research and half to teaching ACM students in seminars at the lab. Member colleges now send about 30 students a year in two shifts to work at Argonne.

The Great Lakes Association, with its shorter history, seems to be following a pattern similar to ACM's. The GLCA is headed by Eldon Johnson, a political scientist and former president of the University of New Hampshire. He is one of the new breed of educational executives without campus—his office is at Detroit Metropolitan Airport, Stewart's is in Chicago—who, as one observer at Antioch said, "must lead with a carrot but no stick."

Major fruits of the union for science so far are an agreement with Florida State University for marine biology work by both faculty and students at the Alligator Harbor station near Tallahassee and a grant of $213,000 to the association from the Department of Health, Education, and Welfare for a 2-year program of research on self-instruction, including programmed learning. The project director is a psychologist at Hope College, and released time is to be arranged enabling researchers from other GLCA colleges to participate.

The conference at Antioch produced no startling recommendations, which in itself is not startling since the delegates were in many cases meeting one another for the first time.

The conferees did make two top-priority requests, however: (i) that a science coordinator be appointed to work with Johnson, and (ii) that an advisory board of five members representing different institutions be designated to consult with the GLCA directors on matters pertaining to science.

The delegates also gave high priority to exploring ways of giving faculty and students research opportunities in public or private research organizations, and to arranging exchanges of students and faculty between member colleges. A critical joint examination of science curricula was called for, and active recruiting of faculty in cooperation with other small colleges was urged.

While a spirit of good feeling and camaraderie prevailed at the meeting, here is no ignoring that there are difficulties in cooperation. The member colleges are, in some degree, competitors for students and faculty. Small colleges tend to cultivate a strong sense of institutional identity, and there was obviously a wariness felt by some of the delegates that a member college might have to sacrifice some of its sovereignty and style to the collective.

Then there is the question of money. The association is designed to be a "break-even proposition," but joint activities can be costly. It is significant that the conference at Antioch was sponsored by the National Institutes of Health, and it is expected that follow-up conferences may be financed by the National Science Foundation.

These agencies have demonstrated a solicitude for small colleges in such meetings before, and have made special efforts to encourage research through matching grants for equipment and support of institutes and individual research projects. But in comparison to the funds funneled into the big universities, the results have been Lilliputian.

In some colleges there is a stern reluctance to accept federal help and the external influence it is deemed to involve. These scruples are not surprising in colleges which are rooted in a venerable tradition and where faculty and students may still lead a vanishing version of the good life.

Leaving aside the economic trends which seem to be turning the stronger private colleges into schools for the children of an upper-income group, small colleges appear to be at a critical juncture. The emerging question is whether the college can continue to offer a true alternative to undergraduate education in a good university, particularly in the sciences. Many colleges and some inferior universities have never been in the race, and our pluralism in kind and quality may not be all bad. But it seems evident that only by strenuous and probably cooperative efforts can the small college avoid the backwater for the mainstream.

—JOHN WALSH

A View from the Bridge: Politics No Picnic on Banks of Pollution; Strong Federal Agency is Likely

The question in the current agitation about water pollution is simple: Who should compel the cities, towns, and industries which for years have been treating their rivers like toilets to begin the costly work of cleaning them up? The states, under whose benevolent jurisdiction the cozy do-nothing arrangements grew up that produced today's massive pollution, are not anxious to cede their rights to the federal government. The government has had the power to step in in extreme circumstances, or at the request of a state governor, for several years, however; and in a power struggle between the states and "the feds," it is easy to pick the winner. What the question comes down to, therefore, is: Which agency of the federal government should do the enforcing? The victor will do more than preside over a bureaucratic feast, for as different agencies have different clients, characteristics, and definitions of the water problem, the outcome will seriously affect the future of the country's water resources.

The Public Health Service is in charge at the moment, but its claim has been challenged by a cluster of conservationists who have just got through the Senate a proposal to create, within the Department of Health, Education, and Welfare, a special agency devoted exclusively to controlling pollution. Backing the PHS, at lengthy hearings held in June by a subcommittee of the Public Works committee, chaired by Senator Edmund Muskie (D–Me.), were, besides the medical profession, many state and local water pollution officials and representatives of the chemical and paper and pulp industries. Against the PHS were the major conservation associations, organized labor, and some influential members of Congress. Now, pollution abatement is a costly and cumbersome process, about as unpopular with state governments and industries as federal intervention itself: when the victims throw themselves with love on the mercy of their tormentors, it is a safe guess that the knife they feel in their backs has a rubber blade.

And so it has. The 1956 law left major enforcement responsibilities with the states, but authorized the PHS to step in either when pollution became a serious threat to public health, or in response to the request of a state governor. In 1961, because of Congressional displeasure with the PHS record, the responsibility for initiating action was transferred to the Secretary of Health, Education, and Welfare, but the PHS retained its operating functions.

On the whole, state governments did not make federal officials feel very welcome. State sensitivities are injured by allusions to their decreasing competence; and the construction of costly waste-treatment plants to abate pollution means higher munici-

pal taxes, or bond issues, or higher operating costs for the new industries most states are trying so desperately to attract. Given local needs—political popularity, low-cost living, and a friendly climate for industry—local officials tended to prefer their own arrangements. And in most cases, the PHS, through its regional officers and the visitors from Washington who periodically troop around the country, signaled local officials that there would be no interference with the variety of studies, analyses, committees, and promises to be good that were euphemistically known as "their progress."

