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# THE GREEN SHEET

News About the U.S. Department of Health, Education and Welfare

NY Times; 7/51

## Genetics



## Legislating the Laboratories

By WALTER SULLIVAN

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One of the tragedies of modern science was the destruction of Soviet genetics during the 1930's and 1940's, in effect by government decree. It was decided by the leaders of the Communist Party that Trofim D. Lysenko was right and that classical Russian geneticists were reactionary and disloyal. Nikolai I. Vavilov, widely recognized as one of the world's leading plant geneticists, and many others were exiled. Vavilov apparently died in the labor camp at Magadan on the Sea of Okhotsk. Lysenko's ideas were applied to agriculture, resulting in near disaster.

Now it is being argued that in the United States steps are about to be taken toward similar suppression of genetic research, though the motives differ. The concern is for legislation pending both in Albany and Washington that would establish elaborate—some researchers say stifling—controls over research involving manipulation of the key molecules in genetics: those of DNA (deoxyribonucleic acid). Such altered molecules are known as recombinant DNA.

Ironically the legislation is moving toward enactment at a time when a number of those who first sounded the alarm on such research have become convinced by new findings that it can be done in absolute safety. The result is an intensive effort by such scientists to head off the most stringent provisions, particularly those in a Senate bill introduced by Senator Edward Kennedy.

There is also deep concern that Federal legislation will allow local and state governments to impose even more severe limits, or ban such research entirely.

Recombinant DNA molecules, as defined in the Senate bill, "consist of different segments of DNA which have been joined together in a cell-free system, and have the potential for entering and propagating in a particular host cell, either autonomously or as an integral part of that cell's genome." The genome is the cell's storehouse of information, coded into DNA, that controls its development, function and reproduction.

Among the goals of producing such molecules is the introduction of new capabilities into organisms, such as food crops, or the alteration of viruses and bacteria in the war against disease. Both the House and Senate bills, in their preambles, recognize these potential benefits, as well as certain health and environmental hazards.

The favorite tool for genetic research is a group of intestinal bacteria known as *Escherichia coli*. They occur in thousands of varieties. Most are harmless, even beneficial, inhabitants of the intestinal tracts of human beings and other warm-blooded animals. Some cause diarrhea, notably among tourists exposed to unfamiliar strains.

When recombinant DNA is allowed to enter a culture of such bacteria (known for short as *E. coli*) it proliferates there, making the bacteria an

ideal "nursery." The fear has been that a bacterial culture with an "unnatural" load of genetic material might escape the laboratory and create an epidemic against which there was little or no resistance.

When biologists from many parts of the world met in Asilomar, Calif., in 1975 to consider a voluntary moratorium on some aspects of DNA research, pending assessment of possible hazards, Dr. Roy Curtiss 3d of the University of Alabama proposed that the K12 strain of *E. coli* could be made so helpless that it could multiply only under special laboratory conditions. There would then be no danger of its spreading.

Now, in a detailed report to Dr. Donald Frederickson, director of the National Institutes of Health, he has, in effect, reported success in this effort.

In recent weeks 277 participants in two of the Gordon Research Conferences in New Hampshire have signed protests against the proposed legislation. The conferences, each summer, bring together top-ranking researchers in a variety of fields.

One document was signed by 137 specialists in research on nucleic acids including DNA. The second was signed by 140 of 164 biologists at a five-day meeting on biological regulatory mechanisms. It said "no indication of actual danger has been uncovered," and termed the proposed regulations unprecedented "prior restraints" that

could "deprive society of needed improvements in public health, agriculture, industry and environmental protection." Lest the Foundation supporting the conferences lose its tax-exempt status it was emphasized that the organization was in no way associated with the appeals.

Then, on July 14, Dr. Sherwood L. Gorbach of Tufts University Medical School reported to Dr. Frederickson on a workshop held at Falmouth, Mass., under sponsorship of two units of Dr. Frederickson's National Institutes of Health. The participants, some 50 in number, he said, "arrived at unanimous agreement that *E. coli* K12 cannot be converted into an epidemic pathogen by laboratory manipulations with DNA inserts."

During the workshop, researchers from American laboratories and the Public Health Laboratory Service in London told of tests with human volunteers supporting the belief that such bacteria cannot colonize outside the laboratory.

While the proposed supervision, inspection and accounting are not a complete novelty—they have features in common, for example, with those applied to private nuclear power plants—they have evoked vehement responses. Americans for Democratic Action, a liberal offshoot of the Democratic Party, stated in part: "It should be remembered that strict societal control of the activities of scientists has been a step in the establishment of totalitarian states." This, it added, led to "inhuman" experiments in Nazi Germany and to Lysenkoism in Russia.

The parallel with Lysenkoism, however, seems questionable. The purpose here is not to decree what is true but what is safe. The concern of those who first sounded the alarm—and now almost wish they had not—is that control over research will come into the hands of political appointees incapable even of understanding the issues.

The Senate bill provides for an 11-member National Recombinant DNA Regulation Commission to be appointed by the President. It specifies that six members be chosen "who are not and have never been professionally engaged in biological research." The other five would be specialists in such research but with no financial interest in recombinant DNA activities. The commission would be empowered to regulate and license the research and send inspectors to insure compliance.

The House bill is lower key. The Secretary of Health, Education and Welfare would promulgate the regulations, subject to "recommendations" by a Recombinant DNA Advisory Committee. Of the 17 members of that committee a majority would not be engaged in DNA research, but some in that majority could be biologists. Details of licensing procedures are left to the government. Local biohazards committees could do the inspections under government auspices. In cases of violation one bill provides for fines up to \$10,000 per day. The other allows fines as large as \$50,000.

