detail and advise him how they could be coordinated with those of NLM. Believing that the operations of NMAC should be directed mainly toward the support of education in the health sciences, Cummings appointed an advisory group of educators to help develop plans. At his request the chairman of the Board of Regents appointed a subcommittee to give advice on policies, programs, and priorities. The Regents also authorized the establishment of a committee to provide NMAC with technical advice. To this committee Cummings appointed experts from various fields, among them Margaret Bourke-White, noted photographer, and Gerald G. Graham of the Canadian National Film Board.

Following the recommendations of the committees, Cummings drew up certain guidelines for the audiovisual center: all programs should be directed toward professional health education, including continuing education; emphasis should be given to the acquisition, cataloging, and distribution of audiovisuals; production should be deemphasized; NMAC indexing and cataloging should be coordinated with that of NLM; fundamental research and development would be the responsibility of the Lister Hill Center, research in the application of audiovisuals would be the proper area for NMAC. And since the community medical television system was now fully developed, it should no longer be financed by NMAC but transferred to a local medical group as soon as possible (Emory University Medical School volunteered to become the operator of the system).

The audiovisual center was slow in realigning itself as instructed by Cummings' guidelines. By 1969 the Board of Regents subcommittee had become concerned, particularly about the continued high level of production of films, filmstrips, and videotapes. Furthermore funds were not sufficient to maintain high production and also handle the increasing number of loans, up from 2,404 in 1948 to more than 100,000 in 1969. Following recommendations of the Board,

A HISTORY OF THE NATIONAL LIBRARY OF MEDICINE

Cummings ordered a drastic reorganization, shifting emphasis from the production of audiovisuals toward acquisition, distribution, training, consultation, research, and development. Reorientation was practically complete by mid-1970 and the center was headed in the direction desired by the Director and Board of Regents.

Finding it difficult to coordinate the activities of two organizations more than 600 miles apart, Cummings considered moving NMAC to Bethesda. But this would have caused hardship for many families of employees, forcing them to leave their homes in Atlanta and find new homes in the Washington area. He compromised by postponing the move until the anticipated Lister Hill building would be constructed adjacent to the Library. This delay of several years duration (funds had not yet been appropriated for the building) gave employees ample time to seek positions elsewhere in Atlanta if they wished to do so, and it gave the Georgia Congressional delegation time to attempt to delay or rescind the move.

THE LEARNING RESOURCES PROGRAM

In May 1971 Cummings arranged a joint venture with Kenneth M. Endicott, director of NIH's Bureau of Health Resources Administration, to form the Office of Audiovisual Educational Development, later renamed the Learning Resources Program. To the partnership the Bureau contributed funds and experience while NMAC contributed facilities and the services and expertise of its staff. Working together the two partners were able to accomplish much more than each could have done singly. Within a year the collaboration had proceeded to the point where almost half of NMAC's capabilities were directed toward Learning Resources Program projects.

The learning resources projects were conceived by schools or organizations, not by NMAC or the Office of Audiovisual Educational Development. NMAC and OAED financed the projects through contracts and, upon request, gave advice. Priorities for projects were set by an NMAC-OAED priority review committee. Among the contractors was the New York University School of Medicine, which developed instructional materials for an interdisciplinary curriculum in forensic pathology; the Pacific Medical Center School of Medical Science, which developed self-instructional materials for an undergraduate medical curriculum in ophthalmology, and the Tissue Culture Association, which developed basic curriculum definition and prototype instructional materials in cell biology.

NMAC ACTIVITIES AND PRODUCTS

The National Medical Audiovisual Center alone and in cooperation with the Learning Resources Program undertook many projects, but despite their diversity these fell into several general areas: clearinghouse, evaluation, distribution, media development, advisory service, workshops and seminars, and applied research.

Audiovisuals being available through many outlets, NMAC set up a clearinghouse of information and of products. Under sponsorship of the Library, the Association of American Medical Colleges collected data on approximately 6,000 audiovisual educational materials, chiefly motion pictures currently in use and available nationally. Likewise, the American Association of Dental Schools provided data on about 1,500 items.

The evaluation of these audiovisuals was important in directing teachers and students toward the best. Even though produced with good intentions, not all audiovisuals possessed high instructional value. The quality of movies and other AV's made by medical schools, hospitals, medical organizations, government agencies and commercial firms ranged from excellent to poor. Just as critics evaluate plays, novels, television programs, concerts, and other artistic products for general audiences, so did NMAC scientific referees evaluate audiovisuals for their specialized audiences. The technical quality and instructional design of audiovisuals were evaluated by the NMAC staff. Under the leadership of Harold Schoolman, the content was evaluated by panels of experts from various health professions provided by national organizations and schools. In 1973 NLM contracted with the Association of American Medical Colleges and American Association of Dental Colleges to choose the hundreds of reviewers, organize them into panels, and oversee the evaluation process.

