Sociobiology: Troubled Birth for New Discipline

Cambridge, Massachusetts. *Sociobiology* is the title of an ambitious synthesis that aims to found a new discipline, the systematic study of the biological basis of sociality. Published last June to generally laudatory reviews in the scientific press, the book has since come under heavy criticism for allegedly concealing a reactionary political message. Its theories have been held analogous to those of Nazi eugenics and its author has countercharged his critics with intimidation and inhibiting free inquiry. Beneath the smoke is a scientific issue—which some spectators regard as part of a historic debate—that of the extent to which human social behavior is genetically determined.

Though the controversy about *Sociobiology* is far ranging, the protagonist and his critic-in-chief work in the same building almost within shouting distance of each other. Author Edward O. Wilson is curator in entomology at the Harvard Museum of Comparative Zoology. Richard Lewontin is professor of zoology at the museum.

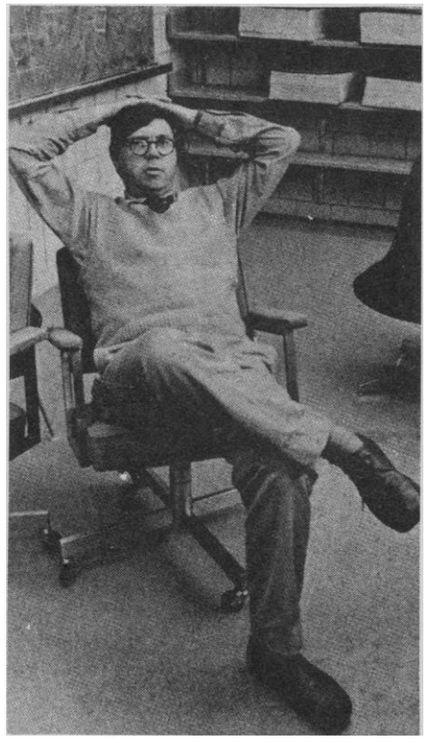
Slime molds, ants, and apes belong to the three groups of species among which sociality has evolved in nature. Only the last chapter of *Sociobiology*, comprising some 30 of its 600 pages, is devoted to the species at nature's fourth social pinnacle, man. It is this chapter which is the focus of a vehement attack by a phalanx of Cambridge based academics and others. The group, which calls itself the Sociobiology Study Group, is affiliated with the radically oriented Science for the People. Besides Lewontin and Steven Gould, also a member of Wilson's department, the group includes four other Harvard professors.*

Every other Tuesday for the last 6 months, the group has held meetings to critique Wilson's text. The chief outcome of this assiduous study has been two articles, one published as a letter in the 13 November issue of the *New York Review of Books*, the other a 30-page document of which a condensed version is to appear in *BioScience* together with a reply by Wilson. According to the theme developed in both these articles, Wilson contends that man's social behavior is mostly or wholly determined by his genes. Such a position, which the group labels "biological determinism," conveys a justification of the existing political order of society by implying that it is genetically determined. In any case, the group adds, there is no direct scientific evidence to suppose that any of man's social behavior is determined by the genes.

