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SCIENCE VS. SECRECY IN GOVERNMENTAL AGENCIES - THE PROBLEM AND SOME APPROACHES FOR MINIMIZING THE CONFLICT

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THESIS

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ABSTRACT OF THESIS

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The establishment of new government organizations and redirection of existing ones to manage new science programs of the future is anticipated. These agencies will not be primarily aimed toward national defense objectives. However, on the basis of past experience, most of these new activities can be expected to be given a national security support role. This role requires new agencies to formulate information security classification programs. The assignment of a security classification has the effect of taking the information out of the open literature and limiting the persons who can have access to it. A conflict is established between national security objectives on the one hand, and progress through open communication. It is the objective of this thesis to identify this problem in detail, explore its background and examine factors and approaches that should be considered in establishing classification policies in new science organizations.

Examination of this problem was conducted through a combination of several research activities. The

statements of scientists from various disciplines who have previously been involved in classification of research information were examined in order to identify the reasons for their frustrations, objections and difficulties with classification practices. An analysis was conducted of the legal and situational environment in which the conflict between science and secrecy takes place through an examination of public laws, executive orders, federal court decisions, etc. An analysis was made of sound approaches and practices that are germane to establishment of a realistic classification program within the confines of the government's current policies. An examination was also conducted to identify areas of potential research that could lead to fundamental improvement in the classification management program.

Some of the objections to secrecy from a portion of the scientific community result from fundamental disagreement toward any form of limitation on research information. To this group, only a major modification of current executive orders and laws will bring any relief. Many of the objections and frustrations of the scientists, however, are aimed toward classification practices. Refined and improved practices can be developed and approaches leading to these practices are analyzed in the thesis. Through these approaches many of the conflicts between science and secrecy can be minimized.

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INTRODUCTION

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Science vs. Secrecy in Governmental Agencies - The Problem and Some Approaches for Minimizing the Conflict

The Problem

Since World War II scientific and technological advances in the United States have been paralleled by greater government involvement in managing new scientific programs that can capitalize on these developments.

The establishment of new organizations and redirection of existing ones to manage new science programs of the future can be anticipated. Most new science organizations will not be primarily aimed toward national defense objectives. However, on the basis of past experience, most of these new organizations can be expected to be given a national security support role.

This support role will require new agencies to formulate information security classification philosophies and programs under the provisions of Executive Order 10501 - Safeguarding Official Information in the Interests of the

Defense of the United States (as amended).[1]

The assignment of a security classification to information has the effect of taking the information out of the open literature and limiting the persons who can have access to it. A conflict is therefore established between national security objectives on the one hand, and progress through completely open communication of information, on the other hand. A delicate balance must be struck between these two important considerations, and an organization's classification program is the arena in which these interests compete. The scientists strive toward complete freedom of information while the government's national security program pulls in the other direction.

In this environment, newly created agencies must establish a realistic and sound information security classification philosophy and policy by which their future information release and restriction practices can be charted.

It will be the objective of this thesis to identify the problem in detail, explore its background and examine factors and approaches that should be considered in the establishment of security classification policies and

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[1] U. S., President, Safeguarding Official Information in the Interests of the Defense of the United States, Executive Order 10501, 18 F. R. 7049, Nov. 10, 1953, as amended by E. O. 10816, 24 F. R. 3777, May 12, 1959; E. O. 10901, 26 F. R. 217, Jan. 12, 1961; E. O. 10964, 26 F. R. 8932, Sept. 22, 1961; E. O. 10985, 27 F. R. 439, Jan. 16, 1962; E. O. 11097, 28 F. R. 2225, Mar. 7, 1963; and E. O. 11382, April 1, 1967.

practices in newly created science organizations facing this problem.

Assumptions

This thesis has been written primarily with the view toward providing insight and aid to government executives in newly created science organizations who are responsible for initiating and developing agency information classification policy and practices. The last chapter in this thesis analyzes further research that is needed to be conducted by government officials and others interested in classification program improvement. This thesis assumes that the reader has a general familiarization with the public laws and executive orders that have a bearing on this subject as well as the related terminology. It assumes that if the reader has had a prior working background in science management, that it has not included a policy making responsibility in the field analyzed in this thesis. The reader who is interested in examining, in detail, the legal basis which forms the environment for this analysis will find the appropriate references in the footnotes.

On the basis of past experience and a preliminary view of this subject the writer has established two assumptions that have been used to further guide development of this thesis.

1. Requirements for assignment of security classification to research information having prospective

value to national defense interests will probably be continued. Classification precipitates a conflict for scientists between national security interests and an open exchange of information. The major difficulties underlying the conflicts between science and secrecy result from the application of certain procedures and practices. Realistic approaches and improved procedures can alleviate much of this conflict.

2. Significant lessons and guidance can be gained from the past experience of some government organizations to aid new science agencies in development of realistic and sound information security classification programs, within the framework of existing conditions.

Scope

This thesis examines the background, issues, problems and environment involved in security classification of:

1. Scientific research (basic and developmental) information rather than operational data.
2. Information developed in the physical sciences rather than the social sciences.
3. Information originated in the interests of national security, but not to include information having an immediate military value.

These purposeful limitations in scope were needed in order to keep this analysis within realistic bounds of time and space. It should be recognized that this is a

limited study and therefore, by no means, an exhaustive analysis of the overall subject of security classification.

Research Design

A preliminary research step involved an analysis of evaluations and statements made by a variety of scientists and science-administrators representing various disciplines in order to identify the major objections, difficulties and frustrations that are encountered in dealing with the Government's security classification program.

This is followed by an analysis of the Government's current security classification program as it affects science agencies. Definitions of key words which, in the past, have caused some communications difficulty and misunderstanding are included in this section.

Then, an examination is made of the recently passed "Freedom of Information" law[2] and its impact on the security classification system in existing and new government science organizations.

In order to give a broader perspective to this study, a brief comparative analysis is made of security classification programs in other countries.

This is followed by an analysis of realistic and sound approaches and practices that are germane to

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[2]U. S., Congress, Senate, Amendment to the Administrative Procedure Act, Public Law 89-487, 89th Cong., 1160, July 4, 1966, which amended Section 3 of the Administrative Procedures Act of June 11, 1946 (60 Stat. 238).

establishment of a security classification program in a newly created science agency, within the confines of the government's current policies. This section was developed on the basis of analysis of the data obtained in the earlier examinations and additional information pertinent to this study.

Finally, an examination has been conducted to identify and describe additional areas of potential research that could lead to fundamental improvement in the classification management program. This chapter includes suggestions concerning approaches that should be considered in further research of this subject.

Research Methodology and Sources

The preceding section dealt primarily with a description of the general design used in development of this thesis. This section concentrates on a description of methods, techniques, procedures and sources.

Examination of this problem has been conducted through a combination of several research activities. Research was initiated by identifying the non-military organizations within the executive branch of the Government which have been given authority to initiate security classification assignments to information which they develop. The pertinent executive order (EO 10501) was used as the source of this information.

An examination followed of the summary statements of

responsibilities of these organizations, as listed in the current United States Government Organization Manual[3] for the purpose of identifying those activities which have a scientific research function. This screening was necessary because of the writer's intention of limiting the range of this study to the intended scope.

The purpose of the above actions was intended to lead up to the next step, which was to direct a written communication to these organizations in Washington, D. C., to inquire into specific aspects of each agency's classification program.

A parallel effort was to seek out statements and evaluations made by scientists about the nation's security classification program. The purpose of this portion of the research was to enable a direct examination of precise problems as viewed by the specific category of persons whose cooperation is a vital preliminary to a successful classification program. Journal and magazine indexes were searched to identify sources of this information. The Journals printed over the past five years by the National Classification Management Society were analyzed. Other periodicals dealing with the nation's security program such as the "Industrial Security Magazine" and "Security World" were also reviewed. Detailed development

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[3]General Services Administration, United States Government Organization Manual 1969-1970 (Washington, D. C.: Government Printing Office, 1969).

of this chapter was essential to a meaningful analysis of this subject.

Next, there was conducted an examination of the legal and situational environment in which the conflict between science and the Government's national security program takes place. This analysis included an examination of pertinent public laws, executive orders, related federal court decisions, etc. Included was an examination of the "Freedom of Information" Law.

Research was then done into comparative classification systems for the purpose of gaining a broader insight into classification practices in other countries in the field of scientific research information.

The next portion of the thesis consists primarily of a review of the data collected and an analysis of the factors and approaches of potential usefulness and reference for new science agencies.

This thesis concentrates on the subject of establishing a realistic information classification program for research information in newly created Government science organizations, whose activities are not primarily directed toward national defense. However, some of the research conducted for this effort involves obtaining viewpoints and analyzing practices of defense oriented organizations as well as examining the classification environment of these activities. This is considered necessary because of the relatively greater experience of these organizations with classification

problems, and it is considered realistic because the scientists and science administrators in these organizations face the same basic classification problems as do their counterparts in those existing and emerging organizations, whose activities are not primarily directed toward national defense.

The terms "department" and "agency" are used interchangeably in this thesis and both refer to major organizational elements in the Executive Branch of the United States Government.