While the clearinghouse and evaluation activities were going on, NMAC published a list of the materials. Led by Schoolman, the Library's staff began to prepare a system named AVLINE, from audiovisuals on-line, for storage and retrieval of the information. Thousands of motion pictures, videotapes, and slide/sound sets were evaluated. Hundreds were approved for inclusion in AVLINE and were cataloged, indexed, and entered into the computer. The Library also set up a computerized file named AVPROC, for audiovisuals in process, containing thousands of titles waiting for review.

A 4-month test of AVLINE began on May 1, 1975, with a limited data base of 260 citations in the neurosciences. Each item had been assessed for technical quality, validity of content, and instructional design, and was available nationally. Thirty-one institutions made demand searches during the test period. Several months later several hundred titles were made available to teachers, students, and physicians, and thereafter between 100 and 200 titles were added to AVLINE each month.

In addition to providing information through its clearinghouse, NMAC became a national distribution center. Each year it produced movies and other audiovisuals for sale or loan to medical schools, libraries, and organizations. Learning through its evaluation and clearinghouse activities of the existence of high quality audiovisuals that were not widely distributed, NMAC acquired the items and made copies available. Audiovisuals produced or acquired by NMAC were distributed in three ways: movies were loaned for short periods; videotapes were duplicated free for users, the user providing blank tape; slide sets, filmstrips, instructional packages, and many movies were sold at low cost.

During fiscal year 1976 the center received approximately 60,000 requests, almost all for motion pictures, and loaned about 53,000 items.

NMAC also became an advisor to those who wished to produce or utilize audiovisuals. Schools knew the value of teaching aids but seldom had experience in designing facilities wherein students could study audiovisuals or faculty members could make them. In 1971 the center installed a demonstration area in which there were different types of carrels, student learning stations, and recommended audiovisual systems. By examining and trying the different facilities visitors could decide what equipment, furniture, and work areas could be afforded by or was best suited for their institutions. During the decade after NMAC became a part of the Library, hundreds of representatives of American and foreign institutions came to Atlanta to inspect the demonstration area and to consult with staff members. Representatives of NMAC visited hundreds of schools, hospitals, and organizations to give advice on the design and operation of audiovisual systems, to assess facilities and recommend improvements, and to help plan and produce programs.

The center presented many workshops and conferences in Atlanta and other cities each year. Hundreds of teachers and librarians attended to learn how to manage audiovisual collections, to design learning spaces for users, to produce audiovisuals, and to become familiar with other facets of the subject. In 1970 the center began to sponsor an annual Conference of Directors of Biomedical Communications, attended by scores of persons.

The center developed and encouraged the development of instructional audiovisuals for use in health fields. Some of the work was carried out in-house, some was done in collaboration with schools and organizations, but most was done by schools and organizations under contract. NMAC learned by experience and advocated the value of teams in designing and developing items, each team consisting of a subject matter specialist, an education specialist, and an audiovisual specialist.

The center rounded out its activities by undertaking research into educational methodology as it applied to audiovisual media. The staff undertook a number of projects, among them comparisons of various methods of instruction, experiments with different formats of visual abstracts of audiovisual materials, studies of learning styles and methods for accommodating these styles to students, the development of learning packages based on problems, and a study of instruction management procedures and associated cost factors.

During the first decade that NMAC was associated with the Library audiovisuals had an increasing influence in making health sciences education more responsive to the needs of students and practitioners. It was too early to judge the changes that would take place when the use of audiovisuals would become routine, but indications were that education would become more of an individual experience, that students would have greater flexibility scheduling their

THE NATIONAL MEDICAL AUDIOVISUAL CENTER

studies, and would learn at their own pace and in their own manner. The textbook and lecture, the monograph and journal, used by students and practitioners during the first century and a half of the Library's existence was slowly being joined by new educational media.

Notes

¹ A history of the early years of the Communicable Disease Center may be found in: Mary H. McClanahan, *The Origin and Administrative Development of the Office of Malaria Control in War Areas*, Masters thesis, Emory Univ., 1958.

² Information on NMAC may be found in publications by staff members, *NLM News*, annual reports of the Library, fact sheets, records of the Board of Regents and Board of Regents Subcommittee on NMAC. Information was also obtained from Martin Cummings, Charles Bridgman, Charles Herbert, Harold Schoolman, and Robert Sumpter.

⁴ The amount of obligations and number of employees were:

³ Directors of NMAC were: James Lieberman, July 1967–June 1970; Jerome Barnett (Acting Director), June 1970–October 1970; Charles Bridgman, November 1970–September 1973; George Mitchell, September 1973–September 1977; Myron Adams, October 1977–February 1979; Charles Farmer, March 1979–February 1980; William Cooper (Acting Director), March 1980–October 1980; James Woods, November 1980–.

Fiscal Year	1968	'69	'70	'71	'72	'73	'74	'75	'76
Obligations millions	2.255	2.350	2.320	2.295	3.235	3.453	4.518	4.049	3.567
Personnel June 30	127	122	109	105	105	103	100	101	101

Source: Annual reports of the Library.