



Sixth regular session

EXCHANGE OF SCIENTIFIC ABSTRACTS

Memorandum by the Director General

Introduction

1. In June 1962, the Board of Governors considered a memorandum by the Director General on the exchange of scientific abstracts. It contained a brief description of the current practice in the organization and operation of abstracting services, some recent developments in the field, and certain recommendations which in the Director General's opinion would make a useful contribution to the co-ordination of abstracting services.

2. The Board approved these recommendations, authorized the Director General to implement them, and also requested him to transmit the substance of the memorandum to the General Conference for information. The present document is being circulated pursuant to that request.

3. The General Conference will recall that, at its fourth regular session, it had adopted a resolution [1] requesting the Director General to examine

"the possibility of arranging within the Agency for an international exchange of the abstracts which are already published on the subject of the peaceful applications of nuclear science",

and to prepare a study on

"the organization and operation of scientific abstracting services dealing with the peaceful applications of nuclear science, to serve as a basis for further action, and to submit the study to the Board for suitable and early action."

4. An interim report on this subject was submitted by the Director General to the Board in September 1961, in which he stated that although it did not appear to be desirable for the Agency to undertake the preparation of abstracts or serve as a clearing-house for their distribution, it could, nevertheless, make a useful contribution to the co-ordination of abstracting activities.

5. In order to obtain views on the most effective measures to achieve the above-mentioned objective, the Director General consulted the Panel on Scientific and Technical Information, which met in Vienna from 11 to 13 April 1962. To assist the Panel in this study, the Secretariat had prepared a detailed working paper covering various aspects of the problem [2].

[1] Resolution GC(IV)/RES/78.

[2] PL-40/2/Rev.1. Preparation and Exchange of Abstracts in the Nuclear Sciences, copies of which can be made available on request.

Scientific abstracting

6. The general practice in scientific circles is that when an investigation is complete, the important results of the research are presented in a report or an article. This report is specially written by the research worker, and is accompanied by a short summary or synopsis prepared by him. It is then presented to a scientific meeting or sent for publication to a scientific journal concerned with that particular branch of science. The results of new research are usually published in periodicals which are designated as primary scientific periodicals.

7. Many scientific societies and other organizations publish abstracting journals which cover special fields of science in a particular language. These abstracting periodicals are designated as secondary publications. Their number now is over 200, and the abstracts they notice may either be informative or indicative, or just the bibliographical citation. They select the material for reporting from primary scientific periodicals, conference proceedings and other similar sources. Usually, the author's abstract is accepted for publication, but in some cases abstracts are specially prepared by scientists or other professional research workers conversant with the field of science and also with the language of the original publication.

8. In the field of nuclear energy an average of 30 000 new scientific papers are reported every year in the abstracting journals. The following six journals cover the subject: Boletín Centro de Documentación Científica y Técnica de México (Spanish); Bulletin Signalétique (French); Nuclear Science Abstracts (English); Science Abstracts, Series A and B (English); Referativnyj Zurnal (Russian); Technisches Zentralblatt (German). Some of the abstracting journals cover the subject comprehensively, others are highly selective. Nuclear science information is published in many different sections of some of the journals, particularly of the Bulletin Signalétique and the Referativnyj Zurnal. It would, indeed, be helpful to nuclear scientists if all the pertinent information could be presented in one section.

9. Abstracting journals are usually available at a moderate subscription. They are generally published in the technologically advanced countries because these countries are the largest producers of new information, have access to world-wide scientific literature (for example, the Institute of Scientific Information in the Union of Soviet Socialist Republics receives 12 500 primary periodicals from 88 countries), can provide the resources necessary for the compilation of abstracts and can use mechanical devices for the prompt preparation of indexes. The importance of the indexes is indeed great; without them it would be extremely difficult to conduct retrospective literature searches.

10. There is one aspect of nuclear science literature to which attention must be specially drawn. This is the prevalent practice of issuing research reports; it was started primarily for the quick dissemination of new information to interested groups. Many factors have contributed to the continuation of this practice; one of these is the delay in getting a scientific paper published in the appropriate journal. Some of the research reports are published later as scientific papers in periodicals covering the particular field of science. The abstracting journals, however, abstract the research reports, and give a cross-reference when the same report appears as an article in a scientific periodical.

11. Within the limitations of the selection policy followed by the editorial board of the journal concerned, all the primary scientific literature on nuclear energy is noticed in the abstracting journals. There is no significant gap. A few omissions or delays may occasionally arise because the publication in question has not come to the notice of the abstracting journal concerned, or is maybe in a language that prevents the editors from making immediate arrangements for the inclusion of an abstract.

12. Borderline cases also exist where it is difficult to decide upon the appropriate journal in which a given abstract should be published. And a similar difficulty may arise when a search has to be made to locate the journal in which such an abstract has already been published. Such situations become acute for a new or rapidly developing discipline that is establishing itself as an independent field of research, e. g. nuclear medicine. Most information is usually found in one of the existing journals, in particular in Nuclear Science Abstracts or Referativnyj Zurnal.

Recent developments

13. Basically, the established method of reporting scientific literature outlined in the preceding paragraphs has remained unchanged. However, the rising tempo of scientific research and technological development has demanded a quicker abstracting service and one providing a wide coverage of literature. These problems were discussed first at the Royal Society Scientific Information Conference in 1948, then at the International Conference on Science Abstracting convened by the United Nations Educational Scientific and Cultural Organization (UNESCO) in 1949, and more recently at the International Conference on Scientific Information in 1958. The recommendations made at these conferences have resulted in many improvements.