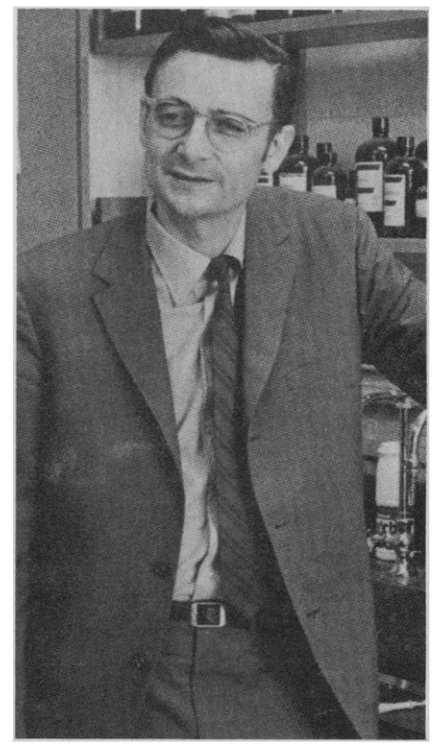
The Sociobiology Study Group operates as a collective and objects to any suggestion that it has a leader. Attention focuses more equally on Lewontin than on other members, however, because he has actively promoted the campaign against *Sociobiology* by giving lectures and writing letters to the *Harvard Crimson*. Lewontin has long been a prominent and articulate member of Science for the People. He is also a distinguished expert on the subject at hand. He and Richard Levins, another member of the group, are widely regarded as brilliant population geneticists. Both have been elected to the National Academy of Sciences, but Lewontin resigned on a point of principle (issuance by the academy of classified reports) and Levins, a Marxist, declined to accept membership because of the academy's participation in military matters. According to sources close to Wilson, it was he, as an admirer of their work, who was in large measure responsible for bringing Lewontin to Harvard over political opposition in the faculty and for promoting Levins as a candidate for election to the academy. Wilson cites generously from their work and, at least until the present controversy was ignited, is said to have been a reasonably close colleague and friend of Lewontin's.

Whereas Lewontin and his radical colleagues profess to see a political message in *Sociobiology*, its author, who describes himself as a liberal, sees none and says none was intended. Wilson's best known work before *Sociobiology* was *The Insect Societies*, a magisterial survey of the social systems of wasps, ants, bees, and termites. His office, on the floor above Lewontin's, is dominated by a potted orange tree whose leaves have been stitched together by a collective of weaver ants. Nearby containers are homes to colonies of fire ants, leaf-cutting ants, and other exotic myrmecoids. The stray members of these societies that forage through the papers on Wilson's desk do not disturb him; "Inevitable leakage," he says.

The Wilson-Lewontin debate has every



Richard Lewontin



Edward O. Wilson

*The 35 present members of the collective include the following academics: Jon Beckwith, professor, Harvard Medical School; Steven Chorover, professor of psychology, MIT; David Culver, professor of biology, Harvard Medical School; Steven Gould, professor, Harvard University; Ruth Hubbard, professor of biology, Harvard University; Hiroshi Inouye, resident fellow, Harvard Medical School; Anthony Leeds, professor of anthropology, Boston University; Richard Lewontin, professor of biology, Harvard University. Another member, Richard Levins of Harvard University, was not a signatory of the letter to the *New York Review of Books*.

NAS Finds Flaws in RANN

The applied social sciences research projects supported by the National Science Foundation's RANN (Research Applied to National Needs) program are subjected to some hard criticism in a report released last month by the National Academy of Sciences.

The study, initiated last summer by NSF's new deputy director, psychologist Richard C. Atkinson, was commissioned to give the agency a fresh independent assessment of its programs of social and behavioral sciences research, both basic and applied. The panel is headed by psychologist Herbert A. Simon of Carnegie-Mellon University and composed almost entirely of academic social and behavioral scientists.

The group looked with favor upon the basic research side, saying the quality of the projects supported was "generally excellent." It pushed for more of the same, noting that only 30 percent of qualified investigators in these sciences get federal support, as compared with 58 percent of investigators in the hard sciences. It added that budgetary limitations notwithstanding, more consideration should be given to projects that require long-term or large-scale support.

There were few kind words for the applied research projects, which were found to be of "highly variable quality and on average, not impressive." The critique of the program is dotted with words like "pedestrian" and "unhealthy" —reportedly much to the distress of some RANN officials who believe the panel does not fully understand how things operate around there.

The committee felt that a fundamental problem with management of the RANN projects is that the planning process has a "top down character," with problems being defined by the RANN staff and the "user" community more than by investigators themselves. ". . . [T]he organization is structured to identify applications in search of science, rather than science in search of applications," says the report. One result of this approach is that the applied program jumps around too much with short-lived attacks on problems of the moment and not enough attention is given to long-term societal problems. The projects, therefore, are "relatively undistinguished, with only modest potential for useful application." (No examples of such marginally useful projects are given.) The report says that too many of the research proposals originate from the agency, a policy that is not particularly attractive to first-rate investigators, and too many of the projects are executed by nonprofit or profit-making corporations rather than universities—all of which, in the panel's opinion, exaggerates the gap between user and research communities.

