Conservation Law I: Seeking a Breakthrough in the Courts

Few terms have greater currency in the United States today than "environmental quality," a cliché that is constantly on the lips of politicians and luncheon speakers. Yet few knowledgeable people believe that, despite successes scored in skirmishes here and there, the battle for environmental quality really is being won. There is growing evidence that pollution problems, noise, urban sprawl, and other environmental ills are generally becoming worse and that an effective overall strategy for coping with these problems is yet to be found. It seems likely, however, that if a workable strategy is found, it will include, among other things, the rapid and imaginative development of what is coming to be called environmental or conservation law.

Environmental problems usually represent conflicts between competing uses of natural resources—for example, a virgin forest may be preserved as wilderness or reduced to pulpwood, and a city park may be kept for recreation or given over as right-of-way for a freeway. It is natural, therefore, that lawyers, who are supposed to have some expertise at resolving conflicts, should be called upon to help resolve problems concerned with the environment. Numerous legal actions over environmental issues are now pending before various courts and administrative agencies around the country.

These include, for instance, suits and petitions to outlaw use of DDT (which no doubt influenced the Nixon Administration's recent decision to institute a partial ban on this pesticide in the United States); to prevent completion of a Corps of Engineers cross-Florida barge canal project that is flooding much of the Oklawaha River basin and causing what some scientists say are disastrous ecological changes; to keep the U.S. Forest Service from allowing Walt Disney Productions to build a commercial resort at Mineral King in the Sierra Nevada; and to bring antitrust charges against major automobile manufacturers for an alleged conspiracy not to compete in the development of exhaust-control devices (damage suits are being brought by the State of New York, two Chicago aldermen, and Los Angeles County). Scientists and other academicians figure importantly in many pending actions, in part because they are strongly represented in the membership of groups such as the Sierra Club which are bringing suits, and in part because they often testify as expert witnesses.

Lawyers and law school professors are becoming aware of conservation law as a potentially important field. This year the American Trial Lawyers Association has established an environmental law committee, which is arranging a series of seminars and is planning to establish an environmental law reporting service. Significantly, the American Bar Association, a generally conservative organization which tends to resist new trends until they are certified as thoroughly respectable, also is setting up a committee on environmental quality.

And, in September, more than 60 attorneys and law school professors, including some involved in conservation law suits, attended a 2-day conference on law and the environment sponsored by The Conservation Foundation of Washington, D.C., and The Conservation and Research Foundation of New London, Connecticut. They discussed various legal arguments and strategies that might be used in environmental law, a field in which the usable precedents are still few. The conference proceedings, which The Conservation Foundation will have published next year by Walker and Company of New York, may serve as a primer for attorneys venturing for the first time into this unfamiliar legal realm.

Furthermore, law schools, under growing pressure from students to make their programs more responsive to the public interest, have been adding courses on environmental law as well as courses on such topics as consumer and poverty law. And some long established courses on natural resources law are being reoriented to reflect concerns broader than those of the exploitative industries which law schools and many of their law graduates have always served. Some prestigious law firms, such as the Washington firm of Arnold & Porter, which once had their pick of the ablest law graduates, are now finding that to attract such graduates it is helpful to offer opportunities for *pro bono publico* (public service) work in environmental law and other fields.

Arnold & Porter, acting without fee for the Metropolitan Washington Coalition on Clean Air, the Friends of the Earth, the Sierra Club, the Izaak Walton League of America, the Wilderness Society, and other conservation groups, has prepared a brief supporting a suit by some Washington citizens groups that seeks to block construction of the Three Sisters Bridge on the Potomac—a controversial project which many people fear will cause increased traffic congestion and air pollution in Washington and do esthetic damage to the Potomac palisades and the historic Chesapeake and Ohio Canal.