PART ONE:

FACTORS BEARING ON THE CONFLICT BETWEEN SCIENCE AND SECRECY

CHAPTER II

SCIENCE CHALLENGES SECRECY

This chapter provides an introduction and perspective to the conflict between science and classification through an examination of statements and evaluations of a number of scientists and science administrators. These views range from urging a complete abandonment of classification of scientific research information to a more moderate position suggesting a critical review of the nation's classification program, with a view toward general liberalization and lessening of control over research information.

Dr. B. D. Van Evera, Dean for Sponsored Research, The George Washington University, summarized the opinion of a large number of scientists who represent the extreme on one end of this opinion continuum:

> There are many scientists who feel that if no research were classified and if it were all open for discussion, our rate of progress would be sufficiently greater to overcome any loss that we might suffer from news of this research leaking. . . .[4]

The scientists who take this position generally grant

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[4]B. D. Van Evera, "Universities, Research and Security," Industrial Security, 7:1 (January, 1963), p. 32.

that there is a value to the nation's security interests of classification of selected information, but that on overall balance, the classification program results in delay to the advancement of research and that, therefore, the entire classification program should be discontinued. In the university context, Van Evera is even more definite:

> The issue of Academic Freedom has been fought for decades, and like all fights for freedom continues unceasingly on. The absolute need for a research man to study all phases of a problem, to discuss his own and others' ideas and concepts without restrictions and with any intelligent person who is interested is understood by all who know research.[5]

C. P. Snow, in his epic essay, "Science and Government," cited specific examples of instances wherein security restrictions have not impeded the discovery of new ideas by others, but have only succeeded in hampering our country's own efforts. He also deplored the adverse effect that working on classified projects has on the people engaged in these activities:

> The euphoria of secrecy goes to the head very much like the euphoria of gadgets. I have known men, prudent in other respects, who become drunk with it. It induces an unbalancing sense of power. It is not of consequence whether one is hugging to oneself a secret about one's own side, or about the other. It is not uncommon to run across men, superficially commonplace and unextravagant, who are letting their judgment run wild because they are hoarding a secret about the other side . . . quite forgetting that someone on the other side, almost indistinguishable from themselves, is hoarding

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[5] Ibid., p. 22.

> a precisely similar secret about them. It takes a very strong head to keep secrets for years, and not go slightly mad. It isn't wise to be advised by anyone slightly mad.[6]

John R. Borchert, University of Minnesota and chairman of the Earth Sciences Division, National Research Council, delivered a paper on "Remote Sensors and Geographical Science"[7] at the Fifth Annual Symposium on Remote Sensing of the Environment held at the University of Michigan, April 18, 1968. In his paper he made reference to some practical difficulties that security classification of remote sensors were creating in the scientific community, particularly with reference to the free flow of information and international cooperation.

Sidney Fernbach, a theoretical physicist at the Lawrence Radiation Laboratory, Livermore, California, described a personnel management problem resulting from the practice of classified research:

> At the laboratory I have been involved in hiring and working with scientists, and very often it comes to one's attention that they dislike to work in classified areas. Almost every one of them refused to work in a classified area if he can find some way in getting out of it. Very often it's the unavailability of an academic position or perhaps more dollars involved that makes him take a position that does involve some kind of security classification. Even then he tries to avoid the classified

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[6]Charles P. Snow, Science and Government (New York: The New American Library, 1960), p. 65.

[7]John R. Borchert, "Remote Sensors and Geographical Science," as quoted in National Classification Management Society Bulletin, May/June, 1969, p. 5.

> work, and sort of seeks the continuation of the dissertation, and finds any number of tricks to keep in the pure physics or pure science realm. The reason for doing this is that you can still communicate with the outside world in pure science. There are many journals and publications. He publishes articles, and keeps in touch with what other people are doing in a similar field. Even though there is so much being published in the world, he finds that in the classified area this contact no longer is available to him, and he misses it. He loses the chance to invent new ideas, or at least he thinks he does. Far more progress is actually evidenced in the unclassified fields of research than in the classified ones. And much of this is due to the freedom to discuss and publish information.[8]

He then went on to discuss the difficulty that scientists encounter in attempting to retrieve unclassified informtion from classified reports:

> Another difficulty the man finds is that declassification of documents becomes very difficult. At present the law has been changed so that it's possible to declassify some documents after a given period of time, and others are scrutinized by a group of people more frequently than in the past. But it is not always the proper material that is declassified as far as the scientist is concerned. Sometimes you find that a small item buried in a classified report is of great importance and this item is lost in the classified document.[9]

Fernbach's evaluations of the unfavorable impact of classification on work effort, however, is not necessarily shared by all evaluators of the classification program.

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[8]Sidney Fernbach, "Panel--Science and Technology, and Classification Management," National Classification Management Society Journal, Vol. II, 1966, pp. 48-49.

[9]Ibid., p. 49.

Dr. Louis Smith, a chemist at the Los Alamos Scientific Laboratory expressed his view as follows:

> I feel that classification is only a minor perturbation to a person's productivity. My experience has been that a productive person will be productive no matter what he is doing. It is possible, of course, to make life so tough for him that he will go somewhere else if he has to, to be productive, but it is not likely to be classification per se that gets in his way. It is more likely to be money for equipment or putting him to work on some project which doesn't look worthwhile to him in the first place. . . . The productive person will overcome any reasonable number of handicaps. He is going to take joy in doing a good job and, whether it is classified work or unclassified work, as long as he is happy with what he is doing that is all that is required.[10]

Van Evera brought out the idea that research depends on a free cross fertilization of ideas to reach its maximum potentials. He cited an interesting example from his own experience:

> Research is primarily a matter of ideas. We do not know how ideas get into one's mind, but we do know that discussion with kindred minds promotes the development of ideas. And very frequently ideas from one area of knowledge may have application in a quite different area. For example, in the mid-nineteen fifties, the George Washington University was doing research at Fort Detrick on the explosive dissemination of liquids. One of the items of equipment that had to be developed was a high speed camera, shuttered by a prism rotating at high speed. To get information on how to rotate a prism at the high rate necessary we went to a scientist

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[10]Louis Smith, "Panel: In the Looking Glass (The Impact of Classification on Research)," Seminar: Classification Management at the Working Level, sponsored by the Rocky Mountain Chapter of the National Classification Management Society, February, 1970, p. 25.

> who was studying proteins. In his research, he used ultra centrifuges, which do rotate at high speed, and so was able to give us substantial help. There is no obvious reason to suspect there could be any contribution from protein research to studies using explosives, but there was.[11]

Ed Price, the 1967-1968 Vice President for Technical Activities of AIAA, published a lengthy article on the view that the penalties of restriction of dissemination of scientific information are greater than usually supposed, and that recent restrictions of unclassified information to foreign nationals are doing the country more harm than good because they impede effective use of the information by the U. S. In describing the present classification system, Mr. Price wrote:

> The system produces a morass of practical problems; such as cost of security controls, cost of dissemination, attainment of consistent levels of restriction, and assurance of an effective level of dissemination. Unambiguous specification of policy is exceedingly difficult moreover, in the face of the complex and subjective value judgments that are required; and inconsistent implementation of ambiguous, time-varying policy constitutes a perpetual source of confusion and frustration. These problems are not susceptible to any obvious solution other than patience and persistence, plus a thorough understanding of the negative and positive aspects of embracing a classified dissemination system in the first place.[12]

Robert Lindsey, a newspaperman with the San-Jose "Mercury News" expressed an observation sometimes made by

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[11] Van Evera, p. 32.

[12] Ed Price as quoted in National Classification Management Society Bulletin, May/June, 1969, p. 5.

scientists and engineers who are expected to make some of the more difficult classification determinations in the course of their work on projects that involve classified information. Lindsey noted that there is an essential need for much greater interchange of information between officials responsible for classification management and representatives of the nation's intelligence organizations:

> It seems to me that there should be more coordination between the people in your [classification management] profession and those in the intelligence community - although I would speculate the intelligence people are not all that easy to work with.[13]

Robert Battey, Aerospace Engineer at NASA's Manned Spacecraft Center, provides additional insight into this problem. Battey noted that classification standards frequently are based on whether a particular technological development represents a significant and unexpected advancement in the state-of-the-art or is merely a result of an obvious or logical extension of the state-of-the-art. This distinction is frequently the basis on which a decision is required to be made as to whether related information is to be classified or not classified. According to Battey, a technical decision in this regard can ordinarily be made insofar as the status of U. S.

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[13]Robert Lindsey, "The Other Side of the Coin," National Classification Management Society Journal, IV:2, 1968, p. 17.

technological development is concerned if the development is recognized as a significant advancement. However, he noted that knowledge about the developmental status of similar technical disciplines in other countries is not readily available; therefore, the accuracy of classification determinations suffer accordingly.[14]

On May 14, 1969, Dr. Edward Teller testified before a Senate Subcommittee on the information gap concerning the Anti Ballistic Missile (ABM) controversy and debate. In referring to the impact of secrecy on discussion of matters of vital national interest, Teller acknowledged that to open the book of secrets both to the Congress and to the public will have the disadvantage of giving help to our adversaries. But, he said:

> I believe that our whole policy of secrecy should be carefully reviewed and that far reaching decisions should be made to encourage open discussion. Secrecy has produced the information gap which impedes orderly discussion of the ABM question.[15]

Teller made the following general recommendation: "Our rules of secrecy should be rediscussed and made more liberal."[16]

Dr. John Foster, Director of the Department of Defense Directorate of Defense Research and Engineering,

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[14]Interview with Robert Battey, Aerospace Engineer, on March 11, 1970.

