Foundation of the important Senate Committee on Labor and Public Welfare. (One of the witnesses was engineer Charles Laible, who designed the umbrella-shaped antenna which transmitted pictures from the Apollo 15 lunar rover. Laible testified that he had received his termination notice from RCA exactly 3 weeks before his antenna began transmitting signals from the moon to Houston.)

However enthusiastic, PACES is small and young—and the big, old, professional societies are only getting their feet wet in the lobby business. As already mentioned, a number of them are sending "representatives" to Washington, part time, with the task of somehow lubricating the machinery of power in their society's interests without jeopardizing their tax status. However, many, such as the ASME, are discovering that tax status, in the educational, and nonprofit category, is not as great a curb on political activity as was feared. "We thought we had a rigid fetter," says Edward H. Walton, ASME's director of planning. "But it's not all that bad."

But there are critics, too. Another were really serious about going ahead engineering society staffer says, "If we with this thing, why are we going about it in this way? If we really wanted to have an effective lobby, the last thing we'd do is send a retired guy down there part time. They [the society representatives] will be all stumbling all over each other. We'd get a single, well-paid lobbyist. These aren't disciplinary problems."

Perhaps the most ominous disagreements, however, are on the nature of the crisis. Just as a doctor's cure is determined by his diagnosis of the disease, the societies' responses have been muddled by arguments over whether the employment problem is over, cyclic, or permanent. Some society spokesmen said confidently that the situation was "bottoming out" (and surely, with their historical interest in promoting their fields, optimistic views are a temptation). A physicist active in APS, however, says it is cyclic. "Things are going to get better. But after that they'll get worse again. The cyclical nature of the funding for research and development has not been dealt with. The cyclic system is inherently unstable." He believes that the professional societies have failed utterly to come to grips with this. Another society critic, this one from the engineering side, said, "My own feeling is that much of the response has been in the secret hope that the problem will go away quickly and we'll return to the old pattern."

ACS's Suttle is one of a number of professional society spokesmen who believe that the current conditions are fairly permanent. "These conditions are not going to go away," he said. (The ACS's latest survey shows 24 percent of all chemists under 25 as unemployed, and an overall un- and underemployed rate for ACS members of 7.2 percent.) "It's more serious than was initially thought. . . . Things just aren't going back to the way they were in 1968."

It may, however, be of interest that, taken together, the memberships of the scientific and engineering societies, whose spokesmen were contacted for this article, totals 449,536. According to the Bureau of Labor Statistics, there are a total of 1.6 million engineers and scientists in the United States. Together, the spokesmen for this article represented perhaps one-quarter of the U.S. engineers and scientists. If they had all gotten their heads together a few years ago, it is possible that the lot of the U.S. engineer or scientist could be somewhat better than it is today.

—DEBORAH SHAPLEY

Turks Meeting on Boardwalk: Debate on Role in Political Arena

Around May Day every year, academic medicine holds a reunion on the boardwalk in Atlantic City. It has been doing so ever since the spring of 1911 when the Association of American Physicians abandoned Washington, D.C., as the site of its annual festivities and assembled instead in the sun parlor of the stately old Marlborough-Blenheim. Association historian James Howard Means writes, "In the years to come this close juxtaposition of meeting place and boardwalk unquestionably greatly extended the opportunities for intimate companionship between members, and their ideas flowed more freely in the complete relaxation engendered by sunshine, sea, gentle exercise, and soft fresh air. . . . All the tensions of the nation's capital were eliminated."

What began as an intimate assemblage of companions has grown, not surprisingly, into a considerably larger affair at which three societies, not one, gather the troops at the spacious Chalfonte–Haddon Hall a few blocks north of the Marlborough for meetings that Means has described as being "as intimate as a professional baseball game." As for sunshine and soft fresh air, it is true that this year it did not rain *every* day and that, on the boardwalk itself, polluting exhaust fumes came only from a few cruising police cars. As for the tensions of the nation's capital, it is clear that they increasingly are inserting themselves into the meetings as clinical investigators wrestle with the question of whether, and to what degree, they should become involved in the formulation of federal policies that are so significantly affecting the course of research and the professional lives of the academic scientists.

Nevertheless, in spite of the size and the unwelcome intrusion of political issues, there remains an aura of clubbiness about the meetings and a sense that now, as in the past, this is where much of the internal business of academic medicine is conducted. For anyone who is, or wishes to be, "someone" in this profession, Atlantic City is the place to be in early May.