For 2 years now the Environmental Defense Fund (EDF), a Long Island–based group organized in late 1967, has been asserting in anti-DDT cases and other actions that people have a constitutional right to a clean environment. For example, EDF makes such a claim in the federal suit that it filed last year in Montana to force the Hoerner Waldorf Paper Company to provide an adequate air pollution control process at its Missoula pulp mill. Victor J. Yannacone, Jr., an EDF attorney, speaks of the Missoula suit as the "perfect air-pollution test case." The Hoerner Waldorf mill, he says, is responsible for heavy emissions of active sulfur compounds that are polluting the regional air shed. (The company recently announced plans to try out some new pollution-control equipment.) Such pollution, Yannacone argues, represents a "nonnegotiable hazard" from which citizens should be able to obtain relief under the Constitution's Ninth Amendment, which states that the enumeration of certain rights elsewhere in the Constitution does not deny other rights (such as the right, says Yannacone, to breathe clean air) retained by the people. The Missoula case has not yet been set for trial, and, if and when it is tried, the outcome may turn on legal arguments that are more conven-

NEWS IN BRIEF

• **ERVIN QUERIES BLACKLIST**: Senator Sam Ervin (D–N.C.) has sent a sharply worded, four-page letter to Secretary Robert Finch of Health, Education, and Welfare questioning the department's security procedures which have barred scientists from serving on advisory panels (*Science*, 27 June). The Senator is chairman of the subcommittee on constitutional rights of the Senate Committee on the Judiciary. According to a committee staff member, Ervin sent a letter in November to Finch but received a noncommittal reply. The second letter, dated 11 December, queries Finch about controls on a computer system allegedly operated by HEW as part of its clearance procedure; Ervin fears the system may violate an individual's right to due process. The letter also contains a list of 100 names of scientists who are reportedly on the blacklist; Ervin asked for information on each. HEW has not admitted the blacklist exists, and it has not yet released a report done by staff members on its clearance procedure.

• **CLEAN WATER BILL**: House-Senate conferees have agreed to appropriate $800 million in matching grants for water-treatment plants this year. This is the largest appropriation approved so far by Congress for the 1966 Clean Waters Restoration Act. The Nixon administration had requested $214 million, the same amount spent last year.

• **RELABELING CONTRACEPTIVES**: The Food and Drug Administration will order combination and sequential oral contraceptives relabeled before next year. The relabeling will indicate that combination oral contraceptives are more effective than the sequentials, and that data suggest, but do not confirm, an "excessive risk" of blood clotting with the sequentials. The new warnings will not mention cancer or mental depression.

• **FLORIDA DIPHTHERIA OUTBREAK**: A small outbreak of diphtheria in Miami has stricken nine children so far and caused three deaths. Another death, and four more cases of the sickness, were reported in Monticello and Jackson, Fla. None of the Miami children had been vaccinated, and all came from a low-income neighborhood. Local authorities are trying to contain the outbreak by vaccinating about 74,000 children. An official at the National Communicable Disease Center, Atlanta, Ga., said small outbreaks such as the Miami one are common, particularly in poverty areas; 187 cases of diphtheria nationwide had been reported to the Center as of 12 December this year. The median number of cases over the past 5 years is 197. Florida officials estimate only 88 percent of that state's population has been vaccinated, but say there is little danger of a major epidemic.

• **H. P. HEINEKEN PRIZE**: Britton Chance, professor of biophysics and director of the Eldridge Reeves Johnson Foundation for Medical Physics at the University of Pennsylvania, has been awarded the H. P. Heineken Prize for 1970. The prize is awarded every 3 years by a committee of the Royal Netherlands Academy of Science for achievement in biochemistry, biophysics, or microbiology. Chance was awarded the prize, consisting of 100,000 guilders (about $27,000), for his research on the mechanism of intracellular respiration and photosynthesis.

• **AAU ELECTION**: The Association of American Universities has elected to membership the University of Maryland, Case Western Reserve University, the University of Southern California, and the University of Oregon. The AAU is an organization of about 50 universities in the United States and Canada that are considered preeminent in graduate and professional study and research.

• **WAR ON STARFISH URGED**: A group of U.S. scientists recently blamed man's interference with the balance of nature, primarily through dredging coral reefs and polluting water by DDT, for a population explosion of the crown-of-thorns starfish. The starfish, previously rare, are nibbling at coral reefs around Pacific islands, and have already destroyed 100 square miles of Australia's Great Barrier Reef. The scientists suggested a systematic hunting program. They rejected a suggestion made last week by a committee of the Australian Academy of Science to the effect that the starfish population explosion is a natural cyclical event.

tional than Yannacone's Ninth Amendment argument.