[15]Edward Teller as quoted in National Classification Management Society Bulletin, May/June, 1969, supplement p. 2.

[16]Ibid.

in recent testimony before another Senate Committee concerning the nation's classification policy said:

> The basic dilemma in these decisions is, on the one hand, to encourage the maximum interchange of technical information within the scientific and technical community of the Free World for our own benefit and yet, on the other hand, to minimize any free technical assistance to countries whose interests may not coincide with ours.[17]

He added later in the same testimony:

> You must understand that the U. S. Technical Community depends heavily and thrives upon the processes of open debate. Without debate in most critical areas of defense R&D, our current technical superiority would be jeopardized, just as surely as it would be if classified information were compromised.[18]

The inevitable conflict between science and classification was well expressed by Dr. Leslie M. Redman, Technical Information Group Leader at Los Alamos Scientific Laboratory in New Mexico. He said in substance.

> The basic point in any discussion of science and technology and classification management is that a balance must be struck between defense and progress, because there is an unequivocal and unresolvable conflict between them. The morality of interfering with free dissemination of scientific information is not usually discussed. It seems to be an ignored fundamental of the essential conflict between science and classification. We are standing in our own way, in a deliberate and, we hope, measured way when we try to apply classification management to science information.[19]

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[17]John Foster as quoted in National Classification Management Society Bulletin, May/June, 1969, p. 3.

[18]Ibid.

[19]Leslie M. Redman, "Panel--Science and Technology,

The university environment causes some very special problems to a researcher attempting to conduct work on a classified contract. Dr. Richard C. Dove, Dean of the Engineering Department at the University of New Mexico, described some of these difficulties:

> Except for some of the very large universities - at a lab like the Lincoln Laboratory - a university professor, once he takes on a classified project, may very well find himself the only man there working on that project. That, you see, is a very special atmosphere. So it does limit the freedom of exchange of information which a researcher needs to do his work. The other handicap, of course, involves the use of students. At most universities, in fact I would hope at all universities, research is chosen so it does involve students and becomes a vehicle for continuing the education of those students. As soon as you take on classified research then you have the problem of getting the students cleared so that they, in turn, can have the sources of information necessary to do that particular research. As soon as a student becomes involved in classified research, knowing full well that he intends to write either a Master's thesis or a Doctor's dissertation, then you have the problem of finding committee members who can be cleared so they can approve his work and you have the battle of whether or not it is legitimate at that university, to present a thesis or dissertation which is not then publishable in the wider literature because it is classified.[20]

The difficult balance between science and classification has its roots in the Preamble to the Constitution of the United States according to a professional engineer, Frank

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and Classification Management," National Classification Management Society Journal, Vol. II, 1966, pp. 38-39.

[20] Richard C. Dove, "Classified Research in the University," Seminar: Classification Management at the Working Level, p. 20.

Thomas. In an address concerning classification and technological breakthroughs, he made the following observations:

> First try to consider and to outline the national objectives or national goals in the broadest possible terms. . . . For purposes of illustration let me examine briefly the national goals as outlined in the Preamble to the Constitution. If you will permit a certain editorial license these goals are: 1, Form a more perfect union; 2, establish justice; 3, insure domestic tranquility; 4, provide for the common defense; 5, promote the general welfare; and 6, secure liberty.
>
> If one accepts that the national goal is (in our technical jargon) to optimize or maximize these six individual goals, then it simply cannot be done. Assume for a moment that we could quantify these goals, and remove the largely unknowable factors of complex human behavior. Even then, we could not simultaneously maximize all six goals. We could not maximize any two goals. Even with our simplifying assumption, mathematically we would be able to maximize only one of the parameters or one of the goals for any given situation or set of input conditions.[21]

Thomas went on to point out that it is impossible to simultaneously achieve maximum defense (goal 4 in the above quote) and maximum welfare (goal 5) or maximum liberty (goal 6). He went on to say:

> The framers of our Constitution, of course, realized the necessity of arriving at a balance between possibly conflicting national goals. . . . in the broadest sense, any policy instituted by the government, including the classification policy, cannot consider only a single national goal. Unless we are

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[21] Frank Thomas, "Classification and Technological Breakthroughs," National Classification Management Society Journal, Vol. II, 1966, pp. 12-13.

> willing to forego all goals, except one, the policy must consider the other goals and make at least some attempt to resolve conflict between competing goals.[22]

In summary, administrators of science programs, both in and out of Government are generally unanimous and quite outspoken in their position that security classification of research information constitutes a definite hindrance to a maximum development of science in our country.

They have cited numerous difficulties that have, in their evaluation, been caused or enlarged by the Government's classification program including such problems as personnel assignment and retention troubles; a hampering of desired international cooperative programs; the loss of unclassified data to the scientific community because of the difficulty of retrieving it from classified documentation; the impediment of a free flow of needed information among diverse disciplines where the value of interdisciplinary contributions cannot always be anticipated but frequently exist; and the difficulties and related increases in costs because of ambiguous and sometimes inconsistent classification specifications.

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[22] Ibid., p. 13.

CHAPTER III

THE GOVERNMENT SECURITY CLASSIFICATION PROGRAM

An examination of the legal, situational and comparative environment, in which the conflict between science and the Government's security program takes place, is necessary in order to provide a background for a later analysis of approaches that can be used to minimize the conflict. An explanation of the reasons for science organizations being involved, at all, in research that becomes classified is a realistic starting point for this inquiry.

Therefore, this chapter covers an analysis of the U. S. Government information security classification program and its effect on science agencies.

The Preamble to the Constitution of the United States established the concept that provisions would be made "for the common defense." Article II, Section I of the Constitution states in part "The executive Power shall be vested in a President of the United States of America."

In spite of the fact that Congress has historically championed the cause of a free flow of information, our legislative body has initiated many laws which have had the effect of encouraging administrative action to withhold

information. In terms of the gross number of legislative actions, the tally is as follows:

> A variety of statutes have been enacted which underwrite secrecy throughout the executive branch, while other laws protect segments of information lodged within the jurisdiction of particular agencies. In 1960 the House Subcommittee on Government Information listed 172 statutes which permit government information to be withheld from the public, as compared with 75 statutes which specifically require the dissemination of official data.[23]

Ultimately, however, the power to withhold information from the public domain stems from the power of the chief executive.

Beyond the general constitutional provisions and the various statutes, Executive Order 10501,[24] as amended, which directs the assignment of a security classification to information in the interests of the defense of the United States, authorizes and directs specific Government organizations to take classification actions. It currently reflects that in the following "having primary responsibility for matters pertaining to national defense . . . the authority for original classification of information or material . . . may be exercised by the head . . . or by such responsible officers or employees as he, or his representative may designate for that purpose:"

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[23] Francis E. Rourke, Security and Publicity - Dilemmas of Democracy (Baltimore, Md.: The John Hopkins Press, 1961), p. 57.

[24] Safeguarding Official Information . . . , Exec. Order 10501.

The White House Office
President's Science Advisory Committee
Bureau of the Budget
Council of Economic Advisors
National Security Council
Central Intelligence Agency
Department of State
Department of the Treasury
Department of Defense
Department of the Army
Department of the Air Force
Department of Justice
Department of Commerce
Department of Labor
Department of Transportation
Atomic Energy Commission
Canal Zone Government
Federal Communications Commission
Federal Radiation Council
General Services Administration
Interstate Commerce Commission
National Aeronautics and Space Administration
National Aeronautics and Space Council
United States Civil Service Commission
United States Information Agency
Agency for International Development
Office of Emergency Planning
Peace Corps
President's Foreign Intelligence Board
United States Arms Control and Disarmament Agency
Export-Import Bank of Washington
Office of Science and Technology
The Special Representative for Trade Negotiations

In addition to the above, the heads of the following Government departments and agencies are also authorized (without provisions for further delegation to subordinates) to classify information by EO 10501:

Post Office Department
Department of the Interior
Department of Agriculture
Department of Health, Education, and Welfare
Civil Aeronautics Board
Federal Maritime Commission
Federal Power Commission
National Science Foundation
Panama Canal Company
Renegotiation Board
Small Business Administration
Tennessee Valley Authority

Executive Order 10501 established a comprehensive system of information classification to preclude access to data that could be beneficial to potential adversaries of the United States. In modifying a prior executive order, it was designed to reduce the number of agencies which could initiate classified material, eliminate the category of "restricted" information and establish declassification procedures for information that did not warrant further protection.

However, in spite of the above objectives, a careful examination of the list of organizations cited above indicates that most are outside of the formal defense establishment. Even by including for the purpose of this discussion in the "defense establishment," organizations such as CIA, AEC, the National Security Council and the others who have a major role in defense related activities, there still is a majority of the organizations listed that are not generally thought to have a military or defense role.