The study group, which made no secret of its academic bias, believes management of RANN social science research should more closely emulate the model set in the basic research division, with more reliance on unsolicited proposals. Reorganization along these lines, says the report, would reduce the number of staff required and "would lead quite logically to the creation of an applied social and behavioral science division with RANN" (the projects are now scattered among RANN's five divisions). It would also mean more high-level social and behavioral scientists at NSF.

Social science research has always dwelled somewhat uncomfortably at NSF, eyed with suspicion by those who believe the agency's proper role is as supporter of basic research and hard science. The increasing visibility of the social sciences has coincided with a surge in hostile congressional scrutiny. The panel says NSF is going to have to do a lot better in making the case for social sciences not only before Congress but in other parts of the agency itself, where the "level of appreciation of the social sciences . . . is not impressive."

In addition to its implicit call for more money—the report points out that 24 percent of the nation's basic researchers are social and behavioral scientists but they only get 7 percent of the NSF budget—the panel believes the time has come to study the feasibility of setting up national laboratories, such as exist for the physical sciences, to fill research needs that can't be met at individual facilities. A computer facility for cognition and a psychoacoustics laboratory are two of the examples given.

Atkinson emphasizes that this is an interim report and may sound a little harsh because "we told them to take as tough a view as you can." The final report is to be issued in June.—C.H.

outward appearance of an illuminating battle between titans. Unfortunately the main issue is never joined, because Wilson denies that he says what the Sociobiology Study Group claims he says. The group has "utterly misrepresented the spirit and content" of the book, Wilson charges. They "cite piece by piece incorrectly, or out of context, and then add their own commentary to furnish me with a political attitude I do not have and the book with a general conclusion that is not there."

The chief bone of contention thus dissolves into an arid analysis of Wilson's text. This reporter's opinion, for what it is worth, is that Wilson is substantially if not wholly correct in claiming that his critics have seriously distorted what he says. On the issue, for instance, of how much of human social behavior may be genetically determined, the Sociobiology Study Group portrays Wilson's position as thoroughly determinist, even though he says in the book that "the genes have given away most of their sovereignty" and has since stated that maybe 10 percent of social behavior has a genetic basis. The group dismisses these qualifications and says that Wilson's "effective" position is "an extreme hereditarian one." The reader of *Sociobiology* may get the impression that the author believes somewhat more than 10 percent of human social behavior is genetically based, but there is no good reason for assuming he is an extreme hereditarian.

The Sociobiology Study Group consistently misrepresents Wilson's arguments by removing the hedges. A particularly flagrant example concerns "conformer genes." The group attacks him for asserting that such genes must exist, whereas in fact they are merely postulated. "In speaking of indoctrinability, for example," the group says in its letter to the *New York Review of Books*, "he asserts that 'humans are absurdly easy to indoctrinate' and therefore 'conformer genes' must exist." What Wilson actually says is: "Human beings are absurdly easy to indoctrinate—they seek it. If we assume for argument that indoctrinability evolves, at what level does natural selection take place?" The invocation of conformer genes occurs a few sentences later as what is clearly part of the "if we assume for argument." A second example is the charge that, by applying to insect societies such metaphors as "slavery" and "caste," Wilson "promotes the analogy between human and animal societies and leads one to believe that behavior patterns in the two have the same basis." Unwary readers might not guess that Wilson prefaces his comparison with the statement, "Roles in human societies are fundamentally different from the castes of social insects."

