

the most productive source of new compounds. Arthur D. Little, Inc., and DuPont are among companies mentioned as prominent contributors to the CBW program. From outside the chemical industry, many aerospace companies now devote some fraction of their efforts to CBW.

Beyond Basic Research

During the past few years the Army and the Air Force together have moved into another area of CBW research. It goes by a lot of contemporary-sounding titles but boils down to evaluation of chemical and biological weapons and delivery systems. The controversial contracts at the University of Pennsylvania are of this type (see box). But, although Penn is a crucial cog in this phase of the CBW program, it is not the only one: New York University also is performing such studies, under an Air Force contract, and a Pentagon official recently stated that related studies are being conducted by, among other organizations, RAND, the Stanford Research Institute, and the Institute for Defense Analyses.

Research Analysis Corporation, a small firm located near Washington, in a brochure designed to reflect past support by government as well as to attract more, lists the following "research capabilities." Under the heading "Agricultural warfare" are "Study of biological and chemical attacks on crops and some analyses of effects on livestock," "Covert attack on a food crop,"

and "Impact of chemical attack on guerilla food crops." Under "Guerilla warfare and counter-insurgency" are "Evaluation of counter-insurgency requirements in Southeast Asia," and "Southeast Asia environmental-data collection." And under "CBW warfare" are "Military potential of GB" [a toxic nerve gas], "The feasibility of chemical warfare in defense of a perimeter in the Naktong Valley basin," and "The value of toxic chemicals in ground warfare."

Another leading entry in the field of CBW is the Travelers Research Center, an outgrowth of the Travelers Insurance Companies. Its most recent brochure reports studies of military operations that are "highly sensitive to the natural environment." Chief among these, the report continues,

... are chemical and biological weapons systems, which exhibit a high degree of dependence on meteorological, terrain, and vegetative factors. The extensive experience of the TRC staff in research on turbulent diffusion and transport of atmospheric contaminants provides a firm base for TRC's participation in the nation's CB weapons analysis program. The Center's interest in this field stems not only from the importance of understanding the environmental phenomena involved, but also from our desire to support and assist the United States in acquiring effective, humane, incapacitating (non-lethal) systems for coping with proliferating limited war and counter-insurgency. One study was undertaken for the Army to identify the most effective approaches for contending with difficult military situations with a minimum loss

of human life to both sides. Another study conducted for the Navy provided an updated review of the influence of micrometeorological factors on chemical warfare in the form of a technical manual to assist in the identification, observation, and prediction of relevant meteorological factors and processes. In another study for the Army, TRC began comprehensive research on dosage prediction techniques to provide up-to-date knowledge of dispersion processes in the lower atmosphere, and with a critical evaluation of the capabilities and limitations of present quantitative techniques for predicting the behavior of atmospheric contaminants. This study is similar in many respects to those being conducted on urban and regional air pollution.

Travelers has branched out in another new direction: "Because modern military planning must often consider technical and strategic goals in relation to their political, sociological and psychological implications, particularly with respect to limited war and counter-insurgency," the brochure states, "a study was undertaken for the Air Force to assess not only the military potential of non-lethal CB weaponry, but also the psycho-political reaction to its use."

This is the chain of research. The United States government is developing chemical and biological weapons. It is learning how to use them effectively. And, finally, it is inquiring into the public reaction to their use.

—ELINOR LANGER

(This is the first of two articles on chemical and biological weapons.)

Tax Laws: Conservationists Must Step Gingerly on Capitol Hill

The resurgence of the conservation movement that began in the early 1960's is evident in the creation of new parks and national seashores, the establishment of a national wilderness system, and the enactment of antipollution measures. Despite these notable successes, however, conservationists will have to throw themselves into some grinding legislative struggles in the future if they are to consolidate and increase their gains. Mounting

population pressures, highway construction, air and water pollution, dam building, and other resource exploitation all will inevitably threaten natural and scenic values.

A tentative ruling on 16 December by the Internal Revenue Service (IRS) revoking the Sierra Club's privilege of receiving tax-deductible donations has raised the question of how vigorously conservation groups will be able to carry on the fight. In considering the

significance of this matter one must bear in mind that an organization can be "tax-exempt"—that is, have no tax obligation on its income—without being able to assure its contributors that they can deduct their donations from their gross income. The Sierra Club, a San Francisco-based group with about 40,000 members, says it has lost an estimated \$125,000 in potential donations during the six months since IRS announced that its privilege of receiving deductible donations was in question. Tax questions related to the political or lobbying activities of a variety of nonprofit organizations are pointed up by the Sierra Club's misfortune.

The Sierra Club's problem stems especially from its efforts—which appear highly effective—to defeat a legislative proposal to authorize the construction of two hydropower dams in the

Representative Fogarty Dies at 53

Representative John E. Fogarty, a major political architect of the federal government's vast program of medical research, died Tuesday at age 53 in his Capitol office, a few hours before the opening of the 90th Congress. Death was attributed to a heart attack.