It has been observed that many people, in and out of the government, are under the impression that information should legitimately be classified only by military and related defense organizations. Examination of the "purposes" of many organizations as they are described in the current issue of the Government Organization Manual would support the misconception that only the defense oriented agencies are legitimately involved in

the classification of information. For example, the Government Organization Manual, in defining the major purposes of the following departments, all of which are domestic organizations and have a substantial research and development role according to Amitai Etzioni,[25] contains no reference to support of national security objectives by these organizations:

Department of Commerce
Department of Labor
Department of Transportation
Department of Agriculture
Department of the Interior
Department of Health, Education, and Welfare

Similarly, for NASA and the Federal Aviation Administration, both of which have a substantial research and development function, there is also no reference in the Government Organization Manual indicating a national security support role for these organizations.

Yet, all of the above activities are described in EO 10501 as being organizations "having primary responsibility for matters pertaining to national defense."

The question that quite naturally arises is: If such organizations do not have major national security support responsibilities, why are they described in EO 10501 as having a primary responsibility for matters pertaining to national defense?

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[25]Amitai Etzioni, "Agency for Technological Development for Domestic Programs," Science, April 4, 1969, pp. 43-50.

Part of the answer to this question is found in an examination of the legislation under which such agencies are established or in subsequent laws or interagency agreements further defining the roles of existing organizations. For example, the "Space Act" provides in its Section 101 that

> aeronautical and space activities of the United States shall be conducted so as to contribute materially to one or more of the following objectives: . . . The making available to agencies directly concerned with national defense of discoveries that have military value or significance.

Section 303 of the Space Act directs that the

> Information obtained or developed by the Administrator in the performance of his functions under this Act shall be made available for public inspection, except (A) information authorized or required by Federal statute to be withheld and (B) information classified to protect the national security.

Section 304 of the Space Act authorizes the Administrator to "establish such security requirements, restrictions, and safeguards as he deems necessary in the interests of national security."[26] As noted by Rourke in his earlier quotation there are many statutes covering classification of information by executive branch agencies.

Another part of the explanation for the involvement of seemingly non-defense organizations in the role of "having primary responsibility for matters pertaining to

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[26]U. S., Congress, House, National Aeronautics and Space Act of 1958, Public Law 85-568, 85th Cong., H. R. 12575, July 29, 1958.

national defense" is found in the very definition of "national defense."

The executive order, itself, provides no specific definition of the term "national defense." Yet it does provide us with a clue in the section on classification categories by referring to "defense information, including military information" and thus making it clear that there is another category of defense information aside from military information.

One agency's policy statement on security classification criteria and guidelines provides a further understanding of the term:

> A Presidential Directive of September 23, 1958, among other things, establishes that the term "classified defense information" includes both "classified military information" and "classified nonmilitary defense information."[27]

A broad interpretation of national defense as it applies to the classification of information was recently voiced by a DOD Classification Management Official in the following statement:

> The "government purpose" for which access to classified information is claimed to be necessary, should be related in some way to the interests of national defense. The needs of the government are so broad, however, that this connection often may be somewhat remote. It is axiomatic that the strength of the U. S. Government and the nation in all fields is related to its strength in the international

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[27]National Aeronautics and Space Administration Security Classification Program Criteria and Guidelines, NHB 1640.4A, July 1967, p. 4.

> arena; therefore, all activities affecting the strength of the Government and the nation affect the interests of national defense.[28]

In this same statement, this official also earlier said:

> In one way or another, practically every agency in the Executive Branch participates at some time in activities affecting or relating to national defense.[29]

The Congress provided yet another descriptive term to describe this role of a non-military organization involved in defense support activity. The Space Act required NASA "to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." In the same enactment, the Congress provided for the withholding from public inspection of "information classified to protect the national security."[30] (underlining added).

Thus the term "national security" is considered analogous to "national defense," and these two terms envision both military and non-military interests and information in the context of Classification Management. This has significant implications for science agencies because any Federal agency listed in EO 10501 has a responsibility for identification and protection of

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[28] C. Donald Garrett, "The Role of Need-To-Know in Releasing Classified Information," Defense Industry Bulletin, February, 1969, p. 3.

[29] Ibid., p. 2.

[30] National Aeronautics and Space Act of 1958.

information affecting the defense or security of the nation.

The non-military, defense interests of our country are defined in the following quotation by Howard Maines who provides a description of the reasons and the justifications for imposing some degree of protection on new technological developments:

> First, whenever a new material, device, manufacturing process, or operational procedure can be applied to give us a military advantage, it is certainly in the national interest to protect that advantage for as long as we can. . . . Second, we want to maintain an industrial lead over our competitors in the world market. Only by producing superior products at competitive prices can we sell enough goods abroad to balance the outflow of gold required to support our economic and military commitments around the world. . . . Third, in the less obvious, and perhaps intangible political area, the classification and controlled disclosure of some of our more advanced technologies, provide our government with a valuable instrument of diplomacy. . . .[31]

EO 10501 provides extremely broad and general guidelines to non-military agencies for classification of information. In defining 'Confidential' information, for example, the order provides merely that "Except as may be expressly provided by statute, the use of the classification 'Confidential' shall be authorized, by appropriate authority, only for defense information or material the unauthorized disclosure of which could be prejudicial to

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[31] Howard G. Maines, "Panel--Government Classification Management Policies and Programs," National Classification Management Society Journal, Vol. II, 1966, pp. 82-83.

the defense interests of the nation." The provision for classification of 'Secret' information offers only slightly more guidance. Several examples of kinds of information are cited which require classification at the 'Secret' level. But all of these examples except one are of interest only to military organizations. That single phrase that provides guidance to science oriented organizations is the provision for classification at the 'Secret' level of "scientific or technological developments important to national defense."

Thus, it is clear that science agencies must establish classification policy on the basis of very negligible formal guidance because of the extremely limited and very general government-wide policy terminology found in EO 10501. It seems obvious that an agency must provide its researchers with more concrete classification guidance than the very brief statement to classify "developments important to national defense." Science agencies will need to rely on informal means of acquiring policy guidance direction such as drawing on the prior experience of other organizations. At the same time they will also want to develop their own unique approaches to classification of the particular categories of research information with which they are dealing.

CHAPTER IV

FREEDOM OF INFORMATION LAW

Recent legislative action in the form of Public Law 89-487, 89th Congress, commonly referred to as the "Freedom of Information Law" now provides additional direction to Government agencies in connection with release and withholding of information.

It provides that all Government information, except that which has been specifically excepted as provided in the law, be made available upon request to the public.

In signing this legislation, which revised the public information provisions of the Administrative Procedure Act, on July 4, 1966, President Johnson, in part, stated:

> This legislation springs from one of our most essential principles: a democracy works best when the people have all the information that the security of the Nation permits. No one should be able to pull curtains of secrecy around decisions which can be revealed without injury to the public interest. At the same time, the welfare of the nation or the rights of individuals may require that some documents not be made available. . . . I know that the sponsors of this bill recognize these important interests and intend to provide for both the need of the public for access to information and the need of the Government to protect certain categories of information. Both are vital to the

welfare of our people.[32]

Thus, the President and the Congress affirmed that all information will be released unless it specifically has been determined that it qualifies for exemption from release. The new law provides in substance that:

> Every agency shall make available to the public information that is published in the Federal Register, Agency opinions and orders and Agency Records, except that these provisions shall not be applicable to matters that . . .[33]

Nine exemptions to the requirement for public release are then provided in the law. The first of these exemptions pertains to information "specifically required by Executive Order to be kept secret in the interest of the national defense or foreign policy."

In passing Public Law 89-487 the Congress provided an updating to the provisions of EO 10501 by reaffirming that information classified in the interest of national defense will be withheld from public disclosure. On the other hand, the passage of this law served new and continued notice of the intention of the Legislative body of our Government to assure that great care is taken in any decision to withhold information from the public. The law also contains an important provision for any member of the public to follow if an agency will not

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[32]The Mosler Safe Company, The Mosler Security Letter, August 3, 1966, p. 2.

[33]Amendment to the Administrative Procedure Act.

release a document that is desired, as follows:

> Upon complaint, the district court of the United States in the district in which the complaintant resides, or has his principal place of business, or in which the agency records are situated shall have jurisdiction to enjoin the agency from the withholding of agency records and to order the production of any agency records improperly withheld from the complaintant. In such cases the court shall determine the matter, de novo and the burden shall be upon the agency to sustain its action.[34]

However, a recent Federal court case on a suit to force release of a document from a Government agency provides interesting insight into the approach that the courts may use in construing the Freedom of Information (FOI) Law in cases involving suits attempting to force release of information that has been classified:

> Epstein vs. Resor, US District Court for Northern California, February 19, 1969. This case involves the first exemption to the general requirements of the FOI, covering matters "specifically required by Executive Order to be kept secret in the interest of the national defense or foreign policy."
>
> Epstein sued to force release of a copy of a report prepared in 1948 on "Operation Keelhaul," which was classified TOP SECRET. The court denied the request. This case is significant because it reinforces previous actions by the courts in limiting judicial review to determinations as to whether the classification action was arbitrary or capricious and refusing to second-guess the classifying authority. The court, in effect, refused to require the Government to bear the burden of proof that the document was properly classified. The court said: "The district courts at least have jurisdiction to determine whether the

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[34] Ibid.