Another apparent misrepresentation of Wilson's position occurs on the issue of traits that are adaptive. (An adaptive trait is one that has arisen by evolution and so has a genetic base.) The group accuses Wilson of saying that everything is adaptive. "For Wilson, what exists is adaptive, what is adaptive is good, therefore what exists is good.... This approach allows Wilson to confirm selectively certain contemporary behavior as adaptive and 'natural' and thereby justify the present social order." Wilson describes this statement of his position as "patently false" and, far from saying that everything is adaptive, his discussion of man's sociality is prefaced with the statement that "One of the key questions ... is to what extent the [human] biogram represents an adaptation to modern cultural life and to what extent it is a phylogenetic vestige. Our civilizations were jerrybuilt about the biogram."

In short, the Sociobiology Study Group has systematically distorted Wilson's statements to fit the position it wishes to attack, namely that human social behavior is wholly or almost wholly determined by the genes. Such a degree of distortion, though routine enough in political life, is perhaps surprising from a group composed largely of professional scholars. Nevertheless, the group probably deserves some credit for pointing out that the territory Wilson is broaching is fertile ground in which to sow all kinds of social and political dragon's teeth. For example, Wilson indicates in a table (the text is somewhat less definite) that male dominance over females can reliably be concluded to be an inherited human trait. The sociobiology group may have a point in arguing that the ethnographic data on which the assertion is based is itself riddled with sex bias. Since the statement is perhaps not indubitably true, and since its social and political implications are highly controversial, the subject probably deserves more detailed discussion than it receives.

Elsewhere Wilson speculates that homosexuality may have a genetic basis, on the grounds that, although homosexuals tend to have fewer children, they could favor the continuance of their genes by looking after the children of their close kin. The assumptions in this hypothesis could easily become matters of social controversy, as could the possibility which Wilson raises that genetic differences in populations "might predispose societies toward cultural differences."

Wilson had expected his book to be attacked, but not from this quarter. Since he was caught unprepared, it is maybe surprising that those of his positions which are politically vulnerable are so well guarded. But it is probably naive of those who discuss human sociobiology to expect that the political dimensions of their arguments will be ignored. The perils of the subject were instantly spotted by an early reviewer of *Sociobiology*, MIT economist Paul Samuelson. "How do you keep distinct a Shockley from a Wilson? A Hitler from a Huxley?" he asked in his *Newsweek* column last July. "To survive in the jungle of intellectuals," he concluded, "the sociobiologist had best tread softly in the zones of race and sex." Lewontin, who believes that scientists must expect to be held accountable for their nonscientific as well as scientific statements, puts it this way: "Wilson, like most scientists, expects to be able to put out a lot of bullshit about society and not get taken up on it."

Are there in fact dangerous political consequences in even the limited degree of genetic determination that Wilson is postulating for human social behavior? The argument of the Sociobiology Study Group could be valid even if they have distorted the extent of Wilson's postulations. It goes as follows. Biological determinism, the group contends, has repeatedly been invoked in support of evil causes. In the 19th century, social Darwinist Herbert Spencer claimed that it was unnatural to try to eradicate poverty because it interfered with the law of the survival of the fittest. Claims of a genetic basis for intelligence have fueled the assertions of racial differences by William Shockley and others. Determinist theories, the group contended in its letter to the *New York Review of Books*, "provided an important basis for the enactment of sterilization laws and restrictive immigration laws by the United States between 1910 and 1930 and also for the eugenics policies which led to the estab-

Ethics and Values as Genetic Traits

Sociobiology teems with other provocative suggestions about human social behavior besides those cited by the Sociobiology Study Group. Wilson speaks, for example, of the evolution of ethics. The emotional control centers of the brain, which flood our consciousness with hate, love, guilt, and fear, have evolved by natural selection, he says. Thus when ethical philosophers try to intuit the binding canons of morality, they are consulting the survival values programmed into their own brains by natural selection.

"Only by interpreting the activity of the emotive centers as a biological adaptation can the meaning of the canons be deciphered," says Wilson. The time has come "for ethics to be removed temporarily from the hands of the philosophers and biologicized." In a pending article in *BioScience* Wilson states: "The question that science is now in a position to answer is the very origin and meaning of human values, from which all ethical pronouncements and much of political practice flow."