Many lawyers doubt that the courts are ready to accept that argument. Most judges are extremely wary about venturing beyond precedent and known law and about deciding questions, such as the general public's interest in clean air (as opposed to a mill's interest in cheaply disposing of its wastes), normally left for legislative determination.

Yet E. F. Roberts, professor of law at Cornell, said at the September conference on environmental law that the Ninth Amendment allows enough "growth" in the interpretation of the Constitution to extend constitutional protection to the environment. The Ninth Amendment, he noted, was cited by the Supreme Court a few years ago in invalidating a Connecticut law against dissemination of birth-control information. This statute was declared an unconstitutional infringement on personal privacy, even though a right of privacy is not explicitly mentioned in the Constitution.

Enunciation of a right to environmental protection, Roberts said, would "require every agency of government, whether a local zoning board or a federal home mortgage lending agency, to review their plans to make certain that their activities did not actually exacerbate deterioration of the environment." Obviously, however, recognition of a right to environmental protection would have to be reconciled with such necessities as carrying on industrial and commercial activities, providing systems of mass transport, and building homes for an expanding population.

The "trust doctrine" also was discussed at the September conservation law conference. This ancient doctrine holds that all land was once held in trust for the people by the sovereign—or government—and that the government cannot divest itself entirely of responsibility for the uses to which land is put, even though most of it long since has passed into private hands. The government must, according to the trust doctrine, see that no land, public or private, is abused or otherwise used in ways contrary to the public interest. The trust doctrine, though recognized by the courts in certain cases involving submerged lands and publicly owned lands, has not been applied to lands generally.

Joseph Sax, a University of Michigan law professor and specialist in the field of conservation law, views the trust doctrine as a particularly useful

and flexible legal concept. A court's finding that a particular proposal or action violates this doctrine, he says, would rarely result in the invalidation of a legislative act. Massachusetts courts, in a series of public trust cases decided in recent years, have set aside administrative decisions in controversial land-use cases when the legislative authority on which those decisions were supposedly based was not clearly spelled out.

In one such case, for example, the state highway department was not allowed to use a public marshland for right-of-way, even though state law seemed to permit such action. The court said that, if it were the legislature's intent to allow such a diversion of parkland to highway use, it should say so explicitly. Sax believes that rulings of this kind have a desirable "squeezing" effect on a legislature, forcing it to face up to the implications of vaguely stated policies which it writes into law.

Sax is the author of a bill now

British Dons' Ire Raised by Request To Account for Time

London. About one-third of Britain's 30,000 university staff members have been provided with booklet diaries and invited to account, half-hour by half-hour, for the way they spend their time during a typical work week. Many have reacted like clerics asked to prove their piety, generals their patriotism, or dowagers their virtue. Proclaimed a Cantabrigian in a letter to the *Times*, ". . . the only proper reaction, surely, is to march upon the originators of the scheme and make them eat their ridiculous pamphlets—the only way of ensuring that the results of the enquiry will be properly digested."

The originators, as it turns out, are the chief executives of Britain's 44 full-fledged universities, sitting as the Committee of Vice Chancellors and Principals of the Universities of the United Kingdom. Just how happy they are about this massive inquiry is difficult to discern behind the curtain of discretion that the committee maintains. But an explanatory letter accompanying the diaries carries the suggestion that the committee acted to head off what might have been a less sympathetic inquiry by another body, the University Grants Committee (UGC), the quasi-official body responsible for channeling funds to higher education. Traditionally, the UGC has served as a means for assuring government support and independence for the universities. But, in recent years, the government has taken the view that higher education has generally been oblivious of national needs, and it has been pressuring the UGC to use the power of the purse to get the universities to stress studies of economic significance. On top of this, university enrollments have exceeded all expectations, and since entry is available at only token cost for all qualified secondary school graduates, the government is increasingly curious about the comfortable student-staff ratios that prevail in a system for which it pays virtually all the bills. Hence the interest in what all those faculty members are doing with their time.