> exemption applies in a given situation, *** whether classification within the first exemption is clearly arbitrary and unsupportable." The court indicated its evaluations would be limited to determining whether the assigned classification was appropriate without inquiring into or forcing a disclosure of the very information that the classification was designed to protect; even in the privacy of the judge's chambers.
>
> The court said specifically: "The question remaining is whether or not this information is 'required by Executive Order to be kept secret in the interest of the national defense or foreign policy,' in answering this question, the court is limited to determining whether the Secretary of the Army has acted capriciously in exercising the authority granted to him by Executive Order 10501. Although the information before the court is not extensive, it is sufficient for rendering a decision on the issue of summary judgment."[35]

Thus, it appears from this decision that in suits attempting to force release of classified information, the courts will not place any burden on an agency that initiates classified information to prove the validity of such classification if it is satisfied that the agency did not act capriciously.

Reports are now being assembled on the interpretations of the Courts that handle complaints under this law against Federal agencies that have declined to release information on the basis it is exempted from required release under the law. In a recent report Si A. Upson provided the following analysis:

It has been speculated that it will take

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[35] Law Week, 37 LW 2489.

> considerable judicial review to clear up certain areas. There has been some review in the courts since the passage of the Act, but not nearly as much as was anticipated by many. During the first year of the Act, 31 cases were filed in Federal District Courts under the judicial review provision. By the end of the year, 20 were still pending final decision and 11 were closed. Here is the box score of the 11 that were closed:
>
> - Six upheld withholding of the information by the Government,
> - Two upheld disclosure
> - In two cases, the Government's defense convinced the plaintiffs to drop their suits,
> - In one case, the plaintiff obtained his information by other means and did not contest the Government's motion to dismiss the suit.
>
> From all this I identify only two cases clearly going in favor of the plaintiff. . . . I think we do see a trend.[36]

The significant implications of this recent legislation to classification management are analyzed in Chapter VI.

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[36]Si A. Upson, "The Freedom of Information Act," Seminar: Classification Management at the Working Level, pp. 50-51.

CHAPTER V

COMPARATIVE CLASSIFICATION PROGRAMS

Only a limited amount of descriptive information concerning classification programs in other countries is available in the open literature. Most countries throughout the world have established a system of classification similar to that practiced in the United States. The U. S. Department of Transportation has identified the equivalent foreign language classifications of 74 countries.[37] (See Figure 1.)

In an article describing the security classification program of the Soviet Union, Zile, Sharlet and Love described a state secret as "information of state importance especially protected by the state. It includes data of military, economic and foreign policy character." Among the several types of information of a military nature, they say that the following are included:

> (14) discoveries and inventions of a major military significance;
> (15) discoveries and inventions of major scientific and economic significance before the grant by heads of ministries and departments of permission for their publication;

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[37]Department of Transportation Instruction, DOT 1600.22, May 19, 1969, p. 39.

FIGURE 1.--Table of Equivalent Foreign Language Classifications

Afganistan					Israel				
Argentina					Italy (N)				
Australia (S)					Japan				
Austria					Jordan				
Belgium (N)	French-Flemish				Korea				
Bolivia					Laos				
Brazil					Lebanon				
Burma					Malaya				
Cambodia					Mexico				
Canada (N)					Luxembourg (N)				
CENTO					NATO				
Chile					Netherlands (N)				
China (Taiwan)					New Zealand (S)				
Colombia					Nicaragua				
Costa Rica					Norway (N)				
Cuba					Pakistan (S)(C)				
Czechoslovakia					Paraguay				
Denmark (N)					Peru				
Ecuador					Philippines (S)				
Egypt					Poland				
El Salvador					Portugal (N)				
Ethiopia					Rumania				
Finland					SEATO				
France (N)(S)					Spain				
Ghana					Sudan				
Greece (N)					Sweden (red frame)				
Guatemala					Switzerland				
Haiti					Syria				
Honduras					Thailand (S)-				
Hong Kong					Turkey (N)(C)				
Hungary					South Africa English: Afrikaans.				
India					United Kingdom (N)(S)(C)				
Indonesia					United States (N)(S)(C)				
Iran (C)					USSR				
Iraq					Venezuela				
Ireland	English: Gaelic				Viet Nam French Vietnamese				
					West Germany (N)				
					Yugoslavia				

Restricted	Restricted			
Nur für den Dienstgebrauch				
Diffusion Restreinte				
Sepertke Verspreiding				
Reservado				
Restricted				
CENTO-Restricted				
Reservado				
Reservado				
Reservado				
Pouze Pro Sluzebni Potrebu				
Til Tjenestebrug				
Reservado				
Reservado				
Vainvirkapalvelluksi-Saadtettävüksi				
Diffusion Restreinte				
Restricted				
Reservado				
Restricted				
Restricted				
Restricted				
Terbatas				
Restricted				
Sriants				

Segretissimo	Segreto	Riservatissimo	Riservato	
Tres Secret	Secret	Secret/Confidentiel	Diffusion Restreinte	
Tres Secret	Secret	Confidentiel		
Top Secret	Secret	Confidential	Restricted	
Secreto	*Secreto*	Confidencial		
Tres Secret	Secret	Confidentiel	Diffusion Restreinte	
COSMIC-Top Secret	NATO-Secret	NATO-Confidential	NATO-Restricted	
Zeer Geheim	Geheim	Confidentiel or Vertrouwelijk	Dienst Geheim	
Top Secret	Secret	Confidential	Restricted	
Alto Secreto	Secreto	Confidencial	Reservado	
Strengt Hemmelig	Hemmelig	Fortrolig		
Top Secret	Secret	Confidential	Restricted	
Alto Secreto	Secreto	Confidencial	Reservado	
Estrictamente Secreto	Secreto	Confidencial	Reservado	
Top Secret	Secret	*Confidential*	Restricted	
Najtajnszy	Tajne	Poufny		
Muito Secreto	Secreto	Confidencial	Reservado	
	Secret	Confidential		
SEATO-Top Secret	SEATO-Secret	SEATO-Confidential	SEATO-Restricted	
Maximo Secreto	Secreto	Confidencial	Diffusion Limitada	
Top Secret	Secret	Strictly Confidential	Confidential	
Yolig	Yolig	Yolig	*Holig*	
Streng Geheim	Geheim	VS-Vertraulich	Nur für Dienstlichen Gebrauch	
Çok Gizli	Gizli	Özel	Hizmete Özel	
Top Secret Uiters Geheim	Secret Geheim	Confidential Vertrouliik	Restricted Bepark	
Top Secret	Secret	Confidential	Restricted	
Top Secret	Secret	Confidential	Confidential-Modified Handling Authorized	
Ultra Secreto	Secreto	Confidencial		
Tres Secret Tôi-Mật	Secret Mật	Confidentiel Mật Kín	Confidentiel Tu Mật	
Streng Geheim	Geheim	VS-Vertraulich	VS-Nur für den Dienstgebrauch	

> (18) such other information as may be added by the Council of Ministers of the USSR to the list of matters subject to state secrecy.

The authors noted further that,

> Unfortunately, little is known about the actual administration of the security classification system [in Russia]: The application of secrecy laws itself is by and large enveloped in secrecy.[38]

In commenting further on the administration of the program in the Soviet Union they noted that ". . . as the final approval agency, the NKVD (state security organization) had the decisive voice."

The effect of this intense secrecy in the Soviet Union has caused the technological advancement of that country considerable difficulties because of its leaders obsession with secrecy, according to Aviation Week and Space Technology editor Robert Hotz. In citing some specific examples, he wrote:

> Some of the Soviet secrecy is truly ridiculous, Sergei Korolev, the guiding genius of the initial phase of the Soviet space program, worked in official anonymity until he died. The name of his successor is a state secret. The identity of the recent Soyuz mission director is also concealed from the Soviet people. . . . The recent Soyuz missions (failure of Soyuz 7 and 8 to dock as the mission plan specified) demonstrated clearly how far behind the Soviets have fallen in their manned space program with their introspective

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[38]Zugurds L. Zile, Robert S. Sharlet, and Jean F. Love, "Classification in Russia," National Classification Management Society Journal, Vol. IV, No. 1, 1968, pp. 7-9.

approach.[39]

If classification of research and development information has, in reality, caused the significant problems and delays to U. S. science development, as claimed by the authors quoted in Chapter II, then Hotz' observations about the similar problem in the comparatively clandestine Soviet Union would certainly seem to be warranted.

The issue of science vs. secrecy in governmental organizations is truly a problem faced also by nations other than the United States. In the United States (as probably in others), a careful analysis and continuing realistic approach to classification is needed in order to assure that classification will serve, rather than disserve the national interest.

In those existing science agencies in the United States that have a classification responsibility in accordance with EO 10501, the responsibility for the management of the classification program is usually delegated by the agency head to another official. This official is ordinarily designated as the Security Classification Officer of the agency. This function ordinarily is assigned to an official other than the Director of Security or agency Security Officer whose responsibilities

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[39] Robert Hotz, "Editorial," Aviation Week and Space Technology, Vol. 91, No. 17, Oct. 27, 1969, p. 11.

include establishment of policy and procedures for safeguarding classified information (e.g., accountability, control, access, storage, transmission, marking, etc.).

