

Academic Freedom and the Classified Information System

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A recent report (1) on the network of statutes and regulations which have been invoked by government officials to restrain unclassified research and travel and publication by academic researchers concluded that these restrictions abridge academic freedom significantly beyond the needs of national security. It was also argued that the nation's security is ill-served by the restrictions in that barriers to learning from others, as well as the suppression of innovative work whenever

in the Air Force who told him, a week before the symposium, that his papers had not been cleared and therefore should not be presented. The professor, while vigorously protesting, withdrew the papers.

Certain research conducted in universities may have immediate and direct national security implications. Some of that work is undertaken pursuant to Department of Defense contracts. Universities generally recognize that such ar-

Summary. Executive Order 12356, signed by President Reagan on 2 April 1982, prescribes a system for classifying information on the basis of national security concerns. The order gives unprecedented authority to government officials to intrude at will in controlling academic research that depends on federal support. As such, it poses a serious threat to academic freedom and hence to scientific advances and the national security.

er its originality might be useful even to the industrial or technological progress of other nations, are necessarily discouraging to the maintenance of research leadership within the United States.

A recent event tends to justify such criticism. A university professor submitted two papers for presentation, and subsequent publication, to the 26th Annual Technical Symposium of the Society for Photo-Optical Instrumentation Engineers meeting in San Diego in August 1982. The professor's research, supported by a grant from the Air Force, was not classified, in accordance with the university's stated policy "to undertake only those research projects in which the purpose, scope, methods, and results can be fully and freely discussed." As he had done routinely in the past, the professor also sent the papers to the program offi-

rangements may compromise their commitment to academic freedom, and they vary in their policies respecting the wisdom and acceptability of such arrangements. The American Association of University Professors (AAUP) has thought it inappropriate to condemn faculties and universities for making such arrangements per se, but it has regularly expressed concern that inconsistency with respect to academic freedom is a genuine danger that all academic institutions should weigh carefully in the research and restrictions they accept.

The implication of the earlier report (1) was to favor a limited classification system, to the extent that it might minimize uncertainty and provide a less random threat to academic freedom. Ideally, a clear and circumspect classification system should state what research and pub-

lication must necessarily be treated in confidence according to needs of national security that are plain and compelling. It should enable universities and their faculties to make informed decisions about their research. Very different, and strongly objectionable, is a classification system that sweeps within it virtually anything that might conceivably be useful industrially, technically, or militarily to at least someone and that is administered by officials who feel compelled to classify as secret any information about which they have doubts.

Here we review briefly the recent changes introduced into the classification system by Executive Order 12356, issued by President Reagan on 2 April 1982. A recent report of the National Academy of Sciences Panel on Scientific Communication and National Security (2) concluded that a national policy of security through openness is much preferable to a policy of security by secrecy. We agree. We believe the enlargement of the classification system as stated in Executive Order 12356 is seriously mistaken. It poses an unwarranted threat to academic freedom and hence to scientific progress and the national security.

Summary of Recent Changes

Executive Order 12356 is the most recent presidential executive order prescribing a system for classifying and declassifying information on the basis of national security concerns. President Franklin Roosevelt issued the first such order in 1940. Succeeding executive orders were signed by Presidents Truman, Eisenhower, Nixon, and Carter. In their details, these earlier executive orders differed on such matters as what information was to be classified, for what period of time, and according to what standards. Their similarities, however, are more noteworthy than their differences. They sought to preserve the public's interest in the free circulation of knowledge by limiting classification authority, by defining precisely the purposes and limits of classification, and by providing procedures for declassification.

By contrast, Executive Order 12356 significantly broadens the authority of government agencies to classify information as secret. It removes a previous requirement for classification that damage to the national security be identifiable. It resolves doubts about the need to classify in favor of classification. It permits indefinite classification. It provides for reclassification of declassified and

This article is adapted from a report issued in October 1982 by the American Association of University Professors' Committee A on Academic Freedom and Tenure. The report was prepared by Committee A's Subcommittee on Federal Restrictions on Research. The members of the subcommittee are R. A. Rosenbaum, professor of mathematics, Wesleyan University, Middletown, Connecticut 06457, *Chair*; M. J. Tenzer, professor of political science, University of Connecticut, Storrs 06268; S. H. Unger, professor of computer science, Columbia University, New York 10027; W. Van Alstyne, professor of law, Duke University, Durham, North Carolina 27706; and J. Knight, associate secretary, American Association of University Professors, Washington, D.C. 20036.

publicly released information. It expands the categories of information subject to classification to include nonclassified research developed by scientific investigators outside the government.

