

in the canal to block the transit of as many species from the colder salt oceans as possible. But the canal commission was not persuaded that such a barrier is necessary. It simply said that if "future research" indicates the need for a biotic barrier (in addition to the tidal gates which will be installed to control currents), then "it would be possible to install a temperature or salinity barrier." However, the commission did not include plans for such a barrier in its designs indeed, it noted that the cost of a thermal barrier would be "high" and that the supply of fresh water available for a freshwater barrier is "limited." About the only point on which the commission and the Academy group seem firmly agreed is that an agency should be designated to support and coordinate research that could shed light on the potential environmental effects of a sea-level canal. Mayr professed himself "delighted" that the commission has recommended such a research effort.

Why were the Academy group's views largely ignored by the commission? Mayr and some other members of the Academy committee complain that the commission and its staff were more concerned about the economics of world shipping and about military defense than about possible ecological hazards—a charge which certainly seems to be true based on emphases given in the commission's report. But if the Academy group is right in asserting that the proposed canal could cause major damage, then the Academy itself

must bear part of the responsibility for failing to make its voice heard.

Like all too many Academy committees, this one seems to have been given an overly restricted role. The canal commission report states that Battelle was asked to make "a study" of potential ecological effects whereas the Academy was merely asked "to recommend a program of long-term studies to be undertaken if the decision is made to build a sea-level canal." Mayr insists that his committee and the Battelle group did essentially the same thing, yet the fact that Battelle was the organization officially designated to do the "study" enabled the commission to emphasize Battelle's upbeat report while minimizing the Academy group's warnings.

The Academy study was further restricted in that it did not grapple with the question of whether a canal *should* be built, but only with the question of *how* it should be built. As the Academy report states in its preface: "Evaluation of the need for a canal and the wisdom of constructing it were explicitly excluded from the committee's task—deliberations were carried on under the assumption that a canal would be built." Asked why the Academy group had made that assumption, Mayr said the canal commission had, in effect, told the group: "Look here boys. That canal is going to be built no matter what you say." Consequently, Mayr said, "We decided the best thing to do was to make the canal as harmless as possible."

A further factor that limited the Academy group's effectiveness was its failure to speak out clearly. The Academy report does not use very forceful language in describing the potential hazards of a new canal. ("Scientists don't like to make loud statements—they like to understate things," Mayr says.) Moreover, the Academy group was unable to proclaim its apprehensions at the time the canal commission's cover report was made public last November. Neither Mayr nor the Academy itself would release copies of the Academy report until they had been officially published by the canal commission, and that did not happen until weeks later—long after public and press interest had dissipated.

No one can seriously contend that a group of scientists, who are by no means expert on the economic and military issues involved, should make final judgments as to whether a canal should be built. But the scientists are in a particularly good position to make judgments as to the ecological costs involved and to insist that these costs be considered before deciding whether to go ahead with a canal. As it now stands, the canal commission does not seem to have given much weight to the possible ecological costs, and its failure to do so must be blamed not only on the commission, but also on the Academy, which allowed itself to be mouse-trapped into a restricted role in which its voice was inevitably muted.

—PHILIP M. BOFFEY

Boston Hospital Dispute: Harvard Rectifies "Expansionist" Policies

Boston. When radical Harvard students occupied University Hall in April 1969, they demanded, among other things, that Harvard stop its "expansionist" policies. Specifically, the students protested the planned construction of the Affiliated Hospitals Center, a project to provide new facilities for three hospitals associated with Harvard Medical School; this project would have involved Harvard's evicting 180

families from their homes in Boston's Roxbury district.

As a sequel to the rhetoric of the April demonstrations, three Harvard students practiced a tactic often discussed, but rarely used, by student radicals: they organized the residents of the Roxbury community into a coherent political group. Since then, both Harvard and the Affiliated Hospitals Center have been forced to dis-

cuss their plans for the area with the community's residents. And, although all of their differences are not yet resolved, it appears that the hospital construction and Harvard's plans for relocation housing will satisfy the demands of the community.

Unlike most medical schools, the Harvard Medical School relies solely on independent hospitals for its teaching facilities. In the early 1960's five of the hospitals affiliated with Harvard began to draw up plans for construction of a new teaching facility, envisaged as a complex of the separate hospitals connected to a core of common facilities. Eventually the group, incorporated in 1967 as Affiliated Hospitals Center, Inc., was narrowed to three hospitals: Peter Bent Brigham, Boston Hospital for Women, and Robert B. Brigham—all three of them



Mission Hill-Parker Hill section of Boston's Roxbury District. At left is the Harvard-owned neighborhood threatened with demolition to make way for the new Affiliated Hospitals Center. Also shown are the buildings of Peter Bent Brigham Hospital and Harvard Medical School.

housed in aging buildings in Roxbury. Since the hospitals lacked sufficient capital to buy land for their new buildings, Harvard began to acquire all the property that became available in a five-square-block area adjacent to the present site of Peter Bent Brigham Hospital. The university planned to lease or sell the land to the new Affiliated Hospitals Center.