Yet these two officials must work closely together in the total administration of an agency's information security program. In some cases, the Security Classification Officer reports to the agency's Director of Security or Security Officer.

This organizational and personnel arrangement is also established at an agency's field facilities, creating a communications network for an agency's classification program.

General policy under which the agency classification program operates is issued by the agency head and Classification Guides are issued to identify the classified and unclassified information elements of major technical programs and activities with which the agency is involved. These Guides are used and interpreted by the segments of the agency that are involved with the research and development activity described in the Guides.

The Security Classification Officer provides interpretations of classification policy and initiates classification guidance within his jurisdiction. He provides a linkage between technical personnel of the agency and technical and classification personnel of other organizations.

PART TWO:

ALTERNATIVES

CHAPTER VI

AN ANALYSIS OF REALISTIC CLASSIFICATION APPROACHES FOR NEW SCIENCE AGENCIES

Introduction

It is clear from past public pronouncements of many Government officials, some of whom are quoted in this thesis, that classification of research information considered essential to national defense, is not likely to be discontinued. In this chapter, the objective will be to explore approaches that can serve to minimize the adverse effects of the conflict between science and secrecy. The most frequently described disagreements and frustrations with the classification program, as described by the scientists, have been considered in development of these approaches.

These approaches cover a wide range of proposed policies and practices for consideration in establishment of a science agency classification program.

It is stressed that none of these approaches, individually or collectively, is a panacea for the problem of solving the difficulties faced by Government because of the basic conflict between science and secrecy. Nor are all of them practical in every Government organization

that is responsible for classification of national defense information. Instead, this chapter is an attempt to describe the author's evaluation of practices that can generally serve to reduce the nature of the conflict. The concepts, policies and practices discussed in this chapter can be implemented in a science agency and they would all be consistent with existing laws and Executive Orders.

Recognition of the Importance of Classification Management

The extreme importance of classification management was well expressed by the Deputy Assistant Secretary for Security Policy, DOD, in the following remark:

> The function of classifying information is a vital part of our security program. It is the first step that brings all the other security procedures and policies into play. Once it has been determined that information should be classified, the following security measures apply: marking, physical security which includes the safes, guards, alarms, fences and warning devices; rules for guarding transmission; access, and this involves the whole super-structure of personnel security standards, personnel security investigations and adjudications; and then the accountability, downgrading declassification, and finally destruction of documents. So it is essential that classification judgments be properly made in the first instance. On the one hand, while the failure to classify properly may be detrimental to the national interests because of the unwarranted disclosure of information, the failure to classify properly, on the other hand, may be harmful to the national interest in that certain information that should be in the public domain is not, or certain information is overclassified, thereby requiring protection in excess of its merits and to that extent making an unnecessary claim upon and pro tanto

diluting our security resources.[40]

The importance of classification management gave rise in 1964 to the National Classification Management Society (NCMS) which has as its stated purpose and scope the following:

> It is the purpose of the National Classification Management Society to advance the practice of classification management as a profession and to foster the highest qualities of professionalism and professional competence among its members. In furthering this purpose, the Society provides a forum for the free exchange of views and information on the methods, practices and procedures for managing classification programs and it engages in activities for disseminating such information and for developing and refining the principles and techniques of classification management.[41]

The NCMS currently has six chapters and a total of over 200 members throughout the United States. Its members include key industry and Government officials who are active in the field of classification management. The Society holds a national seminar each year and frequent regional seminars as well as regular chapter meetings. It also publishes a Journal and an Information Bulletin of interest to members and others interested in this subject. There has long been a need for greater communications in this field aimed at improving, updating and

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[40]Joseph J. Liebling, "Government Security," American Society for Industrial Security Proceedings of Thirteenth Annual Seminar, September, 1967, p. 73.

[41]By-Laws of the National Classification Management Society, Article II, Section I as described in the Journal of the National Classification Management Society Journal, Vol. V, No. 1, 1969, p. 35.

modernizing classification processes. This Society can provide to science organizations a means of keeping abreast of developments in the field of classification management. It can provide an important informal source of information concerning the establishment of classification programs in various Government agencies and solutions to problems commonly experienced in management of such programs.

Enhancement of Realistic Classification Management Through the Freedom of Information Law

It has been charged in the past that some agencies have incorrectly assigned a security classification to information that, if released, would be embarrasing, but which contained no vital defense data. Robert Lindsey, newspaperman with the San Jose Mercury News, in addressing a group of classification management personnel made the following observation:

> It would be fine if everything you classified - or, putting it another way, everything you have restricted from public consumption - were data that if revealed would aid and comfort potential enemies. Most newsmen are skeptical of your system because they have discovered, usually after it is too late, incidents where so-called "security" has been used to hide mistakes or poor judgment; or to protect a program when it is in jeopardy in Congress or perhaps at the civilian DOD level; or when there is an interagency fight for funds or jurisdiction; or in comparable situations.[42]

The Freedom of Information Law now provides Government

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[42]Lindsey, pp. 18-19.

organizations with rather specific guidance in the form of a description of the various information categories that are exempt from required release to the public. Eight other exempt information categories, in addition to national defense information, are listed in the new law. Of particular significance are the following exemption categories:

- Category Two deals with matters related solely to the internal personnel rules and practices of an agency.
- Category Three deals with information specifically exempt from disclosure by statute.
- Category Four deals with trade secrets and commercial or financial information obtained from any person and privileged or confidential.
- Category Five deals with inter-agency or intra-agency memorandums or letters which would not be available by law to a private party in litigation with the agency.

An agency should minimize the practice of assignment of a security classification to information and definitely limit such practice only to information which warrants such protection. When withholding of information is considered essential to an agency, and the data does not warrant a defense classification, careful analysis of the other exemption categories may be helpful in determining whether there is valid justification for

limiting outside access through the means of one of the other exemptions.

If the charge of past misuse of classification to withhold release of unclassified information has any merit, such action may have been taken because of uncertainty of whether other means of withholding the information were authorized. The Freedom of Information Law now provides a degree of clarity by enumerating all of the specific categories of information that are authorized to be withheld from the public. In addition, if the charges have merit, the new law should have another favorable impact by lessening the amount of classified information generated by the Government; although greater reliance will probably be placed on the other exemptions.

Classification of Research Information

One of the most difficult classification problems facing science agency management is the responsibility for identifying areas of information that truly warrant classification. Yet broad agency wide policy and criteria for classification must be established.

Equally difficult is administration of the system of classification management, which involves preparation of classification guidance for specific projects based on the broad policy and criteria; periodic review to assure that earlier classification decisions are still warranted; communication of classification guidelines

to those who require such information; and continued, consistent interpretation of guidelines.

Significant interagency communications take place in the security classification field. As a result, not only is an agency's classification guidance followed by private organizations under contract, but also by any other government organizations, involved in related technical areas of effort. The "lead" agency in such relationships is generally expected to provide classification criteria for the whole field of effort. In this way, decisions made to classify information have an impact far beyond the limits of the originating organization.

Howard Maines, Security Classification Officer for the National Aeronautics and Space Administration, stressed that the total national interest should be considered when classification is contemplated:

> In determining what information should be classified, the most important basic factor that should be considered is whether the national interest will be served by making the information generally available or to classify it and thus limit its dissemination.[43]

An important and noteworthy distinction between basic research and technological development has been made by Robert J. Seeger, former Deputy Assistant Director of the National Science Foundation:

> It is my thesis that blanket security

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[43]Howard G. Maines, "The NASA Security Classification Program," Industrial Security, October, 1963, p. 120.

> which includes basic research does not guarantee security; indeed, it tends to insecurity by insisting upon care where it is not needed and thus cheapening the value of care where it is vital. I would argue that we should clearly differentiate between basic research and technological development and have appropriate security measures for each. . . . I would, therefore, argue strongly for complete freedom for all basic research. I would maintain that National Security will be enhanced by the very increasing of such freedom, that it might well be endangered by ignorant attempts to set up veils of security - we would probably be ensuring our own ignorance more than that of others! Mind you, I am speaking of basic research - not development - as the necessary foundation for our continuing technological progress.[44]

Some agencies instruct their employees to follow the extremely broad and doubtfully adequate language of Executive Order 10501, for the purpose of making classification determinations of technological research information in the interests of national defense. Others provide the additionally needed guidance for employees, which assures a more consistent agency approach.

For example, regulations applicable to such activities as the Department of Transportation and the Federal Aviation Administration provide for classification of information such as "particulars of scientific or research projects which incorporate new technological developments or techniques having direct application of vital importance to the national defense."[45]

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[44]Raymond J. Seeger, "Security and United States Technological Progress," Industrial Security, Oct., 1958, pp. 42-43.

[45]Department of Transportation Instruction, p. 15.