Some of what we regard as our noblest sentiments may derive from behavior selected because of its basic survival value. Forms of altruism, for example, such as sacrificing one's life for the sake of one's family or group, may be programmed into us by natural selection because they favor the representation of the hero's genes in the next generation, which is all that nature cares about. The explorer's sense of exhilaration in breaking into virgin territory, or even the scientist's excitement at a new discovery, may be founded simply on the reward that nature pays for inquisitiveness. With a fuller understanding of the human brain, Wilson told *Science*, we may arrive at a new level of disillusionment: "In completing the Darwinian revolution we are likely to see some of our most exalted feelings explained in terms of traits which evolved. Human beings see themselves in transcendental terms. But we may find out that there is an overestimate of the nature of our deepest yearnings. We tend to be very respectful of these emotions, as we should be, because they are very human qualities, but we may discover that they have very humble origins."

Because of materials shortages and the threat to the environment, the creation of a planned society "seems inevitable in the coming century," Wilson says in *Sociobiology*. Yet the planners who try to discourage the beast in man may find that they lose the angel too because the one is the palimpsest of the other. If the planned society, Wilson says, "were to deliberately steer its members past those stresses and conflicts that once gave the destructive phenotypes their Darwinian edge, the other phenotypes might dwindle with them. In this, the ultimate genetic sense, social control would rob man of his humanity." Or as Horace puts it, you can't drive nature out with a pitchfork.—N.W.

lishment of gas chambers in Nazi Germany.

"The latest attempt to reinvigorate these tired theories," the letter added in an egregiously raw accusation, was constituted by sociobiology and Wilson's book.

Wilson offers a simple but stout rebuttal argument: "The fallacy of my critics is that to know where we have come from is not to prescribe where we are going." There is a dangerous trap in sociobiology, he wrote in a recent article in the *New York Times*:

> The trap is the naturalistic fallacy of ethics, which uncritically concludes that what is, should be. The "what is" in human nature is to a large extent the heritage of a Pleistocene hunter-gatherer existence. When any genetic bias is demonstrated, it cannot be used to justify a continuing practice in present and future societies. . . . For example, the tendency under certain conditions to conduct warfare against competing groups might well be in our genes, having been advantageous to our Neolithic ancestors, but it could lead to global suicide now. To rear as many healthy children as possible was long the road to security, yet with the population of the world brimming over, it is now the way to environmental disaster.

Even if Wilson's argument is right in theory, could the study of human sociobiology be in practice so fraught with the possibility for misuse as to be not a fit subject for research? Wilson agrees that its current hypotheses and facts are "susceptible to perversion" but argues that the perversion should be discouraged, not the subject. In an interview with the *Harvard Gazette*, the university's official newsletter, Lewontin said in effect that all such research is dangerous: "Any investigations into the genetic control of human behaviors is bound to produce a pseudo-science that will inevitably be misused."

Why does the Sociobiology Study Group fear so much that evidence of a genetic basis for human behavior will be misused when, in their opinion, no such direct evidence exists? According to Lewontin, the very process of doing research, of looking for racial differences in IQ, say, is a political act, whatever the results of the research may be. "Nothing we can know about the genetics of human behavior can

Pending Tax Legislation Would Cut Home Office Deductions

Tax reform legislation that would prevent many taxpayers—including many scientists and academics—from claiming a deduction for the cost of maintaining an office in their homes has passed the House and is now awaiting action in the Senate.

The pending Tax Reform Act contains a vast array of proposed changes in the tax laws, including one section that would sharply limit the circumstances under which taxpayers could claim a home office deduction. The changes would affect both the self-employed and those who are employed by other organizations but maintain an office at home. The legislation, which passed the House in December, will be considered by the Senate Finance Committee at hearings starting 17 March.

The aim of the House-passed version of the legislation is to resolve conflicts that have developed between the Internal Revenue Service and various tax courts on what constitutes an allowable deduction, and to eliminate abuses by taxpayers who deduct what are essentially personal living expenses by the simple expedient of performing some of their work at home and then deducting part of their utility bills, real estate taxes, house insurance, and other costs.

