

New York Times

— NEW YORK, WEDNESDAY, OCTOBER 19, 1977 —

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Scientists Accuse Security Agency Of Harassment Over Code Studies

By MALCOLM W. BROWNE

Computer scientists and mathematicians whose research touches on secret codes say they have been subjected by the National Security Agency to growing harassment and the threat of sanctions or even prosecution for publishing articles about their work.

The scientists, some working for universities, some for private industry and some for the Federal Government, charge that research in the United States faces a muted but growing threat from the National Security Agency, the Government's supreme authority on secret codes.

The agency's tactics, they say, may eventually mean that a scientist working

outside the Government could suddenly be informed that his work had been officially classified as secret, or he could even be constrained from participating in international professional meetings.

Norman Boardman, spokesman for the N.S.A., told The New York Times that neither he nor any other employee of the agency could comment in any way on the accusations made by the scientists.

Complaining scientists, lawyers for scientific institutions and Government experts agree that laws covering such potential constraints are ambiguous. But because of the vagueness of the current legal position, the security agency's pressure must be taken seriously, they assert.

Scientists said in interviews that threats leveled against them by employees of the agency included the possibility of official action to get research grants canceled or even criminal prosecution for violation of security laws.

A source within the National Science Foundation, a Federal agency that underwrites many research programs by private organizations and individuals, said that his organization was being subjected

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to increasing "systematic, bureaucratic sniping" from the security agency with a view to bringing certain kinds of research under the agency's control.

The informant, who asked that his identity not be disclosed, said there was a danger of intimidating a large segment of the private American scientific community if the Government pressure was not resisted.

Such allegations have been simmering in the scientific press for six months, but the controversy was brought to a boil by a symposium on information theory held last week at Cornell University at Ithaca, N.Y.

Among the scientists who presented papers at the meeting was a group from Stanford University headed by Dr. Martin E. Hellman, and an associate, Whitfield Diffie.

The Stanford group had been concentrating its studies on a kind of mathematical problem known as the Non-deterministic Polynomial Complete Problem (N-P Complete).

(An example of such a problem would be the fitting of several forms of varying shapes and sizes into a larger form, with no excess and nothing left over).

A Computer 'Lock'

The N-P Complete problem's special interest to computer scientists is that at this point no computer can be programmed to solve it. Dr. Hellman and his associates have therefore proposed it as a device for "locking" data in the memory banks of computers against unauthorized use or theft.

"The right to privacy of the American citizen is what this is all about," he said.

However, the N-P Complete problem could also be used as a system for devising secret communications codes that, Dr. Hellman contends, would also be virtually impossible to break, even by giant intelligence organizations, including the National Security Agency.

The implication, Dr. Hellman and others said, was that any government, private organization or individual could devise and use a code that would be immune to eavesdropping, whether from the Central Intelligence Agency, the Soviet Union's counterpart, the K.G.B., or any other group.

This, say the experts involved, created anxiety within the United States intelligence community in an interview, a senior Government intelligence official described the issues raised by the Hellman team as "extremely serious" to the national security interests of the country.

The Stanford work and related projects by the Massachusetts Institute of Technology and others, he said, could enable foreign powers to develop virtually impenetrable command-and-control military communications systems.

Most computer scientists and mathematicians in the United States are members of the Institute of Electric and Electronic Engineers, which publishes their papers and distributes them to countries abroad, including the Soviet Union among other countries.

Letter Regarded as Threat

Several weeks before the Cornell conference, the institute received a letter from one of its members, Joseph A.

Meyer, who is listed, well-placed scientists say, in the National Security Agency directory as an employee.

The letter warned the Institute that publication and distribution of scientific papers by the Stanford team and other groups planning to participate in the Cornell conference could result in prosecution under the 1954 Munitions Control Act, known in its current revision as the Arms Export Control Act.

Lawyers of the institute studied Mr. Meyer's letter and the law itself, and finally concluded that they were within the law in publishing the Stanford research. A similar view was taken by lawyers representing Stanford University and officials interviewed by The New York Times in the Department of Commerce, the agency responsible for issuing licenses for exported technology.

But Mr. Meyer's letter cast a pall over the Cornell conference, participants said, and several postdoctoral students were dissuaded from presenting their own papers.

"I have tenure at Stanford," Dr. Hellman said, "and if the N.S.A. should decide to push us in court, Stanford would back me. But for a student hoping to begin a career, it would not be so pleasant to go job hunting with three years of litigation hanging over our head."

Denial by Security Agency

Mr. Boardman, the security agency spokesman, denied that the N.S.A. had directed any employee to bring pressure on Mr. Hellman or the others. But an informant in the National Science Foundation said the letter from Mr. Meyer to the engineering institute was merely one of a number of similarly threatening letters that had been sent to scientist and their organizations by known employees of the security agency.

"I have also had private conversations with N.S.A.," he said, "in which they have threatened all kinds of things, including getting research grants cut off to offending scientists. Many of these threats have absolutely no legal basis, of course, but the target scientists are not lawyers, and they don't know where they stand."

Efforts by The New York Times to reach Mr. Meyer at his home in Bethesda, Md., or at his N.S.A. office at Fort Meade, were referred to the N.S.A. spokesman, Md., were not successful. Telephone calls who declined comment.)