tirely by and for women. In some areas the free clinics, along with free stores and food buying cooperatives, represent an important aspect of the youth-oriented counter-culture. Some of the clinics remain apolitical while others have been organized by groups such as the Black Panther Party for distinctly political purposes.

For the most part, however, the free clinics are still an experiment on a small scale. With a few exceptions, such as the Anacostia clinic, which has become a major health facility, the free clinics lack access to the established medical resources and thus have no means of offering care beyond routine outpatient treatment. As Thomas Bodenheimer of the San Francisco MCHR chapter puts it, "A single free clinic, isolated in a ghetto neighborhood, is very limited. It needs linkages to hospitals, laboratories, x-rays, and other specialized services so that it can provide truly comprehensive care. In order to force institutions of the present health care system to provide such linkages and services to free clinics, these existing institutions must be changed."

Such aspirations form the basis of MCHR's campaign to push the national health system in the direction of a nonprofit, community-controlled enterprise. But MCHR's crusade is hardly likely to make health care in America become a gigantic free clinic, with salaried instead of volunteer doctors, in the near future.

For one thing, a very tiny percentage of the people concerned with revising health care in America would identify with the radicals. H. Jack Geiger, chairman of the Department of Community Health and Social Medicine at Tufts University, who, as the originator of some of the Office of Economic Opportunity's neighborhood health centers, qualifies as the archetypal medical liberal, launched a concerted attack against the radicals in an article in *Social Policy* (March/April 1971). Although admitting that some of the radical's criticisms come "painfully close to the truth," Geiger declared that some of the radicals' aspirations pose dilemmas such as "expertise versus elitism, professional morality versus political morality, human versus political priorities, and accountability and responsibility [which], threaten unwittingly to construct a professional model that incorporates and repeats the worst aspects of the current system and abandons the crucial gains of the past 60 years." Geiger said operating free clinics is "playing house, not responding to the real needs."

In an article responding to Geiger's criticisms, Howard Levy declared them to be "far from the truth." Yet, the validity of his allegations aside, Geiger's attitude indicates the extent of resistance to the notion of a radical restructuring of the medical profession—even among the more liberal physicians. This resistance is multiplied several times over among the rank and file of private practitioners. On two occasions when representatives of MCHR attempted to address annual AMA conventions, they were greeted with catcalls and hurled ashtrays.

In addition to the resistance within the medical profession, the radical health movement, like most other segments of the radical movement in America, is characterized by a variety of ideological splits. At the last national convention of MCHR, the delegates spent at least as much time accusing one another as they did in laying plans to challenge the health establishment. Furthermore, community control, which is the movement's main rallying cry, remains as much an abstract concept as a working model.

However, many of the radicals' ideas have doubtless plucked a responsive chord, for, as few politicians have failed to notice, Americans of almost every social and political persuasion are fed up with the health care they receive. It is just possible that they are fed up enough to demand more direct control over the technology and the technocrats whom they depend on for their good health.—ROBERT J. BAZELL

Lead Poisoning: Risks for Pencil Chewers?

In the 16th century, graphite replaced metallic lead as the main ingredient in pencil points, but the term "lead pencil" has persisted through the centuries. Although the term "lead" is a misnomer, recent tests, including one by the Department of Health, Education, and Welfare's Bureau of Community Environmental Management (BCEM), indicate that the paint covering the common wooden pencil might be yet another lead poison hazard.

In the BCEM study, completed in July, all the pencils tested were found to have paint with lead contents that could be hazardous. In one group of pencils —all of the same brand—the paint contained approximately 12 percent lead. The maximum amount of lead generally regarded as safe in paint is 1 percent. The actual weight of lead in each of the pencils in this group, the report said, was more than 47 milligrams. Pencils of this group were considered a "serious health hazard" for a pencil-chewing child who habitually ingested even a small portion of the pencil's painted surface.

The paint on the other pencils tested in the BCEM study—nine pencils were examined, two from three brands and three from a fourth brand—had, according to the report, lead contents that are "great enough to be hazardous for a child who is a habitual pencil chewer and [who] chips paint off relatively large areas—for example, a third or more of the total surface." The weight of lead in these pencils, the report said, ranged from 0.1146 to 1.037 milligrams.

Although the percentage of lead in the latter brands was below the safety standard of 1 percent, the project directors contend the tested pencils are still dangerous. The important consideration, according to Barry King, science adviser to BCEM and one of the project directors, is that the actual amount of lead (weight) is sufficient to induce lead poisoning. "Percent lead content of the paint," states the report, "is not, *per se*, a satisfactory criteria; the health hazard for a child ingesting a paint chip is related to the amount, specifically the weight, of the lead he ingests." The amounts of lead in all the pencils tested, King said, were high

enough to make them harmful for a child who chews pencils and who gets lead from other sources, such as his food. King emphasized, however, that the BCEM study was limited and that he really did not know whether pencils in general are hazardous.

Recently some experts on lead poisoning have begun to dispute the adequacy of the 1 percent lead safety standard. A lead content of 1 percent is recognized as safe by the American Standards Association and is specified in several municipal ordinances as the maximum amount of lead permissible in paints. However, the recent concern about the 1 percent standard has prompted several cities seriously to consider ordinances banning all but a trace of lead in paints.