Fogarty, a Rhode Island Democrat who was first elected to Congress in 1940, became chairman of the NIH appropriations subcommittee in 1949 and soon afterwards focused his career on a rapid expansion of the federal commitment to the health sciences. In alliance with his counterpart in the Senate, Lister Hill of Alabama, and NIH director James Shannon, he helped create the phenomenal budgetary growth of NIH, from \$46 million in 1950 to the current sum of over \$1.2 billion. Despite the budget-cutting intentions of the Eisenhower administration and the strongly conservative makeup of the House Appropriations Committee, Fogarty repeatedly prevailed in his efforts to expand NIH's activities beyond the budget requests the administration sent to Congress.

In the Senate, Hill, too, prevailed (in fact, he would even add funds beyond what Fogarty deemed useful and politically feasible), but the Senate, generally being more liberal in financial matters, provided a more hospitable forum for NIH supporters.

The Kennedy administration restrained Fogarty, to an extent, simply by refusing to spend some of the funds he voted, and in recent years he pulled back a bit for fear of inflaming congressional suspicions toward the rapid growth of funds for science. But the Fogarty-Hill combination never came out with any sum significantly less than the administration requested, and nine times out of ten produced a great deal more. Considering the normal practices of the House Appropriations Committee, Fogarty's performance in behalf of NIH was a personal tour de force without parallel. It is no exaggeration to say that for the past 15 years he was politically the single most important person in medical research in the United States.

Though his formal education ended with a high school diploma and he was a bricklayer by trade when elected to Congress, Fogarty possessed an incred-



Representative John E. Fogarty

ibly deep and extensive lay knowledge of the substance of medical research. "I live this thing all year around," he once said.

One of Fogarty's most potent tactics involved his demand that NIH administrators give a "professional judgment" of their budgetary needs, and not simply a defense of the budget that emerged from pruning at the Bureau of the Budget. In 1962, for example, he paternally chided the director of the National Institute of Mental Health for defending a budget request that was only \$4 million above that of the previous year. "How much do you really need?" Fogarty demanded. "I haven't figured it up," the witness said, "but I would say in total we could use somewhere between \$117 million and \$120 million." That was in a year when the political going was getting tough for medical research, but Fogarty granted nearly \$109 million—which was \$21 million more than the administration had sought.

In the late afternoon, over drinks in his Capitol office, Fogarty loved to chat about the politics and finances of NIH. During one of these sessions, toward the end of the last Congress, he said that budgetary problems and pressures for more applied research were beginning to plague NIH. "But," he said, "you can tell the scientists, nothing bad is going to happen to medical research. I'll see to that."

—D. S. GREENBERG

Grand Canyon (*Science*, 17 June 1966). Conservation groups such as the Sierra Club, the National Wildlife Federation, the Wilderness Society, and the National Parks Association have been tax-exempt and entitled to receive deductible contributions because they are nonprofit organizations operated for "educational and scientific purposes." However, the pertinent section of the Internal Revenue Code says that, to qualify for this favored tax status, "no substantial part" of the organization's activities shall be the "carrying on of propaganda, or otherwise attempting to influence legislation."

The danger of falling afoul of this vague proscription has long been evident to conservation groups. The Sierra Club is not the only conservation organization to have been examined by IRS in the past decade, and, for fear of losing their tax status, some groups have stepped gingerly on Capitol Hill. For example, the National Wildlife Federation, although it takes positions on conservation issues when invited to testify before congressional committees, does not exhort its members and affiliated groups to appeal to congressmen to take certain actions. Its weekly *Conservation Report*, according to a Federation staff man, tries to present all sides of controversial issues and is neutral in tone. Some conservationists believe that this approach is inadequate. When struggling to prevail over powerful economic and political interests, they contend, conservation organizations must try to activate their members and significant elements within the general public and have them press for the legislative outcome desired.

But even the boldest conservation groups seem to have been influenced at times, and to some degree, by the realization that their tax status could be endangered. The Sierra Club itself, in its *Bulletin* of January 1955, told its members that the tax laws "do not permit [us] to carry on a full-scale legislative campaign, either state or national, to protect our parks." Trustees for Conservation (of San Francisco) and Citizens Committee on Natural Resources (of Washington, D.C.) were created for the specific purpose of carrying on lobbying activities which groups such as the Sierra Club felt they could not safely undertake. Although the two organizations are regarded as useful, some conservationists are convinced that these groups

alone cannot represent the conservation movement adequately in the legislative arena.