This arrangement of Harvard's purchasing and managing property for development by a private corporation left many areas of responsibility unclear and added a large measure of confusion when the project eventually encountered trouble. Although Harvard owned all the homes in the area by 1964, Affiliated Hospitals lacked a specific plan for development of the property. Almost from its inception, Affiliated Hospitals Center, Inc., had been beset with internal difficulties, with each of the three independent hospitals and their staffs zealously looking after their own rights. As a result, specific construction plans were put off again and again.

Largely because it thought the houses could be demolished at any time, Harvard was a poor landlord. The homes were not maintained, they were rented preferentially to transients, and some were left vacant in a state of decay. What had been a solid neighborhood of predominantly Irish working people quickly became a slum.

Demonstrations in Cambridge in the summer of 1968 had focused on the issue of "Harvard as a slum landlord" because of Harvard's large land holdings in the Cambridge-Boston area. It

was not until the sit-in and student strike of April 1969, however, that Harvard changed its policies in the Mission Hill-Parker Hill area.

"Before April 1969, the people in the area were furious at Harvard, but they felt helpless," said Robert S. Parks, Jr., a salesman who now serves as chairman of the Roxbury Tenants of Harvard Association. Parks told *Science* that the residents of the area were wary at first of the three students who came knocking at their doors. Eventually, however, the residents became convinced that they could stand up to Harvard. According to Parks, many of the Mission Hill-Parker Hill residents changed their attitudes toward students and student strikes as they organized to improve their neighborhood.

In August 1969, the residents of the area presented Harvard with a petition demanding that the university repair their homes and provide decent reloca-

tion housing in the area for anyone evicted because of construction of the new hospital. Affiliated Hospitals at that time had a plan for "relocation housing." But it was, in fact, a profit-making venture that called for the construction of housing that few of the area's residents could afford. The residents also demanded that Affiliated Hospitals guarantee adequate community health care facilities in any new buildings constructed in the area. People living in the area were especially concerned that one of the affiliated hospitals, Robert B. Brigham, a research institution specializing in arthritis and metabolic diseases, would ignore their needs.

Even before receiving the petition from the area's residents, Harvard officials, in response to student demands, had initiated some changes of policy. The university withdrew a plan, announced earlier, that called for the eviction of all 180 residents in the area. This plan would have been carried out whether or not Affiliated Hospitals produced a specific construction plan. On 6 May 1969, the dean of the Harvard Medical School, Robert H. Ebert, declared that Harvard would assume responsibility for replacement housing and would provide 1100 units of low-cost housing in the neighborhood. He also promised that the planning for the new housing would include community participation.

Harvard's first attempts to enlist community participation in its planning left the area's residents with the impression that the university was less than sincere. As Parks puts it: "They



Harvard-owned houses in the Mission Hill-Parker Hill neighborhood.

wouldn't even talk to us. We would hear all kinds of rumors, and anything definite we found out was only by accident. We kept finding ourselves up against a brick wall, so we kept up the pressure." One reason for the difficulties was that Harvard first dealt with the community representatives through a committee of medical school faculty members. But the committee had no clear authority, and it was

eventually disbanded after much confusion.

Harvard officials describe their failure to deal directly with the community in the period immediately following the student strike as something akin to benevolent paternalism. Edward S. Gruson, who is the Harvard president's assistant for community relations, told *Science* that originally the university had planned to take the ini-

tiative in redevelopment of the area, but "opposition from the community prevented construction from getting off quickly."

Gruson represented Harvard at a hearing, held 1 October 1970, on the Affiliated Hospitals dispute. The hearing was held by the Urban Renewal Committee of the Boston City Council, at the request of the Roxbury Tenants of Harvard. Gruson's paternalistic at-

Medical Association Sues California Over Cuts in Care

San Francisco. In an action unusual for an affiliate of the American Medical Association, the California Medical Association (CMA) brought suit last week against the administration of Governor Ronald Reagan to prevent cutbacks in California's program of free medical aid for the poor. The cutbacks, announced 15 December as emergency measures, seek to alleviate what the Reagan administration termed an unexpected deficit of some \$150 million in Medi-Cal (the state's version of the Medicaid program), financed by a combination of federal and state funds.