The clinical meetings are held by the American Federation for Clinical Research (the youngest, largest, and most democratic of the three societies), the American Society for Clinical Investigation (ASCI), and the Association of American Physicians (AAP). Deans,

department chairmen, and research chiefs from virtually every medical school in the country come to talk to each other, listen to papers (it is generally held that the newest and best of biomedical research is reported here), and scan the ranks of young investigators who come, sometimes alone, sometimes under the wings of their mentors, to get in on the action. As Dr. Lloyd H. Smith, chairman of medicine at the University of California at San Francisco and a councillor of the AAP points out, "A young man can make his reputation in medicine by presenting one good paper here." But getting on the program is tough. The ASCI and AAP, which do not run concurrent scientific sessions, accept no more than 50 papers between them. The federation, which sponsors concurrent specialty sessions that run late into Saturday night, takes only some 300 papers for presentation to the audience of a couple thousand investigators.

The Physicians, who by custom meet last of the three, were founded on 10 October 1885, in the New York office of Dr. Francis Delafield. Although some of the details of its origin remain obscure, it appears that its creation was spurred, in part, by an argument—concerning the makeup of a planning committee for an international congress—between a band of men who considered themselves the more erudite of physicians and the American Medical Association which, founded in 1846, was already a powerful force on the medical scene. Eventually, however, the two organizations came to enjoy peaceful relations, largely, it is suggested, because the Physicians so religiously stayed out of politics, and stayed with teaching and research. To this day, however, many AAP members take pleasure in describing the AMA as a trade union and glory in their own hands-off-politics attitude.

As the senior Physicians' fraternity prospered, younger investigators felt the need of a club of their own. And so, the ASCI came into being to provide a forum in which young men could be heard. AAP chronicler Means says that "Conception took place on the boardwalk in Atlantic City on or about 5 June 1907," when a group of disgruntled physicians got together to lay plans. Ironically, the occasion was that of an AMA meeting. At the time the clinical society was born, a nationalistic rebellion known as the Young Turk movement was going on in Turkey and was very much in U.S. papers. The ASCI acquired the sobriquet of "young turks," and the name has stuck.

As is true of the AAP, membership in the ASCI is by election. The society has about 400 active members—one is relegated to emeritus status at age 45—and this year decided to expand its ranks by admitting 80 (instead of 65) new members next year. Everyone agrees that election by the time a person is 40 can be crucial to academic advancement, though many wish that this were not the case.

In 1940–41, a second rebellion among young clinical researchers took place as the young turks grew more and more Establishment. They were, many felt, becoming old. Thus, the American Federation for Clinical Research (AFCR) came into being and immediately established an open door admissions policy. To join this group, one need only to have published a single research paper and to receive the pro forma endorsement of a couple of members. The AFCR is some 7000 investigators strong and is gradually trying to add consideration of social problems to the purely scientific issues that dominate its meeting. To this end, for example, it established a policy in 1969 of holding at least one symposium on a broad social topic to which its members could be expected to concontribute some useful professional input. Last year they talked about drug abuse; this year, the impact of national health insurance on academic medicine and research. They are still seeking a substantive way of translating their thoughts into some kind of effective action.

Single Political Voice

Indeed, the question of becoming politically and socially active, or at least of finding a single voice with which to speak to broad issues, is beginning to emerge as matter of concern to the three societies. The course of biomedical research in the United States today is on the verge of being charted as much by federal policy and the public will as it is by the dictates of scientific advance and the intellectual preferences of scientists. It began, as is now a well-told tale, in 1968, when the largesse of the public treasury began to contract. The federalization of science reached its peak with the passage of the National Cancer Act of 1971 and the national commitment to pour resources into cancer research. That priority, which many academic teachers and researchers believe lacks scientific justification, was set by Congress, prodded by a few persuasive individuals—not by the community that will be so broadly affected by it.

What, if anything, should the academic community, as represented by these three prestigious societies, do to play a determinant role in the formulation of biomedical research policy? Some, such as immunologist Hugh Fudenberg of the University of California at San Francisco, believe that investigators should get out and lobby hard. A widely respected investigator who is a duly anointed member of the club, Fudenberg is considered a maverick by many of his colleagues who cling to the view that scientists should speak at scientific sessions and faculty meetings, but not in the corridors of Congress. A year ago, the ASCI named him to head a committee to conduct a cost analysis of the dollar benefits of biomedical research. Reporting to the business meeting this year that he had become a committee of one, he reviewed data on the cost of research as compared to care for such diseases as polio, viral hepatitis, measles, and Rh disease and concluded, generally, that the economy saves $20 for every $1 spent on research. Calling upon his colleagues to take this information to their congressmen and local newspapers, he then put forth a resolution for support of a Washington office to serve as liaison between the biomedical research community and the Congress and press—a small Washington lobby to be supported by members of the three societies (and other groups as well) by a voluntary mechanism that would not endanger their tax exempt status. Paul Marks, ASCI president and dean of Columbia University College of Physicians and Surgeons, referred Fudenberg's resolution to the newly established federal committee, saying afterward that his sense of the members' feelings told him that they are not yet interested in taking up the idea of a Washington lobby by any name.