However, getting at the answer with any precision is a separate matter. Thus, the diary is arranged in columns, with a check to be entered for each 30-minute period between 8 a.m. and 11:30 p.m. to indicate that the time was at least half devoted to any one of seven categories of activity. These are: "undergraduate time," "graduate course-work time," "graduate research time," "personal research time," "unallocable internal time," "external professional time," and "private free time." It is assumed that time from midnight to 8 a.m. is "private" unless otherwise noted. The definitions are brief, and inevitably lend themselves to ridicule, which has been forthcoming in large volume. "Unallocable internal time" is defined as "time spent on reading, study, discussion, and conferences which, while possibly contributing both to teaching and research is not allocable to one or the other. Time spent 'keeping up with the subject' should be entered here. Include also any administration and committee work not allocable to undergraduates, graduates or personal research—for instance, most staff appointments, and the general supervision of a department—and work related to the building up of a library, unless the books concerned are ordered for particular student groups (undergraduate or graduate) or a particular piece of research (graduate or personal.)"

"Private and free time," the explanation goes, "covers eating, recreation, sleeping, family contacts: work for the community not related to your professional status (e.g. being a churchwarden): non-productive travel time to and from your normal place of work (but traveling on official business should be included under the category to which the business belongs): marking [secondary] school examination papers, writing novels as a sparetime occupation, and other such activities which, while 'work' neither derive from your university post nor contribute to your professional status in that post."

As the controversy continued in newspaper letters columns, a few academics defended the inquiry as a reasonable attempt at assuring efficient use of resources. Wrote one: "I am filling in my diary of activities . . . In doing so, I feel no sense of humiliation. The resources of higher education must be managed as efficiently as possible, and this can only be done if the right sort of information is available. Although I have certain reservations on the reliability of this particular survey, I am in agreement with its general aims. We academics must learn to stop standing on our dignity, and realize that there is no divine right which protects us from this sort of thing . . . [H]e who pays the piper calls the tune."

But more common were letters that told of incredibly convoluted and entangled schedules, involving such wondrously interwoven and noncompartmentable activities, that no conceivable method could possibly divide them into seven categories. And then there was the letter from a professor's wife, who wrote: "At times my husband talks in his sleep about academic or university business. Do I next morning, after timing the duration of these remarks, advise him to transfer these periods of dormitory cogitation from 'private and free time' to another category?"—D. S. GREENBERG

Fort Detrick: Redeployment?

As a result of President Nixon's decision to renounce biological warfare (*Science*, 5 December), one of the nation's largest collections of microbiologists, plus assorted other scientific personnel at the Army's Fort Detrick, Md., have been left in a state of uncertainty about the future. Detrick's personnel and laboratories represent such an important scientific resource for the containment and study of infection materials, that the key question seems to be not whether Detrick, but whither.

The home of germ warfare research lost the most controversial part of its mission when the President decided to terminate preparations for offensive biological warfare (BW). Defensive BW research is to be continued, but at this time it is not clear (i) on what scale, (ii) where, and (iii) if at Detrick, under whose auspices. A White House spokesman, since identified as Henry A. Kissinger, on 25 November said the Administration hopes to transfer much defensive BW research to the Department of Health, Education and Welfare. A Pentagon research official recently acknowledged that the future of Detrick is under study, but neither he nor a spokesman for the Public Health Service could explain the ramifications of Kissinger's statement. And Riley Housewright, director of research at Detrick, said in an interview that "we have no word whether we will remain in the Army or will be shifted elsewhere in the Defense Department or to some other agency of government." Meanwhile, Housewright said, a combination of the President's decision and budgetary reductions have led to a 12 percent cut in personnel at the biological laboratories over the past year, to about 1550, and further sizeable cuts are in prospect after the first of the year. Housewright said he has the Pentagon's approval to explore the possibility of obtaining research contracts for Detrick from the National Cancer Institute and the National Institute of Allergy and Infectious Diseases.