Opponents of the 1 percent standard argue that the main criteria for determining hazardous lead conditions should be the weight of the lead in paint and the total number of lead sources available to a person. Their concern is with a person's total daily ingestion of lead rather than with the percentage of lead in particular items.

An ad hoc committee of lead poison experts recently determined that a daily lead intake of 0.3 milligram is the most a child can ingest without harm. A daily ingestion of more than 0.3 milligram of lead, a member of the committee told *Science*, will accumulate in the body, and lead poisoning is likely to develop. He said that, on the average, children ingest 0.1 milligram of lead in their daily diet, leaving only 0.2 milligram to be brought in by other sources. All but one of the pencils tested in the BCEM study contained more than 0.2 milligram, according to statistics in the report.

The BCEM project was in part prompted by similar studies done in New York City and Washington, D.C. In New York, Vincent F. Guinee, director of that city's bureau of lead poisoning, found that the paint on 51 of 138 pencils tested had lead contents well above even the 1 percent level. Leaded paints, according to Guinee, were detected on 17 different brands of pencils manufactured by six different companies.

Moreover, tests by the Washington, D.C. Health Department's Bureau of Laboratories revealed that pencils painted yellow or green had high lead content. Samples of the large round pencils used in the primary grades in Washington, D.C., public schools also registered excessive lead.

The dangers to children who eat chips of lead-based paint are well documented. Pencils covered with leaded paint could present a similar hazard to any habitual pencil chewer.

Responsibility for removing hazardous pencils from the market rests with the Food and Drug Administration. But for the present, FDA officials, who are conducting tests of their own, believe that they lack sufficient evidence to take any action. The initial tests revealed that lead chromate is the principal compound of lead in pencil paints, and FDA officials contend that, at present, there is insufficient data to determine whether lead in the chromate salt form is dangerous. "Some argue," one FDA official told *Science*, "that lead chromate is not that bad." But the same official admitted that "lead in any form is undesirable." The BCEM report asserts that lead chromates are in fact hazardous when they are ingested. Noting the "relatively widespread view" that lead chromates are not dangerous because they are insoluble in water, the report adds that when lead salts and elemental lead are ingested they enter an acid medium in which they are soluble.

For its part, the pencil industry has voluntarily ceased putting leaded paints on pencils. "Today," the Pencil Maker Association's executive vice president David Price told *Science*, "no member company is producing a single wooden pencil with a lead content of more than 1 percent." The association, which represents 90 percent of the wooden pencil sellers in the United States, announced in late June the establishment of a formal certification program that would evaluate each company's pencil paint yearly to make sure the lead content of the paint does not go above the 1 percent safety standard. But thousands of pencils covered with the possibly dangerous paint remain on the market, and the manufacturers have refused to initiate a voluntary recall. "As far as this industry is concerned," Price said, "these pencils are safe. We know of not one single [lead poisoning] illness caused by a kid eating a pencil."—JOE PICHIRALLO

Joe Pichirallo has just received his degree in journalism from the University of California at Berkeley, where he was editor-in-chief of the Daily Californian *and wrote for the Washington* Post *and United Press International. He is working for* Science *as a summer intern.*

APPOINTMENTS

William T. Pecora, director, U.S. Geological Survey, to under secretary, Interior Department. . . . **Dexter L. Hanley**, professor of law, Georgetown University, to president, University of Scranton. . . . **C. C. Nolen**, vice chancellor for development, Texas Christian University, to president, North Texas State University. . . . **Walter S. Owen**, dean, Technological Institute, Northwestern University, to vice president for science and research at the university. . . . **John M. Ward**, director, Desert Research Institute, University of Nevada System, to president of the institute. . . . **George E. Mueller**, former NASA associate administrator for manned space flight, to chairman of the board and chief executive officer, System Development Corporation. . . . **Ned B. Williams**, chairman, microbiology department, University of Pennsylvania School of Dental Medicine, to director, Center for Oral Health Research at the university. . . . **Charles V. Kidd**, director, council on federal relations, Association of American Universities, appointed executive secretary of the association. . . . **D. M. Trotter**, acting dean, College of Veterinary Medicine, Kansas State University, Manhattan, to dean of the college. . . . **Jack J. Stockton**, professor of veterinary microbiology, Purdue University, to dean, School of Veterinary Science and Medicine at the university. . . . **George M. Beckmann**, professor of Asian studies, University of Washington, to dean, College of Arts and Sciences at the university. . . . **Thomas M. Gale**, associate dean, College of Liberal Arts and Sciences, University of Kansas, to dean of liberal arts and sciences, New Mexico State University. . . . **Robert Lougee**, professor of German history, University of Connecticut, to dean, College of Liberal Arts and Sciences at the university. . . . **James W. McKie**, senior fellow, Brookings Institution, to dean, College of Social and Behavioral Sciences, University of Texas, Austin. . . . **William M. Dobriner**, professor of sociology, Hofstra University, to chairman, anthropology and sociology department, Lafayette College. . . . **William J. Kane**, associate professor of orthopedic surgery, University of Minnesota, Minneapolis, to chairman, orthopedic surgery department, Northwestern University Medical School.