

Proposed Limitations on Secrecy Imposed on
Scientific and Technical Information
by Edward Teller

Since 1945, wartime secrecy practices pertaining to technical information, particularly information connected with nuclear energy, has been continued and has expanded into other areas. On balance, such secrecy, quite apart from its volume, its cost, and its adverse effects on the scientific community, has produced more disadvantages than advantages.

The need for secrecy arises from recognition of the importance of scientific and technological progress to military applications. The technical advantage of the West, and particularly of the United States, is assumed to depend on the novel ideas available to us and unavailable to others.

Such reasoning cannot be proved faulty in a rigorous manner. However, a comparison of the development of nuclear weapons to the development of electronic computers provides a convincing counterargument. The United States has a strong initial advantage in the field of nuclear weapons. In spite of the imposition of secrecy, we have lost that advantage. In fact, today, the Soviets may be the leaders in that field. In the case of electronic computers our government imposed little or no secrecy. In that field, we clearly have made much more progress than the Soviets.

Our secrecy practices seem not to have been effective. The reason in part lies in two important advantages that Soviet intelligence has over its American counterpart. First, the KGB

holds a place of greater esteem within Soviet society and has far greater political and economic advantages, particularly if the much lower standard of living in the Soviet Union is considered.

Even more important, security violations in the Soviet Union have far more severe consequences than in the United States. Indeed, in our case, the worst effect of a secrecy violation is a loss of clearance--of officially recognized access to secret information. The ultimate consequences are no worse than the loss of employment, and even that is not always enforced.

While only outright espionage is seriously prosecuted in the United States, I believe that any secrecy violation is severely punished in the Soviet Union. Without detailed knowledge, I cannot argue that point in a cogent manner, but the word Siberia automatically comes to mind.

I do not suggest that we elevate the political power of the CIA to that of the KGB, nor do I suggest that we introduce Soviet-style punishments in the United States. Neither of those measures is compatible with the American way of life. However, we should recognize the fact that secrecy practices in the United States are ineffective, while in the Soviet Union they are effective.

Nonetheless, secrets can be and are being kept in the United States for short periods of time. The military keeps secrets effectively, particularly in the case of plans for the near future and where a limited number of people are privy to the information. Those applications of secrecy are not pertinent to this discussion. In those regards, secrecy is often justified. For

example, I consider it entirely appropriate and effective to keep the sailing orders for a nuclear submarine secret.

My purpose is to propose effective ways to keep secrets pertaining to developments in science and technology. My proposals concern the problem of what is to be kept secret and how it is to be kept secret. Specifically, I propose to:

- o Reduce secrecy so that its enforcement become practical and compatible with the American way of life;

- o Limit the length of time that information is designated secret.

The following discussion attempts to illustrate how those principles can be turned into practice. The proposals, however, are made for the sake of illustration. It is not my purpose to defend the details.

The type of secrecy practiced within industry for many decades has proved highly workable. It is applied in a flexible manner and can be discarded whenever it proves to be ineffective. Historically, governments have attempted to counteract secrecy by granting patents, which are actually rewards for publishing information and thereby lifting secrecy. In general, industrial secrecy does not put its emphasis on ideas. Instead, it protects blueprints and practical details. It is most protective of practices which can be obtained only through hands-on experience.

During the last half century, the government has widely

applied secrecy to scientific and technological information. That has led to the development of inflexible bureaucratic practices under which repeal or lessening of secrecy is greatly delayed. Justification for publication is rigorously investigated. Simple continuation of secrecy is considered an easy and obvious decision.

The Reagan administration recognized the clumsiness of governmental operations in almost every other field. That recognition led to practices that produced many significant successes. Remarkably the general approach that emphasized the procedures of private enterprise was not adopted in the field of secrecy.

Therefore, I propose that, following the example of private enterprise, ideas and general information that can be communicated in a few pages should not be classified. The proper materials for classification are blueprints and the details of execution.

Considering the same point from another perspective, we should try to avoid impeding public discussion, particularly when there are broad international aspects to such discussion. Whatever is given away under such circumstances is unlikely to remain secret for long in any case.

On the other hand, employment of individuals who are apt to give away more detailed information should be carefully restricted. Employees with detailed, practical experience about new technologies possess the truly important type of knowledge that merits the imposition of secrecy. The distinction proposed here is practical, because it is flexible and will permit carefully

planned cooperation with our allies while at the same time it will exclude our competitors from sensitive information.

A further consideration is even more important. Freedom of ideas is essential if our technical effort is to be supported by the public. The public is and should be interested in ideas, particularly novel ideas. But the public is not interested in the practical details of execution. Those details are of greatest interest to a spy, and that type of information can and should be kept secret if greater effort is concentrated on it alone.

My second proposal in regard to secrecy concerns the duration of classification. As a simple law, I propose that anything may be classified. In some cases, even the ideas and general information mentioned above might be classified for the purpose of providing a first exclusive chance to evaluate the consequences. But in such cases, secrecy should automatically be lifted after the duration of one year. No one ever should be forced to publish his results because secrecy constraints are lifted, but the communication of simple facts and ideas should not be delayed by official action for more than one year.

Yet any law pertaining to classification must be flexible. In exceptional cases, it should be possible to extend the period of secrecy to a rigorous upper limit of perhaps five years, with careful gradation to prevent needless extensions.

It should be remembered that we tried to keep the ideas connected with the hydrogen bomb secret for three decades. By that time, more than a million people throughout the world knew

and understood those basic ideas. The illusion of secrecy may be more dangerous than the secret itself.

Being more selective about what we attempt to keep secret and more realistic about the length of time that secrecy can be maintained would provide far greater advantages to ourselves and to our allies than to our opponents. Limiting the scope and the duration of secrecy would provide an additional important opportunity: Having adopted a policy that permits and even encourages greater openness, we could introduce a policy that would strongly encourage similar action in other countries.

As long as we practice exaggerated secrecy, we cannot effectively oppose excessive secrecy in other countries. Yet secrecy itself is more dangerous than the possession of atomic weapons. Nations known to be so armed are far less a threat to world peace than those that may possess them in secret.

Knowledge of the world makes it much easier for us to take the appropriate measures to assure peace and safety. We are fighting a losing battle when we try to limit the spread of technology. No matter how dangerous a particular technology appears to be, its applications can be controlled with the help of knowledge and openness.

Only if we limit secrecy our own secrecy in a appropriate manner can we find the way toward international cooperation. Only a reasonable and effective policy of classification will allow us to maintain a strong position of leadership and to channel the development of technology into constructive directions.