As an example of possible abuse under the current system, a House Ways and Means Committee report pointed the finger directly at faculty members by stating:

"If a university professor, who is provided an office by his employer, uses a den or some other room in his residence for the purpose of grading papers, preparing examinations, or preparing classroom notes, an allocable portion of certain expenses might be claimed as a deduction even though only minor incremental expenses were incurred in order to perform these activities."

That sentence has caused considerable paranoia about a possible witch-hunt against academics, but it seems to have been included in the report largely because many committee staffers have had teaching experience and the professor example popped readily into their minds.

To prevent the alleged abuses, the House bill would tighten the conditions for allowable deductions. In the case of the self-employed or those who use a home office to generate a second income, say by writing textbooks, consulting, painting, or giving music lessons:

▶The office must be used "exclusively" for business purposes (current case law allows percentage deductions based on partial use).

▶It must be used "on a regular basis," not just occasionally.

▶It must be the taxpayer's "principal place of business" or a place where he meets patients, clients, or customers "in the normal course of his trade or business." (Currently the home office can be a secondary place of business while the main location lies elsewhere.)

The principal-place-of-business provision would not eliminate deductions for "moonlighting" activities carried out in the home while an employee earns his main income elsewhere. As long as the home office is the "principal" locus of such moonlighting, deductions would be allowed.

In the case of an employee who is not using a home office to generate income but is simply using it to perform work for his regular employer, the House bill would add a requirement. The "exclusive" and "regular" use of the home office must be for the convenience of the employer, not that of the taxpayer. The Internal Revenue Service has long argued that the office must be required by the employer as a condition of employment, but some courts have adopted a more liberal standard, allowing deductions if the home office is simply "appropriate and helpful" to the employee's business.

The American Association of University Professors charges that the House bill would fall with undue harshness on faculty members who are expected to do research and writing as part of their job and who often have no truly suitable place to do such work other than their homes. It also complains that elimination of the home office deduction "would add further to the erosion of real income which faculties have undergone in recent years."

Such laments may find some sympathetic ears in the Senate. Senator Abraham Ribicoff (D–Conn.), a ranking member of the Senate Finance Committee, has said he will urge serious consideration of a change in the House version "so that college teachers are not treated unfairly." And Senator Russell Long (D–La.), the committee's chairman, has promised careful study to make certain the new law does not work "a real inequity on teachers who must do a significant part of their work-related activities in their homes" and who have bought larger homes or added rooms "to accommodate those activities."—P.M.B.

have any implications for human society," he says. "But the process has social impact because the announcement that research is being done is a political act."

The process by which the Sociobiology Study Group has pursued its ends is also political and is the subject of a serious countercharge by Wilson. In his letter of rebuttal to the *New York Review of Books* (11 December) he accused the group of "the kind of self-righteous vigilantism which not only produces falsehood but also unjustly hurts individuals and through that kind of intimidation diminishes the spirit of free inquiry and discussion crucial to the health of the intellectual community."

Wilson has a point. In addition to the group's attack, he has had his book labeled as "dangerously racist" by a Harvard-Radcliffe student group calling itself the Committee Against Racism. Citing the Sociobiology Study Group's critique, the committee declared in a recent broadsheet that "Wilson's gene-dependent culture notion amounts to international racism, implying technologically 'backward' cultures have backward genes" and urged readers to raise questions at an impending speech by Wilson. The Sociobiology Study Group has not endorsed the explicit accusation of racism.

"I have wavered about going to several lectures," Wilson told *Science*. "There has been clearly prearranged hostile questioning. Perhaps a braver soul would not have been concerned, but I find it intimidating." Wilson has since withdrawn from a public talk scheduled for 24 March because of the increasing mental strain on his family.

The group's answer to this charge is a mere denial that Wilson is or has any reason to be intimidated. "It is not our intention to frighten him off," says Lewontin. According to Gould, "We may have made some rhetorical mistakes, but we don't intend it as a personal attack. Tactically it would be very bad on our part to conduct this as a personal campaign because it would only make a martyr out of him." Gould adds that "Ed Wilson is a colleague whom we like."