Only 20 times between 1956 and the summer of 1963 did the government step in—with enforcement procedures so ponderous that if a plan can be developed for the abatement of pollution in under 5 years, officials feel triumphant. In only one of the 20 cases (St. Joseph, Missouri, where the citizens twice rejected a bond issue to pay for waste-treatment facilities officials agreed were needed) did enforcement reach the stage of court action. Most of the others remained in the first, or conference stage, where PHS enforcement officials bring local officials together to produce a satisfactory plan for abating pollution; only a few cases proceeded to the stage of a public hearing.

Even after a conference, opportunities for delay are manifold, for if you don't know who is polluting an area, and with what, it is hard to work out appropriate remedial plans. Most delay, according to one very dedicated enforcement official, is a matter of "gathering evidence to prove the obvious." A knowledgeable observer, he said, "can pretty well spot the major pollutants. But if the guilty party plays innocent, and tries to put the finger on the company or town next door, it takes a lot of work—identifying the character of the wastes and the places they are found—to prove scientifically that what you knew all along is true." After federal action has begun, researches go on at great length, for PHS basic files on the current states of our waterways are probably among the least bulging files in Washington. And when a study that has taken 2 years is finally presented to the industry or town doing the polluting, the industry or town is apt to claim that the study is 2 years out of date, and that the situation documented has long since been remedied.

Most of the PHS water pollution division is concerned with research, and with grants to states and towns to aid in constructing waste-treatment facilities. If the Muskie bill, which has just passed the Senate, gets through the House, the maximum grants for sewage plants would be increased from $600,000 to $1 million, and—for systems serving more than one community—from $2 million to $4 million. The new bill also authorizes $20 million for demonstration projects on the problem of separating combined storm and sewer drain systems, currently causing serious overflow problems in many cities, and another provision establishes liaison between HEW and the detergent industry for the purpose of developing decomposable detergents. The guts of the PHS water pollution control program, however, and the potential guts of the new agency approved by the Senate, is its enforcement bureau—a small team of lawyers sandwiched among the doctors.

The enforcement bureau at present is removed by several layers of bureaucracy from actual decisions to intervene. It is at the top of the Public Health Service, in the commissioned officer corps, and within the department that politics, pressures, and old school ties exert a moderating influence on the pursuit of polluters. In a separate agency, it is felt, headed by a new assistant secretary of HEW, such inherited deterrents to vigorous enforcement would not have a foothold.

In the past two months, in response to criticism, Secretary of HEW Anthony Celebrezze has initiated eight enforcement actions—some on his own initiative, some at the request of governors (among whom, apparently, it is coming to be thought a good idea to take credit for progress against pollution, even if the progress is engineered by the feds). Congressman John Dingell (D–Mich.), however, a leading supporter of a new federal agency, has a list of 90 rivers in which pollution is serious enough to warrant federal intervention; on about 80 of these rivers, Celebrezze's lieutenants concur. But it is generally felt that federal enforcement has been lax, and will continue to be so as long as the Public Health Service is at the helm.

The main issue between the Public Health Service and its critics is whether water is a problem of health or a problem of resources. The PHS takes the medical view that the "water problem" is one of assuring an adequate supply for people. When this view is combined with the temperamental reluctance to intervene that characterizes the PHS as a whole, the result is that water pollution is not regarded as serious enough to justify federal action until human health is actively threatened—and some of our foulest rivers can still be made clean enough to drink. Even in defense of health, the PHS is sometimes a bit poky: it took a recent outbreak of hepatitis on the Raritan Bay (first reported as heavily polluted in 1920) before the PHS stepped in.

Polluted water, however, kills fish before it kills people, and it affects recreation, agriculture, and industry before that. The trouble with many rivers, someone has said, is that they are "too thick to navigate and too thin to cultivate." It is the increasing scarcity of water for all uses, the economic disruption often caused by closing down polluted rivers without abating the pollution (ending shellfish sales, for example, or sealing off beaches), and the threat to wildlife that worry the conservationists. By 1980, according to Senator Muskie, we will be using nearly twice as much water as we are today. "At the present rate of development," Muskie said, "by 1980 at least 85 billion gallons of water a day will have to be used twice, if we are to break even in our demands on available supplies." Several major cities have already experienced periodic water shortages.

Pollution control, the conservationists feel, given the last-resort philosophy of the Public Health Service, will not keep step with increasing demands for water. And if a water crisis becomes imminent, fish and wildlife, recreation, agriculture, and commerce will all be sacrificed, as they have already begun to be, to the pressing needs of people. A tough pollution abatement program, begun now, could forestall a crisis, for the technology exists to keep our rivers clean enough for a great variety of uses. The widespread support among conservationists for a separate Federal Water Pollution Control Administration grows out of their belief that the PHS has not been sufficiently vigorous in enforcing abatement. On this point, oddly, PHS supporters concur—which is why the PHS is newly beloved by its old enemies, as they jointly face the unknown threat of a separate agency.—ELINOR LANGER