Among the several criteria used by NASA in making positive classification determinations are the following:

> Information which provides the United States, in comparison with other nations with a significant scientific, engineering, technical, operational, intelligence, strategic or tactical advantage related to national defense; and information which reveals an unusually significant scientific or technological "breakthrough" which there is sound reason to believe is not known to or within the state of the art capability of other nations, if the breakthrough supplies the United States with an important military advantage of a technological nature; classification also would be appropriate if the potential military application of the information, although not specifically visualized, would afford the United States a significant military advantage in terms of technological lead time.[46]

The establishment, publication and communication of classification criteria for research information, which provides more explanation beyond the very general standards provided by Executive Order 10501, is urged for new science agencies. Such criteria will help assure more consistent interpretations within the agency and will ultimately result in more precise classification decisions throughout Government.

Requirement for Intelligence Support

Joseph J. Liebling, Director of Security Policy, Department of Defense, described the need for protection of advanced state-of-the-art information of interest to

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[46]National Aeronautics and Space Administration . . . Criteria, pp. 11-12.

the nation's defense, as follows:

> What this means is that researchers need to understand the nature of scientific and technological progress in various disciplines that will represent a sufficiently important change in our military posture to warrant security classification. It is necessary, it seems to me, to identify and to state the levels of performance, capability . . . that constitute a defense advantage of some kind over other nations.[47]

In order to make a judgment on a comparison of the relative state-of-the-art in a particular technological activity between this country and others, it is necessary to know the status of development in the foreign country. In some cases this can be obtained from the open literature. In others, reliance on intelligence information of some sort may be required.

The government's position with regard to the usefulness of the intelligence product was expressed by George MacClain, Director for Classification Management, Department of Defense, as follows:

> Generally, what the public already knows is beyond the reach of useful security classification. However, when we have exhausted the publicly known state of the art, we then depend upon U. S. intelligence research and reporting in order to reach an evaluation of the not yet publicly known state-of-the-art in foreign countries.[48]

At the present time, there are no formal inter-agency

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[47]Joseph J. Liebling, "Government Security: The Policy, the Purpose," Industrial Security, Feb., 1968, p. 18.

[48]George McClain, "Panel--Government Classification Management Policies and Programs," NCMS Journal, II (1966), p. 71.

relationships which bring organizations having a need for the intelligence product together with intelligence organizations. A science organization, involved in research which is believed to possibly warrant classification consideration, will need to establish a contact with an intelligence organization, make its requirements known and attempt to secure needed assistance in this manner.

Need for Close Cooperation and Early Communication with the Scientists on Classification Matters

The requirement for sound management of a security classification program is especially important in a science organization. It is also more difficult according to Frank Thomas, Assistant Director for DDR&E for Nuclear Programs of the Office of the Secretary of Defense. Thomas, whose past experience includes work in the nuclear weapons programs for Sandia Corporation, said:

> I'd like to say that the whole training of the scientist is that he likes to see the logic of the situation. It's very difficult for him to see the entire logic of a classification procedure, most of which is out of view. It's much easier for a man on the production line to be told that something is classified and he doesn't question it. The whole scientific viewpoint is to question everything and it is very difficult in a classification matter.[49]

Thus, we see that a very careful, and sometimes,

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[49] Frank Thomas, "Panel--Science and Technology, and Classification Management," National Classification Management Journal, Vol. II, 1966, p. 59.

detailed explanation for the scientist of the rationale behind the classification philosophy for limiting access to a particular scientific effort is needed. Coupled with this requirement is the need for management to assure that an early relationship be established between the scientists and persons performing classification management activities. Dr. Everett Welmers, Assistant for Technical Operations of the Manned Systems Division of the Aerospace Corporation, stressed this point in the following remark:

> This contact [between the classification manager and the scientists] has to be made relatively early. It is very unfortunate if a program gets months and months down the line and suddenly a classification structure is imposed on it. This has to be developed right from the start of the program with the scientists and classification man together.[50]

Application of Need-to-Know Principle

It is recalled that in Chapter II we saw that many scientists complain that the classification of information greatly restricts the flow of needed communications among those scientists who can contribute to advancement of particular disciplines. Here, the practical problem is twofold. First, through the Government's security clearance program, access to information is limited to

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[50] Everett Welmers, "Panel--Science and Technology, and Classification Management," National Classification Management Journal, Vol. II, 1966, p. 60.

only those persons in Government, industry and universities having an access authorization at or above the appropriate classification level of the information. Second, however, is the restriction which is commonly called "need-to-know."

The concept of the "need-to-know" principle is that knowledge shall be provided to only those persons who have the requisite access authorization, and among these, only to those persons whose official duties require such access. Since the responsibility for determining the "need-to-know" of a prospective recipient rests upon those individuals who already have the knowledge, it can be seen that a considerable degree of latitude in judgment is possible.

Some "need-to-know" judgments have been made very narrowly and rigid restrictions have resulted. Greater recognition, however, of the need for a liberal interpretation of the "need-to-know" principle has recently been evidenced, particularly in the field of scientific research activity.

This trend is apparent, for example, in analysis of a statement by Donald Garrett, a key Department of Defense classification official in comments relating to application of the "need-to-know" principle in private research organizations. Garrett said:

> In many fields of interest, a general need-to-know exists among all or many participants in that field of interest. To facilitate military developments, to conserve resources, to make maximum use of available expertise,

> to eliminate wasteful duplication and to reduce costs, it becomes important to ensure a free flow of scientific and technical information among the community involved in a particular field of interest may well have a reasonable need for all available information to assist in performance under the contract. Private facilities which do not have current contracts should be considered to have a legitimate need-to-know for classified information. The information is needed to maintain their capabilities as developers and producers of future equipments or advanced generations of existing equipments. . . . In all these cases, however, the nature of the contribution the private facilities can make to national defense must be more than theoretical, it must be actual and demonstrable, although not necessarily immediate.[51]

One Government facility at which the approach described by Garrett is fully used is at the Los Alamos Scientific Laboratory in New Mexico. Programs at this facility range from highly classified to unclassified. According to Dr. R. E. Schreiber, Technical Associate Director of the facility, the practice is to have all personnel cleared for maximum access to program activities at the laboratory.[52] This results in maximizing the needed interchange of ideas necessary to help foster research developments.

Management of an agency, facility or other organization responsible for development of a particular area of classified research or development should make a positive determination as to the application of the "need-to-know"

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[51] Garrett, pp. 2-3.

[52] Interview with Dr. R. E. Schreiber, Technical Associate Director, Los Alamos Scientific Laboratory, on Nov. 21, 1969.

principle. Then, such management philosophy should be communicated to employees. These steps are essential to a uniform approach. If a uniform approach by management is not established, then individual employees can be expected to make their own judgments. Such judgments will ordinarily be made on the basis of past experience and experience with applying the "need-to-know" principle will vary quite considerably. Certainly, individual decisions will still be needed, but if management wishes to guide these decisions, a broad policy statement should be established and communicated to employees.

Classification of Information, Not Things

At the 1966 Annual Seminar of the American Society for Industrial Security, George McLain of the Department of Defense made an extremely important point about the Government's classification program when he noted:

> We're not classifying hardware or a model or a piece of paper, we're classifying simply the information that it reveals or can be made to reveal, ... And, if we cannot describe in words the information we want to protect, we obviously cannot communicate it to anyone else. . . . We must identify specifically what the information is we want to protect.[53]

At the 1968 Annual Seminar of the National Classification Management Society, the DOD's C. Donald Garrett

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[53]George McClain, "Security Classification Management," American Society for Industrial Security Proceedings, September, 1966, p. 38.

made a similar observation when he noted:

> Classification managers rightfully emphasize the necessity of identifying and classifying items of information rather than things. . . . First of all it is information that is classified. . . . Second, things, documents, and hardware are classified only because they contain and reveal classified information. . . . Lastly, security costs money, time, and effort. Our security resources must be preserved and used to protect only what really needs protection.[54]

The approach described by these two officials may appear to be elementary and not worthy of the apparent emphasis they place upon it. Yet, although this concept is clearly established as a classification principle in most agencies, it continues to be overlooked, ignored or not understood by persons authorized to create classified material. It is mentioned for this reason.

Toward More Precise Classification Marking

A recent development in the Government security program, as practiced in some agencies, has been the adoption of the practice of showing the particular paragraphs in a document that are classified or identifying in each document the reason for its classification. The philosophy behind this practice is that it requires the author of a document to identify the element(s) of information requiring protection, rather than making a

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[54]C. Donald Garrett, "Classifying Hardware," National Classification Management Society Journal, Vol. IV, No. 1, 1969, pp. 15-16.

gross determination that the document contains "some classified information." In the words of George McLaine

> the requirement sharpens the classification determinations made by the originator of the document. Further the paragraph markings serve as very precise classification guidance for all persons who come into custody of the document after the originator.[55]

This assures that extractions from basic documents will be correctly marked and not marked or handled as classified information if they do not contain sensitive information.

Some objections to the requirement for paragraph marking of documents such as research reports have been voiced by scientific and engineering personnel employed in those agencies which have imposed the so-called "paragraph marking" requirement. Actually there is an alternate approach for identifying the classified content other than through the paragraph marking system. The Department of Transportation, for example, provides the following instructions to its employees:

> When it is impractical to mark individual paragraphs, a statement shall be made on the document or in its text identifying the parts that are classified and their assigned classification, or an appropriate classification guide shall be attached as part of the document. The classification guide may be referenced if it is known that the recipient is in possession of the classification guide.[56]

While speaking at the Fourth Annual Seminar of the

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[55]McClain, "Panel," p. 74.