On the assumption that Detrick is up for grabs, witnesses at a recent Congressional hearing on chemical and biological warfare offered two novel proposals. Joshua Lederberg, a Stanford geneticist and Nobel prizewinner, proposed that the installation be devoted to "public research available to the international community for defenses against biological attack, both natural and . . . from other sources." Lederberg told a House Foreign Affairs subcommittee headed by Representative Clement J. Zablocki (D–Wis.) on 2 December he thinks "there is a considerable amount of self-delusion . . . that the antibiotics will take care of any bacteriological infection; . . . that the plague has been conquered by medicine; that virus infections will somehow be taken care of."

But "when you see a pandemic like the Hong Kong flu, you have a foretaste of what really can happen. That was a world-wide epidemic. The attack rate was something like 20–30 percent of the world's population. . . . It was not a particularly lethal one, but it is only a minor accident that it was not. Such events are undoubtedly going to occur in the future that will be very much nastier. . . .

"I think many public health authorities are reluctant to arouse public alarm and they are afraid that this would happen if they properly exposed the dimensions of the problem. . . . [Now] we have the opportunity to combine many motives in a constructive way in the furtherance of a very high level of micro-biological research, partly dedicated to the international, multinational defensive measures that each country would like to know are available to it, so that some neighboring small country can't just take a pot shot at them. . . . We also need exactly the same measures against world-wide disease."

In a different vein, Yale biologist Arthur W. Galston suggested at the hearing that "if Fort Detrick were turned into a center for testing the many chemicals in our everyday life" for their toxicological effects, "it would become a national shrine." Scientists in other specialties would appear to be better suited to such a task than Detrick's biologists, but Representative Benjamin S. Rosenthal (D–N.Y.) was enthusiastic. "We could call it the Rachel Carson Center," he said.—ANDREW HAMILTON

pending in the Michigan legislature which would give Michigan conservationists a potent new weapon. Under this measure, any citizen could bring suit against any person or agency to safeguard the natural resources of the state and to protect the "public trust."

If courts should ever apply the trust doctrine or the Ninth Amendment argument in a wide variety of environmental cases, this would force the executive and legislative branches to move at a faster pace in setting and enforcing standards for environmental protection. Although the environmental problem and the racial problem are not closely parallel, it may be instructive to recall that the Supreme Court's 1954 ruling against racial segregation in public schools triggered the release of dynamic social and political forces that produced the major civil rights legislation of the 1960's.

If courts leap too far ahead of public opinion, they do so at their peril, for, being empowered of neither the "sword nor the purse," they depend on the executive and legislative branches—and ultimately on the electorate—to see that their edicts are obeyed. But today courts are probably behind public opinion with respect to questions of environmental protection. During the 19th century and the early 20th century the courts became, in a real sense, the instruments of laissez-faire economics. In one classic case, decided by a Tennessee court in 1904, two copper smelting companies were allowed to continue their practice of reducing copper ore by cooking it over open-air wood fires, a process that produced billowing clouds of sulfur dioxide smoke which made a wasteland of the surrounding valley.

Farmers who had complained were told by the court that they were not entitled to injunctive relief because "the law must make the best arrangement it can between the contending parties, with a view to preserving to each one the largest measure of liberty possible under the circumstances." Roberts, the Cornell law professor, observes that " 'liberty' here meant that the companies were free to create a wasteland if they paid for it [some damages were awarded], whereas the farmers were free to take jobs with the industry and continue to reside in a valley totally polluted with chemicals."

Judicial attitudes have, of course, been evolving and, in a variety of matters involving the public interest and the social welfare, the private entrepre-

neur no longer enjoys the freedom of action he once did. Nevertheless, in environmental cases some courts still have not progressed far beyond the kind of "balancing of interests" that characterized the ruling in the Tennessee case just cited. For example, as Roberts has noted, a New York court recently allowed a new cement plant, which had been erected in an Albany neighborhood, to continue polluting the air with cement dust, provided it gave money damages to residents of the area.