If there is a disingenuous ring about these statements, it is because an attack of the type which the group has mounted on *Sociobiology* is bound to appear as an attack on the author as well, unless accompanied by specific disclaimers. But far from denying that a personal attack was intended, the group's letter to the *New York Review of Books* accuses Wilson of using "a number of strategies and sleights of hand," a phrase which implies deliberate deception, and of failing to separate out his "personal and social class prejudices." The personalization is taken further in the group's impending article in *BioScience*, which states: "It is no accident that the description of this underlying [human] nature bears a remarkable resemblance to the society inhabited by the theorist himself. In Wilson's case it is the modern market-industrial-entrepreneurial society of the United States." The group is thus apparently of the opinion that it is not a personal attack to accuse someone of having written a book which is vitiated by his personal political prejudices and deliberate efforts to gull the reader.

The group's manner of attack has not only intimidated Wilson but it could well act as a deterrent to others, particularly those less eminent and less able than Wilson to defend themselves. After all, the risk of being publicly compared with Nazi eugenicists by a cohort of Cambridge academics is not the most compelling of invitations to venture into a perplexed and largely uncharted subject.

Yet the group sees the debate as a political issue for which a political rhetoric is appropriate. That should be borne in mind by any who find their style overstated. The group has perhaps usefully drawn attention to the political dimensions of sociobiology and the field's susceptibility to distortion, even though they have had to do much of the distorting themselves to make the point. They would have a better defense against Wilson's countercharges of vigilantism and inhibiting free inquiry if they had argued their case in a less personalized and divisive fashion. But that, nonetheless, is the climate of discussion in which human sociobiology seems likely to develop.—NICHOLAS WADE

Pesticides: Three EPA Attorneys Quit and Hoist a Warning Flag

Administrator Russell E. Train of the Environmental Protection Agency (EPA) has been making an urgent case for passage of the Toxic Substances Control legislation now pending in Congress (*Science*, 13 February). But the irony is that, even as he campaigns for this legislation, his agency stands accused of responding to political and congressional pressures by backsliding in the regulation of pesticides—the one area of toxic substances control where the EPA has, at least in some instances, exercised strong authority under present law, as in banning most uses of DDT and aldrin and dieldrin.

The accusation has come from three young lawyers who have just resigned from the pesticides and toxic substances division of the EPA Office of General Counsel. "It is clear from recent actions," the three said in testifying before a congressional subcommittee "that the agency intends to refrain from vigorous enforcement of available toxic substances controls and to retrench from the few legal precedents which it has set for evaluating the cancer hazards posed by chemicals." Their criticism was broadly directed, touching on the implementation of the Clean Water Act of 1972 and the Safe Drinking Water Act of 1974 as well as the laws for the regulation of pesticides—but it is primarily with the latter that the attorneys have themselves been professionally involved.

Train and other EPA officials deny that there is any "retrenchment" under way. And, if things go as they predict, the agency will in the next year or two take action against dozens of additional dangerous pesticides. Nevertheless, the accusation by the three attorneys—Jeffrey H. Howard, 31; Frank J. Sizemore, III, 29; and William E. Reukauf, 31—is not to be lightly dismissed. They are in no sense run-of-the-mill government lawyers. In the words of an agency spokesman, "they led the charge for us" in the proceedings to restrict severely the use of aldrin and dieldrin and heptachlor and chlordane, two pairs of compounds found to be potent carcinogens.

Howard and Sizemore distinguished themselves in law school and, after a few years at Covington and Burling, one of Washington's most prestigious law firms, they came to EPA in early 1974. Reukauf had come to the agency about 6 months before that, having previously been an assistant federal district attorney in Washington with a record of successful prosecutions in criminal cases. In 1975, Howard was promoted to associate general counsel in charge of the pesticide and toxic substances division and Sizemore was made his principal deputy. Reukauf served the division as a senior trial attorney.