Main Provisions

The preamble to Executive Order 12356 states that the "interests of the United States and its citizens require that certain information concerning the national defense and foreign relations be protected against unauthorized disclosure." To prevent "unauthorized disclosure," the order establishes three levels of classification: top secret, secret, and confidential. The standards for top secret and secret are the same as in previous executive orders. However, Executive Order 12356 omits the earlier qualifying word "identifiable" in describing the damage to the national security that can justify classification at the lowest, or confidential, level. The text reads: "confidential shall be applied to information, the unauthorized disclosure of which reasonably could be expected to cause damage to the national security." At a congressional hearing, a Deputy Assistant Attorney General explained the deletion of the requirement of identifiability as follows:

Every new qualifier or adjective, such as "identifiable," added to the requirement of showing "damage" or any other requisite element of proper classification, raises new uncertainties or areas of ambiguity that may lead to litigation. . . . [T]he requirement of "identifiable" damage may be construed to suggest that disclosure must cause some specific or precise damage, a requirement that the government might not reasonably be able to meet in some cases. . . . Provisions of such orders should be simple, general, less complex and require no more precision than the subject matter reasonably allows. The requirement of "identifiable" damage fails on all these counts.

In the event that a government official is uncertain about the security risk of some information, the doubt will be resolved in favor of classification pending a final determination within 30 days. In addition, if there is doubt about the level of classification, the information will be classified at a higher level, also pending a final decision within 30 days. Once the information is classified, it can remain so at the discretion of government officials "as long as required by national security considerations." There is no provision in Executive Order 12356 for justifying the need for classification beyond a stated period of time. (President Nixon's executive order called for automatic declassi-

fication after 30 years, unless it was determined that continued classification was still necessary and a time for eventual declassification was set; President Carter's executive order established a 6-year declassification period.) The latest order makes no comment on whether declassifying information is generally desirable.

If information is declassified, it may be reclassified under Executive Order 12356 following the requirements for classification. Information that has been properly declassified and is in the public domain apparently may remain "under the control" of the government (the order defines information as "any information or materials . . . that is owned by, produced by or for, or is under the control of the United States Government") and thus can be reclaimed by the government.

The executive order provides for limitations on classification. It states that "basic scientific research information not clearly related to the national security may not be classified." Early drafts of the order had not included this provision; it first appeared in the executive order issued by President Carter. It was retained mainly as a result of protests from the scientific community. However, it is not clear what this provision actually safeguards.

Sanctions for violations of the executive order may be imposed on the government's "contractors, licensees, and grantees."

Comments

National security obviously requires some classification of information as secret. It is also obvious that freedom to engage in academic research and to publish the results is essential to advance knowledge and to sustain our democratic society.

The possibility for friction between classification and academic freedom is always there. The friction can be reduced if classification is invoked before research has begun and is cautiously applied for a limited period of time and only to matters of direct military significance. Classification defeats its own purpose, however, if it imperils the freedoms it is meant to protect. In our judgment, Executive Order 12356 does exactly that. It gives unprecedented authority to government officials to intrude at will in controlling academic research that depends on federal support. It allows classification to be imposed at whatever stage a re-

search project has reached and to be maintained for as long as government officials deem prudent. Academic research not born classified may, under this order, die classified.

The provision in the executive order that "basic scientific research information not clearly related to the national security may not be classified" carries the suggestion that it may be classified if it is determined by the government to be "clearly related to the national security." This standard for classification is looser still than "could be expected to cause damage to the national security." We may be reading too much into this provision; we hope that it will be interpreted as an exemption and nothing more. Unfortunately, even with its most favorable gloss it is a weak safeguard for scientific inquiry. The government official who cannot fix a clear relationship between scientific research and national security but nonetheless has doubts could still classify government funded or contracted research consistent with other provisions in the executive order.

In the pursuit of knowledge, academic researchers should not have to look backward either in hope of favor or in fear of disfavor. In an era of reduced federal support for research except in the area of national security, and with investments in research programs and facilities significantly reliant on previously allocated federal funds, academic researchers are under great pressure to submit to classification no matter how restrictive or apparently arbitrary the demand. The adverse effects on academic freedom and thus on the advancement of knowledge and on the national security can be grave.