Whether the federal committee will guide the ASCI down the road to political involvement is uncertain. Some ASCI council members believe the committee was created merely to mollify those investigators like Fudenberg who are promoting such involvement. Others think it may actually be useful in establishing ties between the society, whose membership really constitutes the "brass" of the profession, and Washington's political elite. The committee chairman, Dr. George Schreiner

of Georgetown University, says it has to feel its way. The first order of business will be a meeting in September—a workshop at which committee members and ASCI officers will meet with the people who count in science in Washington: members of the staff of the President's Office of Science and Technology, key congressmen and their aides, and the like. Schreiner thinks that this will be useful but, from experience with the National Kidney Foundation with which he is closely associated, he also has considerable respect for the one-to-one, face-to-face kind of lobbying that often gets things done. Without accepting or rejecting Fudenberg's plan, he says that the full-time Washington "representative" of the Kidney group has been most effective. Yet, he says, "I'm not sure that the young turks are really ready for that kind of political activity."

Indeed, the majority of young and old turks argue that their societies, designed only to hold scientific meetings, are inappropriate vehicles for political action. For one thing, they are victims of what has been called the "turnover phenomenon" in presidents. The position is honorific; men serve but for a single year. Says AAP councillor Smith, "I believe that to be effective, lobbying must be a more full time activity than our dispersed membership and lack of staff can provide. We look to the American Association of Medical Colleges [AAMC] and, particularly its Council of Academic Societies, to be our voice in Washington." Each of the three clinical societies is a dues-paying member of the AAMC, as are about 50 other specialty research societies. Highly active in guiding affairs within the medical teaching and research communities, persons who take part in AAMC committee work are often also involved in the business of the clinical societies.

The AAMC, which moved its headquarters from Chicago to Washington about a year ago, is, indeed, striving to become the political spokesman for academic medicine. It certainly has been influential in finding university-based researchers to testify before congressional committees on legislation relating to research and education; and its officers now are becoming fairly well known around town. (AAMC officials frequently take credit for blocking the section of the cancer legislation that would have taken the National Cancer Institute out of the National Institutes of Health and made it a separate agency.) Nevertheless, the AAMC does not see itself as a lobbying organization but, rather, as one ready and willing to render advice. "In the conventional sense, we don't lobby," says August Swanson who heads the Council of Academic Societies. "We tend to wait to be asked our opinion on things by Congress or NIH." The increased visibility that comes with being in Washington and the ties that are being built up with political figures make it possible, however, for the AAMC to indicate when and what it would like to be asked, and that's a start.

—BARBARA J. CULLITON

Israel: Pollution Problems Rife, but Other Issues Take Priority

Jerusalem. Twenty minutes before the train arrives in Jerusalem, conductors run through the cars and shut the windows. Seasoned passengers whip out handkerchiefs and cover their faces. The reason for this flurry of activity is that the Holy City, with a population of more than 300,000, does not yet operate any sewage treatment plants. Train passengers, therefore, are welcomed to "Jerusalem the golden, with milk and honey blest," by the overpowering stench of untreated sewage and swarms of hungry mosquitoes.

A highly technological, Western-oriented Israeli state, in spite of its renowned accomplishments, has failed to deal effectively with its crisis-level pollution problems. In this respect, Israel is a microcosm of the problems facing both developing and already industrialized nations.

The case of Israel is particularly interesting for industrialized Western countries, for, unlike most lesser developed nations, Israel has cultivated its scientific resources well and has traditionally placed great emphasis on basic research and high technology. In addition, the Israeli government has passed a good deal of antipollution legislation. The Kanowitz law of 1961, according to Anthony Peranio, chairman of an environmental group in Haifa, ". . . is an excellent law which is sort of an 11th Commandment: 'Thou shall not pollute thine environment.' " Nevertheless, despite the existence of a strong and influential scientific community and antipollution legislation, Israel has been unable to cope with environmental pollution. For example, when Robert Chass, an official of the Air Pollution Control District in Los Angeles, visited Israel last spring, he said that the atmosphere of Tel Aviv has become proportionally worse than the smoggy air of Los Angeles.

"We Israelis have a genius for spontaneity," remarked an Israeli politician, "which means that we have no talent at all for planning." But Israelis have had little time for planning. Because a "siege" mentality or an actual state of war has existed since the birth of the Israeli state in 1948, crisis management has pervaded the government. Defense, which accounts for about 50 percent of the national budget, has been the top national priority.

In addition, Israel is still a "lesser developed country"—that is, relatively poor compared to developed Western nations—and is struggling with the burdens of industrialization. National product per capita is about $1500 (compared to $4380 in the United States and $2200 in West Germany*). Israel's growth rate, about 9 percent annually, indicates that she has had little time or resources to devote to other concerns.

Another factor that has diverted attention from the importance of pollution avoidance is Israel's preoccupation with immigration. The Ministry of Ab-

* Organisation for Economic Cooperation and Development statistics for 1968.