With concern about the environment now widespread, it seems likely that the public and most elected officials would support strong court action to curb pollution and other forms of environmental degradation. The "new conservation," calling for the rational use of the environment in the interest of a high quality of life, is as much concerned with the urban environment as it is with wilderness and other natural areas. The conservation movement no longer can be regarded as a "special interest" of concern chiefly to sportsmen, wilderness "preservationists," and the like. On the contrary, conservation has a fast broadening constituency.

Problems such as noise and air pollution bear especially heavily on low-income people who cannot escape from industrial districts and who cannot afford air-conditioned homes or weekends at Aspen or Sea Island. These people, and in many cases their labor unions, are becoming increasingly concerned about environmental issues. Political careers are being built on the environmental protection issue. For example, Representative Bob Eckhardt (D–Texas), before his election to Congress in 1966, had made a record in the state legislature as a crusader on that issue. Many of Eckhardt's constituents are workers who suffer daily the odors and eye-smarting fumes that are emanating from plants along the Houston ship canal.

There is even a strong possibility that the conservation and civil rights movements may form an alliance. Controversies growing out of urban freeway projects, for example, already are bringing together black people threatened with displacement and others who are concerned about worsening air pollution, traffic congestion, and other problems. A leader of the National Association for the Advancement of Colored People in Texas recently joined with several Texas conservation groups, such as the local chapters of the Sierra Club and the National Audubon Society, in a suit to block construction of a golf course in Meridian State Park. The complaint alleges in part that the project would impose a kind of "de facto segregation"—by taking a public park area open to all races and income groups and replacing it with a golf course open only to those with money enough to pay green fees and buy golfing paraphernalia.

Further evidence of the growing interest in environmental protection can be seen in the recent adoption by New York voters of a "conservation bill of rights" as an amendment to the state constitution. If it is true, as Oliver Wendell Holmes once said, that judges must respond to the "felt necessities of the times," it would seem that the time has come when the courts will begin to play an important role in helping to resolve the environmental crisis.

—LUTHER J. CARTER

Ecology is giving conservation its scientific rationale, and scientists are playing a major role in conservation law cases. This will be discussed in a later article, which also will review gains made thus far in environmental law and will consider some potentialities.

Marquette School of Medicine: State Aid and Self Improvement

Milwaukee. When the Wisconsin legislature in October voted a 2-year, $3.2 million appropriation for the Marquette School of Medicine, it provided a crucial transfusion of state funds to a school that financially was on the critical list. The state money will cover an anticipated annual deficit of $1.6 million for the next 2 years but will hardly banish all the medical school's problems, for, in addition to its financial difficulties, the school is in the throes of administrative regenesis and an internal debate about how major policy shall be made.

Marquette is a private medical school which in 1967 severed ties with Marquette University. Separation from the Jesuit university resolved the church-state issue, and cleared the way for a state supreme court decision in September establishing the legality of state aid to the private medical school. The legislature's subsequent action in voting funds obviously created an important precedent but stopped far short of any assumption by the state of responsibility for the school's destiny. Like several other medical schools, Marquette depends on a combination of local, state, federal, and private funds —which makes it a thoroughly mixed enterprise.

Marquette in many ways is a paradigm of a particular group of medical schools. In budget, number of entering and graduating students, and size of faculty, Marquette comes uncannily close to the national average for medical schools. Marquette enrolls about 395 medical students in its four classes and has a full-time faculty numbering some 280, including about 40 on the staff of the local veterans hospital. The last annual budget was about $10.5 million.

The school was a fairly typical product of the Flexner revolution in medical education. It was formed by the combination of two proprietary medical schools and was launched in 1918 with a state charter and a Carnegie grant. Through World War II most of the school's graduates entered general practice rather than specialties or research. Symptomatically, Marquette was rather late in giving up reliance on part-time faculty, and the move to "geographical full-time" faculty in the clinical departments really began in the early 1950's. Once begun, however, Marquette's effort to join the mainstream of academic medicine seems by most indices to have flourished, particularly in the last decade. By the criteria of credentials and publications the faculty has been decidedly upgraded. Until 1960 no doctorates in the basic sciences had been produced. Since then the pharmacology and physiology departments alone have turned out about 30 Ph.D.'s. On the Medical