CMA's suit, set for a hearing in Sacramento Superior Court on 18 February, charges that the emergency measures are illegal and that they will "cause irreparable injury, including suffering, sickness, and likelihood of death to Medi-Cal patients." Ralph W. Burnett, president of the 25,000-member organization, said in a news release that Governor Reagan is "trying to wreck Medi-Cal" by forcing doctors to withdraw from the program and thus either leave poor people with no medical care or return them to what he called "poor-house" medicine—dependence on county-supported free hospitals.

Among the provisions of the new Medi-Cal regulations which the physicians find objectionable are a limitation on the number of outpatient visits to two per patient per month, except with prior administrative approval, and requirements for administrative authorization of nearly all medical, psychiatric, and dental care except in emergencies. The new rules also specify that only one drug, chlorpromazine, can be prescribed for psychiatric disorders and that all prescription drugs must be supplied in 30-day quantities.

Claiming that under these restrictions adequate care is often impossible, Burnett said, "Whenever the patient needs additional services, his doctor must ask the State for permission on an emergency basis. This red tape not only takes up a lot of the time that the doctor might better spend in treating patients, but it also causes treatment delays that can be deadly."

Since taking office in 1966, Governor Reagan has continually attacked the Medi-Cal program and other aspects of California's welfare system. But in spite of Reagan's protests, the program has grown continually in both scope and cost.

Established by the California legislature in 1965, Medi-Cal enables welfare recipients as well as disabled

and elderly persons to seek care from the hospital and physician of their choice, thereby reducing much of the patient load on the overburdened county-supported free hospitals. One of the secondary effects of the program has been the establishment of physicians' practices and clinics in ghetto areas where such ventures would formerly have been financially untenable. Thus Medi-Cal has become a major aspect of California's health care system.

Year after year the costs of the program have exceeded budgetary expectations, and the Reagan administration has instituted various stopgap measures aimed at reducing the program's costs. But none of the fiscal crises were as dramatic as the sudden discovery immediately after the reelection of Reagan last November that the program was \$150 million in the red and that emergency cutbacks were necessary. Several Democratic state legislators, along with the state's nonpartisan legislative analyst A. Alan Post, have charged that the administration knew of the deficit for Medi-Cal long before the November election but kept it a secret for political reasons. This maneuver, they claim, led to a major crisis in Medi-Cal funding that could have been easily avoided by earlier action.

Whatever the specific reasons for the sudden, severe financial difficulties and subsequent extraordinary cutbacks in the California program, many of the problems involved are not unique to California. Both the federal government and the states are finding it nearly impossible to control spiraling costs of medical assistance programs.

Some politicians have suggested that the "fee-for-service" method of payment used in both Medicare and Medicaid programs makes it nearly impossible to accurately budget for the cost of these programs. Mike Allen, CMA's Sacramento lobbyist, told *Science* that CMA would be "unalterably opposed" to a deviation from the "fee-for-service" concept as a solution to Medi-Cal's problems.

But, then, is there any solution except increased taxes, which Reagan has categorically stated he will not institute? In his second-term inaugural address 3 weeks ago Reagan said, "There is no limit to the potential growth of the present welfare structure, short of total redistribution of the earnings of all who can produce. . . ."—R.J.B.

titude, combined with an evasiveness often typical of university administrators, infuriated the chairwoman of the proceedings, "hard-hat champion" councilwoman and now also congresswoman, Louise Day Hicks. Mrs. Hicks, after listening to Gruson's lengthy answers to several of her questions, said to him: "I think I can say honestly that everything you have said answers nothing." At the conclusion of the hearings, the committee asked both Harvard and the Affiliated Hospitals Center to detail their specific plans for the Mission Hill-Parker Hill neighborhood.

"We realized very early in our dealings with Harvard that Harvard is extremely susceptible to public opinion," said John Sharrat, an architect and Mission Hill resident who serves as consultant to the Harvard Tenants of Roxbury. Sharrat said, in an interview with *Science*, that the city council hearings had proved to be an effective lever in the community's bargaining with Harvard and that relations between the residents and the college were considerably better than they had been. Even before the hearings, Harvard had repaired most of the homes in the area and had agreed to rent vacant homes to families. As a result, the neighborhood has been substantially improved.

In its reply to the city council, Harvard spelled out a plan agreeable to community representatives for financing the new low-cost housing. Under the plan, Harvard, no longer wishing to be a landlord, will sell a vacant lot to a developer chosen by the community. The price of the lot will be low enough to allow the developer to construct housing according to the wishes of the community.

