Is the Technical Report an Information Tomb?

THERE IS REASON TO BELIEVE that unclassified (security-wise) technical reports are issuing from the Government's defense-related research and development program at a rate of the order of 25,000 distinct titles per year. These include the outputs of the Department of Defense, the Atomic Energy Commission, the National Advisory Committee for Aeronautics, and their respective numerous contractors. This heterogeneous mass of separates originates from hundreds of different laboratories and exhibits little uniformity of format, periodicity, arrangement, or technical stature. That its contents include an appreciable fraction of today's newest scientific information is generally recognized. Almost no reliable information has been available, however, on the extent to which the scientifically-significant portion of this material is finding its way into the professional journals or other information media available to research scientists and teachers who do not happen to be affiliated in one way or another with government-supported research.

Among the organizations which have been increasingly concerned about this situation is the National Science Foundation. As a result of this interest, the Foundation's Office of Scientific Information, assisted by the Technical Information Division of the Library of Congress, recently conducted a kind of pilot study to obtain data on how completely the significant contents of a particular sample of unclassified technical reports have been or are being made generally accessible. Twenty-five reports were chosen at random from each of four subject fields. The 95 authors of these documents then were queried by letter as to the general publication and availability status of the contents.

The Foundation recently issued a preliminary report on this study covering the 84 reports in the sample on which answers have been received. Of these, 47 are dealt with wholly or in major part by papers already published while 13 are treated in papers either accepted for publication or in preparation. The authors' answers indicate that these groups of papers present essentially all the significant material in the 60 reports they concern that is both suitable for publication and sufficiently complete to warrant general dissemination. Five reports, although neither published in conventional journals nor planned for such publication, are generally available through other established technical information media and have been so announced. Thus, the scientifically important contents of 65 of the 84 reports either already are or will be available to the scientific world at large. As one would expect, in some cases data from several reports are combined in one published paper while in others a single report may give rise to several publications. For example, one rather lengthy report in the sample studied has resulted to date in four papers published, one submitted for publication and seven others in preparation. The 47 documents already published in full or in part have produced 71 publications.

But what of the remaining 19 reports which constitute almost a fourth of the total? The consensus of the authors and of NSF scientists who studied these documents is that 18 are unsuitable for journal publication. Some are early progress reports whose contents will become "publishable" only when combined with later additional information; several are in the category of internal laboratory memoranda having very limited interest; one or two are shop-note in nature; one is a compilation of summaries of papers presented at an international conference; and so forth. The 19th document was judged by those who examined it to contain information that should be published. In summary, then, one can say that this 84-item, relatively-random technical report sample contains but a single document about which one can say both that information of appreciable scientific significance is present and that no steps have been taken or are contemplated to make this information generally available to the scientific community.

The time lag involved in publication obviously also is of considerable importance although significant information on this point is very difficult to obtain. For the papers stemming from the above sample, the interval from report date to date of published paper varied from one month to three years, averaging a little over a year. It is doubtful, however, whether these figures mean very much. Actual distribution dates of technical reports frequently—one almost can say typically—are appreciably later then the dates printed on the documents. Also, in many cases of apparently excessive publication delay, the published paper was found to contain considerably more information than was present in the unpublished report, indicating further research subsequent to distribution of the original document.

One is perhaps justified in concluding that to the extent the particular group of reports discussed above is representative, the danger of permanent interment of important scientific information in unpublished government research reports is considerably less serious than has been feared. It must be remembered, of course, that the group of reports investigated, although of random selection, was small. Plans are being made, however, to extend the study to cover a considerably larger sample of the unclassified documents which originate from the nation's extensive defense-related research and development program.

Dwight E. Gray