The executive order can inhibit academic researchers from making long-term intellectual investments in research projects that are potentially classifiable. It can serve to foster unnecessary duplication of research efforts. It is likely to inhibit the sharing of research methods and results with professional colleagues, because something that a government official can call harmful to the national security might unwittingly be revealed. Classification, or the worry that it might be imposed, could result in the isolation of academic researchers, cut off from the free exchange of ideas and exposure to constructive criticism. Those concerned in government with the uses of new knowledge are not likely to obtain the benefit of the widest possible evaluation of their plans and projects. All of these consequences of the executive order are likely to be felt outside as well as within

the field of research in which classification is imposed.

The government has not put forward any compelling reasons for instituting a system of classification that is so at odds with previous systems. The government's own reports, including reports issued by the Department of Defense, seriously question the cost, effectiveness, and need for more classification. They draw particular attention to the dangers of overclassification.

Executive Order 12356 requires drastic revision in order to be tolerable to a

community of scholars committed to free inquiry. The application of the order to nonclassified information, which is already subject to potential restraints under existing laws and regulations, is at best superfluous. The heavy emphasis on classification is misplaced: the provision for reclassification should be removed and the standards for classification rewritten so that they do not sweep unnecessarily broadly and thereby significantly threaten academic freedom.

If the government's executive order or its successor continues to deny due rec-

ognition to the need of the independent research scholar for academic freedom, the cost will be borne not only by the researchers who are affected but by the nation as a whole.

References and Notes

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2. National Academy of Sciences, *Scientific Communication and National Security* (Washington, D.C., 1982), vols. 1 and 2.
3. The present address of S. J. Unger is Thomas J. Watson Research Center, P.O. Box 218, Yorktown Heights, N.Y. 10598.

Japanese Industrial Development and Policies for Science and Technology

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In this article I describe Japan's industrial development and Japanese policies for science and technology. In the process of industrialization and modernization, Japan imported many new technologies in a wide variety of fields and at the same time made great efforts to improve

which lasted from the mid-1800's until the end of the 19th century, the metal, chemical, and machine industries became increasingly dependent on imports (Fig. 1). The technological development of these industries, and of the light industries that produced such important ex-

Summary. Two important factors that contributed to Japan's economic success were government investment in industrial development and the early recognition that a good educational system is a prerequisite to technological progress. Government policies promoted the importation of technologies from Europe and North America and encouraged the education of students abroad. This facilitated the rapid development of Japanese industry and the adaptation of foreign technologies to local conditions. Many of the methods used to develop industry in Japan could be used to advantage in developing countries today.

these technologies and adapt them to local conditions. The success of these efforts depended on many factors, the most important of which were the education of the general population and government initiative and support.

The development of industry in Japan over the last 100 years can be divided into four stages. During the first stage,

port items as textiles, was therefore limited until the beginning of the second stage in about 1900. The third stage of development began after World War II, when Japan had to undergo a rapid development process to catch up with the advanced technology of the West. By the early 1970's the level of technology in Japan had surpassed that in Europe and reached about the same level as in the United States. Now, in the fourth stage of development, Japan's attention is turning from imitative to creative technology.

Stage 1. Policies for Promoting Industries

The Meiji government (1868 to 1912) recognized that increased production and the promotion of industries were essential for establishing a solid economic foundation for the construction of a modern state. The immediate target of its policies was the curtailment of imports and the promotion of exports, with greater emphasis on the former. With the opening of the country to foreign trade, foreign products poured into the domestic market, putting pressure on the domestic cotton-yarn industry as well as other industries, and causing a chronic deficit in the international balance of payments.

To counter this trend, the introduction of modern industry was urgently called for. However, there was little private capital available, so that nothing short of direct investment by the government could accomplish the desired objectives. Since the government aimed at encouraging the private sector to follow its example, it made direct investments covering the operations of its own factories, the construction of railways, the exploitation of mines, and the management of experimental stations.

The Ministry of Engineering, created in 1870, was charged with the responsibility for encouraging the development of many industries and running the mines, railways, and communications. During the ensuing 15 years it operated the government-owned factories and mines, many of them expropriated from the former Tokugawa Shogunate and the feudal lords. Tomioka Spinning, for instance, was established in 1872 by the government; it was equipped with French-made spinning machines and was operated by French techniques.

In this manner, the Meiji government

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