14. During the past few years many bilateral agreements on exchange of scientific information have been concluded - the most important being that between the United States of America and the Union of Soviet Socialist Republics. These have improved the dissemination of information on nuclear energy.

15. The problem of avoiding duplication in the preparation of abstracts has been under consideration by many organizations, notably the International Council of Scientific Unions (ICSU) and its Abstracting Board which was set up in 1952. As far as physics is concerned, the ICSU Abstracting Board, working through the editors of abstracting journals and the editors of many scientific periodicals in physics, has achieved a marked success in avoiding delay in abstract editing and reporting on this subject. Many journals send the Abstracting Board by air mail either page proofs of their issues or clippings of authors' summaries so that the abstracts could be published without further delay.

16. The above measures have resulted in eliminating the duplication of effort on the preparation of abstracts, but an insignificant duplication exists in abstract-reporting in nuclear energy. This arises from:

- (a) Duplication of abstract-reporting in abstracting journals published in different languages;
- (b) Duplication in abstract-reporting in abstracting journals published in one language; and
- (c) Duplication as between an international abstracting journal and a primary scientific journal in the same language when the latter has a section for abstracts on a narrow and specialized field of nuclear science covered by the abstracting journal.

17. In most of the above-listed cases the same abstracts are used, if necessary, after translation and editing. The availability of abstracts in different languages and as abstract sections in primary publications is not only necessary but desirable for adequate dissemination of new information.

18. Many primary scientific periodicals now include in their issues an abstract of the new papers, accepted for publication, which will appear in their subsequent issues. This advance information serves a useful purpose in the distribution of information.

19. The publication of primary scientific communications in different languages and the need for other scientists to study these advances has established a demand for translation of scientific works. Many countries now maintain a record of the scientific

translations made in their scientific institutions and copies of these translations can be supplied on request. The list of titles of such translations are periodically compiled and distributed, such as Technical Translations, published by the Office of Technical Services, Department of Commerce, Washington; and Transatom Bulletin, compiled by the European Atomic Energy Community, Brussels. The Organisation for Economic Co-operation and Development has also established the European Translation Centre at Delft, the Netherlands.

20. The average delay in reporting scientific abstracts is of the order of about six months - which is considerable in a fast developing field like nuclear sciences. An urgent need has developed for quick dissemination of information through other media such as indexing journals. Many national nuclear energy organizations compile and publish a list of research reports produced by their own research institutes or received from other organizations. Such lists may be with or without abstracts. Examples are: Bibliographie Scientifique Hebdomadaire (Centre d'Etudes Nucléaires de Saclay); Berichte zur Atomkernenergie, Reihe A, B, C of the Atomic Energy Documentation Service (Gmelin Institut, Frankfurt/Main); Atom Dokumentation (AB Atomenergi, Stockholm); and Energetika a elektrotechnika (Institute for Technical and Economic Information, Prague). The contents of such lists are carefully selected, and include bibliographical data about research reports, periodical literature, books, patents, etc. For ease of reference these are classified by subject.

21. It may be mentioned that in accordance with a resolution adopted by the Economic and Social Council of the United Nations (ECOSOC) in August 1960 [3], UNESCO has prepared a Survey on the Organization and Functioning of Abstracting Services in the Various Branches of Science and Technology. This comprehensive study has been completed and is now being presented to ECOSOC at its next meeting.

22. The International Federation of Documentation in The Hague is also compiling information on the scientific abstracting services and centres. This will cover the fields of pure and applied sciences, medicine, technology, agriculture and social sciences. It will contain full data on abstracting services, namely the number of periodicals consulted, availability of document reproduction services and facilities for translation work, etc.

Recommendations

23. The Director General recommended that the Agency:

- (a) In consultation with other interested organizations, emphasize the importance of publishing author-abstracts in at least two languages, the abstracts being prepared according to the Guide for the Preparation and Publication of Synopses; [4]
- (b) Request the nuclear energy commissions of those Member States that publish nuclear energy literature in the less commonly understood national languages to publish periodically an abstract bulletin containing summaries of such literature in at least one of the working languages of the Agency, namely English, French, Russian, Spanish;

[3] ECOSOC Resolution 804 (XXX) Co-ordination of the results of scientific research.

[4] UNESCO document NS 51 D.10 a A/05 XI.51.

- (c) Request the nuclear energy commissions of Member States to make available copies of research reports etc., to the abstracting journals providing international coverage, so that all the new literature reaches them quickly. Page-proofs of the relevant literature could be exchanged usefully for this purpose;
- (d) Request nuclear energy commissions of Member States to propose to publishers of scientific periodicals that include occasional articles on nuclear energy to send a copy of the relevant article to abstracting journals providing international coverage;
- (e) In co-operation with other appropriate organizations, request publishers of scientific journals that cover narrow specialized fields and have an abstract section to improve their coverage by selecting from abstracting journals other papers that relate to their field, and to include the abstracts in their compilation;
- (f) In co-operation with interested organizations, propose to the important abstracting journals providing international coverage to consolidate in one section all the pertinent information on nuclear energy which at present appears in other sections of their series. This would, of course, be the ideal towards which efforts should be directed, even though it may not be achieved in the near future;
- (g) In co-operation with UNESCO, assist developing Member States in the organization of effective information services, including abstracting; this technical assistance could be provided through training courses, fellowships, visits of experts and material assistance in terms of publications and equipment;
- (h) Co-operate with UNESCO to encourage research and development work on the techniques and equipment for mechanizing the storage and retrieval of information and abstracting and translation work; and
- (i) Co-operate actively with UNESCO in the broader study of different aspects of the problem of abstracting, which that organization proposes to conduct during the next two years.