In any event, the Sierra Club entered the Grand Canyon dam fight with an obvious spirit of derring-do. The club has campaigned so aggressively to influence congressional opinion that it has brought IRS down upon it. On 9 June 1966 the club ran full-page advertisements in the *New York Times* and the *Washington Post*, urging readers to ask their congressmen to oppose the canyon dam proposals and noting that contributions to the club were tax-deductible.

The Internal Revenue Service reacted immediately. In a letter to the club IRS said it could no longer give advance assurance to club contributors that their donations would be tax-deductible. This warning was followed up by an IRS examination of club activities, which led to the decision, to become final unless overturned on an administrative or court appeal, revoking the club's privilege of receiving deductible contributions. (IRS has suggested that the club may keep its tax-exempt status by qualifying as a nonprofit "social welfare" organization, which, under the revenue code, is free to lobby. But contributions to such an organization are not tax deductible.)

District Director Joseph M. Cullen, in a 23-page letter explaining his ruling, said that the club's activities in regard to legislation was not casual, incidental, or sporadic but a regular, purposeful part of its program. During the 18-month period from 1 January 1965 to 30 June 1966, Cullen said, in about half of the 72 conservation matters considered by the club's board of directors, legislation was "either pending or immediately related to the issue."

Cullen cited various advertisements, club *Bulletins*, and other published material to show that the club was carrying on a steady effort to defeat the canyon dam legislation. The Cullen letter also reviewed the club's activities on behalf of its proposal for establishment of a redwoods national park, and noted that the club was interested in still other state and national legislative matters, such as the Indiana Dunes park proposal.

In assailing the IRS ruling, David Brower, executive officer of the Sierra Club, said that, although his club would continue to be militant, other conservation organizations "have been

forced into an ominous silence [and are] seriously inhibited in carrying out their role of protecting the public interest." "Meanwhile," he added, "organizations seeking to dam the Grand Canyon or otherwise assist their own private interest remain free to spend without IRS penalty."

Not all conservationists take so dark a view of the situation as Brower, but it is true enough that the tax law is by no means even-handed with respect to lobbying. The members of a tax-exempt group such as the Central Arizona Project Association, which spent almost \$75,000 in 1965 lobbying for legislation which would have authorized the canyon dams, can deduct their membership fees and assessments as a business expense. CAPA falls in the same tax category as groups such as the National Association of Manufacturers and the American Medical Association.

Brower and a good many other conservationists feel that the tax laws should be amended so that a conservation group could lobby without fear of losing its privilege of receiving deductible donations. Various proposals to accomplish this, including one by Senator Lee Metcalf of Montana, a member of the tax-writing Finance Committee, have been introduced in past Congresses. They have gathered

little momentum, however, and there seems no reason to think that such measures, if again introduced, will fare better this year.

The Department of the Treasury is unlikely to look with favor on any tax law amendment which would permit a horde of new and old lobbying organizations, many championing causes not so respectable as conservation, to claim the right to receive tax-deductible contributions. According to one government tax expert, the effect would be to give the rich man an important new advantage over the poor man in influencing legislation. The deductible contributions of a man in the 70-percent tax bracket, for example, cost the donor only 30 cents on the dollar. (It should be noted, however, that the Life Line Foundation, set up by Texas magnate H. L. Hunt to foster right-wing viewpoints, lost its tax-exempt status in 1965 for departing, in IRS's judgment, from its avowed educational purposes.)

Those government policy makers who may be concerned with having both a healthy conservation movement and a wise and equitable tax code are confronted by a dilemma. If it can be resolved at all, this problem will require the attention of tax experts and legislative draftsmen of high ingenuity.—LUTHER J. CARTER

H. G. Wells: He Was a Seer But a Disappointed Scientist

London. The year 1966 was the centenary of the birth of H. G. Wells. He is remembered as the originator of a superior kind of science fiction, a novelist of merit, a writer of best-selling popular history, and a social critic whose views and personality made him a controversial public figure. Since before his death 20 years ago, Wells has been out of fashion, and most of his hundred books are out of print. The centenary, however, has provided the occasion for a reevaluation of Wells's work. In addition, there have been signs here, in the journals that reflect the opinion of professional scientists (the group with which Wells wished most ardently to be identified), of his achievements now being acknowledged by scientists in a way that, as C. P. Snow pointed out in a recent

memorial lecture, was denied Wells during his life.

Wells's fame as a forecaster of things to come is secure. He predicted, for example, the advent of the tank, air warfare, and the atom bomb. The titles of his scientific romances—*The Time Machine* (1895), *The War of the Worlds* (1898), and *The First Man on the Moon* (1901)—suggest the scope of his imagination. But accurate as Wells was in foreseeing scientific and technological developments, his greater gift lay in relating moral and social consequences to these developments. It was this gift and the driving impulse to instruct which accounts for Wells's great influence, particularly in the middle period of his life.

Wells was fortunate to be born when he was. Political and educational re-