The prospect of ill-informed regulation by local governments seems to have convinced many DNA researchers that the best they can hope for is a

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# THE GREEN SHEET

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NY Times; 7/31

## Despite the Criticism, Carter Has Done a Lot for New York

By STEVEN R. WEISMAN

That the New York City power failure would open up a new phase of local political debate became clear even before the lights were turned back on. But in the last two weeks, the blackout has also reopened another political debate: the battle between New York City and Washington over Federal aid to urban areas.

Not since the Ford Administration has there seemed to be such criticism of the alleged neglect shown by Washington toward these cities. Hardly before the last rioters were leaving the stores, New York City's mayoral candidates were accusing President Carter of indifference by not declaring the city a disaster area. Blacks at the National Urban League Conference said Mr. Carter had failed to provide the job programs and economic benefits he had promised during his campaign. Felix G. Rohatya, chairman of the Municipal Assistance Corporation, charged that the President had undermined his pledge to assume local welfare costs by focusing callously on achieving a balanced Federal budget. Even Mayor Beame found it politically necessary to criticize Mr. Carter, of whom he was an early supporter, on the welfare issue. With so much of New York City's fiscal destiny dependent on Federal actions, it was perhaps inevitable for urban politicians to seize on any opportunity to resume their drive for aid. A question remains, though: Has the President done little for New York City as his critics have charged? The answer, in the unanimous opinion of city and state officials, is that he has actually done a great deal, although there is still the feeling that much needs to be done.

The President's help for New York City can be divided into three categories.

• **Administrative actions.** As Mr. Carter took office, Mayor Beame's staff compiled a list of actions that could be taken by the President or his Cabinet members to help the city. Quietly, he has in fact taken many of these actions—from a willingness to pay the city a cash sum for Westway, the proposed West Side Highway, to an agreement to settle some old Nixon era welfare claims bottled up in the courts and that could bring the city as much as \$100 million.

• **Direct subsidies.** The cornerstone of the White House economic stimulus package consisted of bonuses for all cities in the form of increased aid for public works, public service jobs and so-called "counter cyclical" revenue sharing—a direct subsidy to areas with high unemployment. More than \$500 million in such aid is going to New York City this year. It was thus arguably President Carter, and not Mayor Beame, who balanced the city's \$13.9 billion budget for 1977-78.

• **Credit assistance.** Here the most significant thing President Carter has done is to issue a pledge on what he intends to do, which is to keep the city out of bankruptcy, most likely by seeking an extension of the short-term seasonal loans the Federal Government has been providing New York City since 1975. With this help, the city will be in a better position next year to meet its long-term needs—by issuing city bonds in the normal borrowing mar-

ket. Meanwhile, the Federal Government is prodding the city to try to meet some short-term borrowing in the public markets. To that end, it gave its blessings last week to a \$2.5 billion swap in which banks and pension funds exchanged M.A.C. bonds and city notes for long-term M.A.C. bonds. The goal was to ease the cost of retiring city debt in the next few years and hasten the day the city can



Mr. Beame and Mr. Carter at the White House.

sell its securities to the public. The two primary areas where the Carter Administration's help for New York City has fallen short are in the categories of extensive loan guarantees and a Federal takeover of local welfare costs.

Loan guarantees would enable the city to refinance its \$13 billion in debt—that is, retire existing bonds by issuing new bonds with lower interest rates—and in the process reduce debt service costs. But the Administration has determined that such loan guarantees would be impossible to get through Congress. Instead, it is focusing on the urban development bank concept—loan guarantees tied to specific construction projects.

On welfare, the trouble may lie less with the Carter Administration than with Congress. Senator William Proxmire, the Wisconsin Democrat, is only one of several in Congress who have warned New York City not to look for special favors. The skeptical attitude of Congress toward aid for the cities has probably not changed much since 1975, which is why New York City must continue to concentrate on programs that would benefit all localities.

Complicating the matter is the fact that what Mr. Rohatya and Mayor Beame want is not welfare "reform," but a takeover of the local cost, an expensive proposition that would primarily benefit the big industrial states that have voluntarily raised their own welfare grant levels above the national average.

One irony is that Mr. Carter has already poured into New York City more money in direct aid than the \$50 million it cost the city last year to run the Aid to Dependent Children program, its main welfare program.

"It is not so much that Carter has let us down," said Stephen Berger, executive director of the Emergency Financial Control Board. "His inability to come up with a comprehensive urban program is really a symbol of our failure as a society, culture and civilization. Things don't seem to get better no matter how much money we've spent. By blaming government for all these failures we are blaming government for the poor, when we really should be accepting the blame ourselves."

Steven R. Weisman is the City Hall Bureau Chief for The New York Times.

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bill like that before the House, which leaves regulation in the hands of government. Guidelines for DNA research have already been set forth by the National Institutes of Health providing, in the most extreme cases, for safety measures as stringent as those used when biological warfare agents were being developed. These guidelines are widely accepted by the researchers as reasonable and prudent. They would presumably form the basis for more formal regulations.

Among those who signed the original 1974 appeal for a temporary moratorium was Dr. James D. Watson who shared a Nobel Prize for his work on the structure of DNA. Now he feels the call for caution has almost resulted in panic.

"The vision of the hysterics has so peopled biological laboratories with monsters and super bugs," he wrote recently, "that I often feel the discussion has descended to the realm of a surrealist nightmare."

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