Harvard, however, cannot speak for Affiliated Hospitals, and difficulties between that corporation and the community are yet to be resolved. In response to the city council's questions, Affiliated finally submitted a specific plan that calls for construction of the new hospital center to begin by mid-1972. The plan, much reduced from original expectations because of inflation, provides for construction on a parking lot adjacent to the present site of Peter Bent Brigham Hospital and for using some of the old hospital's buildings. Thus only about half of the area's Harvard-owned houses would be demolished.

Community representatives object to the new Affiliated plan for a number

of reasons, including Affiliated's failure to specify its plans for the Harvard-owned land not used for construction and its refusal to make a specific commitment to community health care facilities. Richard Wittrup, executive director of Affiliated Hospitals, told *Science* that it would be impossible for Affiliated to make a specific commitment since it has no way to project what the demand will be. He pointed to several community health projects being started in the area. These, he says, may relieve the demand on the area's hospitals for outpatient care. He added that the hospitals do not now refuse anyone requesting outpatient care, and he said that they will not do so in the future.

Affiliated, however, seems generally less inclined to listen to the community than Harvard was. In reply to the question asked at the city council hearing of whether Affiliated would take the needs of the community into consideration when drawing up future plans, the hospital group replied that "it cannot commit itself to obtain consent for future development from any group not legally empowered to exercise governmental functions."

In spite of what he views as recalcitrance, Sharrat, speaking for the tenants group, believes that the residents are now so well organized that Affiliated will eventually have to listen to their viewpoint. Sharrat emphasizes that the community is not against hospitals nor is it generally opposed to construction projects. He says that "what the people want, above all, is to be aware of what's going on in matters that affect their daily lives."

—ROBERT J. BAZELL

APPOINTMENTS

Howard A. Schneider, deputy director, Institute for Biomedical Research, American Medical Association, to director, Institute of Nutrition, Consolidated University of North Carolina. . . . **Seymour H. Levitt**, chairman of radiotherapy and oncology, Medical College of Virginia, to chairman, therapeutic radiology department, University of Minnesota. . . . **Leonard I. Grossweiner**, professor of physics, Illinois Institute of Technology, to chairman, physics department at the institute. . . . **David Paton**, associate professor of ophthalmology

and assistant dean of medical school admissions, Johns Hopkins University School of Medicine, to chairman, ophthalmology department, Baylor College of Medicine. . . . **Robert D. Terry**, acting chairman, pathology department, Albert Einstein College of Medicine, Yeshiva University, to chairman of the department. . . . **Richard J. Johns**, professor of medicine, Johns Hopkins University School of Medicine, to chairman, biomedical engineering department at the school. . . . **Martin E. Bruetman**, acting chairman, neurology department, Chicago Medical and Mount Sinai Hospital Medical Center, to chairman of the department. . . . **R. D. O'Brien**, chairman, neurobiology section, Cornell University, to director, biological sciences division at the university. . . . **Norman Bergman**, former professor of anesthesiology, University of Utah, to chairman, anesthesiology department, University of Oregon Medical School. . . . **J. Knox Jones, Jr.**, professor of systematics and ecology, University of Kansas, to dean, Graduate School, Texas Tech University. . . . **Stephen R. Mitchell**, assistant chancellor for institutional plans, policies, and development, University of Wisconsin, Parkside, to dean, College of Sciences and Arts, Washington State University. . . . **John F. Porter, Jr.**, dean of the faculty, University of Alabama, Huntsville, to dean of graduate programs and research. . . . **Jack E. Reese**, associate dean of graduate studies, University of Tennessee, Knoxville, to dean. . . . **Samuel P. Ellison, Jr.**, professor of geological sciences, University of Texas, Austin, to dean, College of Arts and Sciences, Austin. . . . At Northwestern University, **Henry L. Nadler**, professor of pediatrics, to chairman, pediatrics department, Medical School; **Oscar Hechter**, head, regulatory biology department, to chairman, physiology department at the medical school. . . . At Bucknell University, **Douglas K. Candler**, professor of psychology, to chairman, psychology department; and **David S. Ray**, professor of mathematics, to chairman, mathematics department. . . . **John C. Park**, professor of business administration, Southwest Missouri State College, to chairman of sociology and economics, Frostburg State College.

Erratum: In the editorial, "Marine pollution" (8 January 1971, page 21), the value given for the concentration of mercury found in tuna (paragraph 2, line 10, 0.5×10^{-6} part per billion) is incorrect. The correct value is 500 parts per billion.