[56]Department of Transportation Instruction, pp. 16-17.

National Classification Management Society, in San Francisco, July 16-18, 1968, McClain provided the following progress analysis of this subject:

> How about paragraph marking? . . . We are sincere about it. Unless we have everybody trying to do it, we are not going to get a real test on whether or not it is as practical and worthwhile as we think it is. I know it will work. Some of the people who didn't think it would work are finding out it does. This is true, too, within industry.[57]

The practice of requiring the clarifying identification of classified content by the originator of documents on some basis more specific than total document classification should help overcome the problem of overclassification of extracted material. New agencies should, therefore, analyze their anticipated documentation activities to determine if requiring some form of the more precise document marking is practical for their organizations.

Observations

Some of the objections to secrecy from a portion of the scientific community are basic and fundamental disagreements toward any form of limitation on research information. To this group, only a major modification of the current Executive Order 10501 will bring any relief.

Many of the objections and frustrations of the

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[57] George McClain, "Luncheon Address," National Classification Management Society Journal, Vol. IV, No. 2, 1968, p. 98.

scientists, however, are aimed toward classification practices. The scientists express a need for such things as a limitation on the amount of classified information, a greater ability to communicate with others working in their field of effort, the need to extract unclassified information from classified documentation, the need for recognition of the fact that secrecy inhibits further discovery and the resultant necessity for well conceived and realistic classification restrictions. To this extent, the first assumption of this thesis is supported by examination of the statements made by the scientists. In this regard it is optimistically noted that refined and improved practices are able to be developed and it is through this approach that many of the conflicts between science and secrecy can be minimized.

With regard to the second assumption of this thesis concerning the lessons that can be gained from past experience, it has been noted that existing organizations have taken several approaches and follow practices that could have potential usefulness to new agencies. Aside from these, some additional approaches for ways of dealing with this problem, that could be of possible value to new science agencies, are also analyzed in this thesis.

CHAPTER VII

AN ANALYSIS OF PROPOSALS FOR FURTHER RESEARCH

There is a great need for research into every facet of the conflict between science and secrecy in order to further minimize the conflict between these essential, yet natural, rivals. Dr. B. V. Van Evera, Dean for Sponsored Research at George Washington University observed the state-of-the-art of the nation's security program and concluded:

> Our research in security has not matched our research in the things being secured. We have greatly developed the carriage, including putting a rocket motor in it, but we still have the whip socket that was needed when we pulled it with a horse.[58]

It will be the purpose of this chapter to briefly analyze three areas of potential research that could lead to fundamental improvement in the classification management program as related to scientific research and development information.

Automatic Declassification

Scientists working on problems of national security

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[58]Van Evera, p. 32.

interest recognize the need and take action under existing classification guidelines to withhold information from the public domain when resultant developments are expected to later serve a defense purpose. Yet such decisions are sometimes made on a rather subjective basis due to lack of certainty about the future defense value of the development. In addition, information is frequently retained in one of the classification categories beyond the time that such restrictions are needed even though guidelines declassifying the information have been published.

This is a problem that is not subject to easy solution because of the many complexities described in some detail earlier in this thesis, in the quotation by Mr. Price.

Positive action to declassify information that no longer warrants protection is the first and most important action that should be taken. The need for such action was stressed by W. Jack Howard, Assistant for Atomic Energy matters to the Secretary of Defense:

> Let me argue that a classification system becomes unreal and prejudicial to its own efficiency if too much material is involved. The originators, particularly scientists, have a natural pressure to keep the maximum allowable amount of material out of classified categories. . . . Aggressive examination of the classification policies will limit the size of the body of classified material and in the process improve the security of what

remains.[59]

But prior experience has shown that a second level of effort, a fail safe action, in the form of an automatic declassification system that is time dependent is necessary to purge classified files of data that no longer warrants protection. Thus EO 10501 was modified in 1961 to provide that much classified information be subjected to automatic declassification after the passage of 12 years from its origination. These provisions remain in effect nearly 10 years after their inception so they have presumably been of value to realistic classification without detriment to national security interests.

One of the major reasons for classification of research and development information is to give protection to data which will provide the country with a technological development expected to give the nation a future national defense advantage of some form over other countires. This concept of lead-time is analyzed by Howard Maines as follows:

> We cannot hope to maintain the secrecy of such developments indefinitely. The best we can expect is to keep ahead of potential adversaries by a lead time interval of several years.[60]

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[59]W. Jack Howard, "Panel--The Executive Views Classification Management," National Classification Management Society Journal, I:2,3,4 (1965), p. 75.

[60]Howard G. Maines, "Panel--Government Classification Management Policies and Programs," National Classification Management Society Journal, IV:2 (1966), p. 84.

Since science and technology are known to be advancing at an ever increasing pace throughout the world, the length of time that specific research information has a defense value sufficient to warrant its classification may be decreasing accordingly.

A working hypothesis based upon this approach could be established and tested with a view toward possible reduction of the 12 year declassification interval to a shorter time period for prescribed categories of research and development information.

Formalizing Intelligence Support

The relationship between classification decisions concerning research and development breakthroughs which rapidly advance the state-of-the-art and the value of intelligence information was discussed in detail in Chapters II and III. There is no formally recognized relationship within the Government structure that brings together the intelligence needs of Science Agencies with those agencies of Government capable of fulfilling these needs.

An analysis should be conducted within the Government structure in order to ascertain whether a more formalized relationship between such organizations through closer coordination would enhance the public interest by leading to an improved government wide classification program.

Other Research Designs

This thesis has been concerned with measures that can be adopted to resolve the conflict between science and secrecy through an analysis of the existing classification program as viewed by scientists. This is but one of many approaches that could be used in analyzing the problem within the context of current national policy. The use of other research approaches would lead to additional insight into the problem and to a more complete understanding of measures that could be used to minimize the conflict.

The following description of research designs dealing with this subject is by no means exhaustive but does reflect the variety of potential approaches for studying the problem.

An examination of classification of research information could be approached through an analysis of the changes in political-economic foreign policies of the United States Government since World War II until the present time and through a tracing of information classification practices during this period. A cause and effect analysis along these lines could be useful in projecting probable future trends in the classification program.

A research approach stressing a comparative analysis of the various classification practices of existing agencies could help to better identify those organizational and procedural features which have enhanced realistic

and sound classification practices. Examples of variables between agencies which could be isolated for analysis purposes would include such things as the content and extent of policy guidance published in accordance with EO 10501 by agencies for use by their employees, the degree of importance and attention placed on the classification process by agency top management personnel, the education practices of agencies directed towards consistent judgments by personnel authorized to initiate classification of information, etc.

Another form of analysis would be to use the case study approach in analyzing the series of events and determinations that have lead up to decisions concerning major aspects of any government development program that has been classified. This kind of research effort, along with several others proposed in this chapter, would require that the researcher have open access to information in several agencies of government. Yet through the use of this method the genealogy of major classification actions could be identified and the effects of interacting decision processes could be traced. This would lead to a more complete observation of the classification process because it could be viewed with a more total perspective than can be accomplished through analysis of a classification action within an individual agency.

Yet another form of comparative analysis that would be of value would be a study of classification practices

in older activities as compared with newer agencies to ascertain the effects of organizational aging on the classification process.

National Policy

This thesis has dealt primarily with an analysis of the options available to science agencies in dealing with the conflict between science and secrecy under existing laws and executive orders. Throughout this analysis the legal basis under which the security classification program operates has been accepted as a "given" part of the environment. The basis on which the program rests is EO 10501. This Executive Order is geared to classification of military defense information. Yet, it is applied to both military and non-military defense information. It provides little policy guidance to science agencies intent upon fulfilling their national defense responsibilities but faced with the many challenges of the scientific community. It provides no useful information concerning criteria that should be applied to information in the decision process leading to classification determinations by science agencies.

As a result science agencies approach classification from a variety of viewpoints resulting in a very non uniform application of classification standards. If greater uniformity in classification of research and development information is considered desirable, then the appropriate first step should be toward reorientation

of the national policy (EO 10501) in the direction of more descriptive guidance for use of science agencies in implementing realistic classification programs.

The national classification system has been examined several times in various studies such as that undertaken by a five-man committee headed by Charles Coolidge, which was appointed by the Secretary of Defense in 1957. However, "these studies have generally concentrated upon tightening the system so as to prevent unauthorized leaks of official information."[61]

Seldom do such studies treat the problem of assuring that all of the important national interests be considered in formulation of agency classification policies. These national interests can truly be balanced only by our highest officials and in Rourke's evaluation only by our highest official:

> Presidential statemenship of a high order may be called for in the future if it proves necessary to buy scientific progress at the price of greater disclosure of scientific information.[62]

Extensive research and analysis by the Government agencies and other institutions involved could lead to proposals to the President for a more definitive national policy in the form of an improved executive order.

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[61] Rourke, p. 78.

[62] Rourke, p. 86.

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