NATIS, an International Information System: Impossible Dream or Attainable Reality?

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How would you like, while sitting in your office or in a research center, to query an international information system to discover the information contained in all archives, libraries, and documentation centers to help you answer a question or research a topic? The example is oversimplified, but analogous to a concrete proposal of UNESCO called the National Information System (NATIS). Is NATIS the impossible dream of a bureaucrat unfamiliar with the specialized information worlds of archives, libraries, and documentation centers, or is it an attainable reality defined after a full appreciation of all the difficulties involved? Does the archival world fit into, and should it associate itself with, such a proposal?

The concept of a national information system was discussed at the Intergovernmental Conference on the Planning of National Documentation, Library and Archives Infrastructures, in Paris in September 1974. This conference was organized by UNESCO, in cooperation with the International Federation for Documentation (FID), the International Federation of Library Associations (IFLA), and the International Council on Archives (ICA). The conference was convened "with a view to generalizing the findings of [previous] regional conferences on planning . . . and to defining general guidelines of planning policy and methodology for application to documentation, library and archives services."[1]

The conference's final report goes on to say:

The NATIS concept . . . implies that government—national, State, or local—should maximize the availability of all relevant information through documentation, library and archives services . . . . The task of NATIS is to ensure that all engaged in political, economic, scientific, educational, social or cultural activities receive the necessary information enabling them to render their fullest contribution to the whole community.

To achieve these aims, a national information plan will have to be developed . . . [the development of a national information system] should be planned in an international context and based on principles of compatibility and standardization.[2]

Why should NATIS be planned with a view to the international context? The objective at the international level is "to provide access to the world's store of information." Past efforts to this end have been directed to special groups, such as public libraries, or to special problems, such as bibliography or copyright. These efforts have made a "contribution to only one particular aspect of the complex process of

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[1] Intergovernmental Conference on the Planning of National Documentation, Library, and Archives Infrastructures, Paris, 1974. *Final Report: Intergovernmental Conference on the Planning of National Documentation, Library, and Archives Infrastructures, Paris, 23-27 September, 1974* (Paris: UNESCO, 1975), p. 5.

[2] Ibid., pp. 24-25.

facilitating access to information, without achieving its full impact on the problem as a whole." Similarly, existing

world information systems all dealing with specific areas, are based on the principle of coordination and voluntary cooperation at the international level of the relevant existing national institutional components in the corresponding area. However, information infrastructures in both developing and industrialized countries are at very different stages of development, making it almost impossible for some of them . . . to participate in or benefit from these highly sophisticated universal programmes.

The acceptance of the concept of NATIS . . . will provide governments with a set of guidelines which will enable them to give a unified sense of direction and common aim to the diverse information activities being carried out in specific subject fields. By co-ordinating the national counterparts of the international programmes through overall planning, all the elements which constitute NATIS will be brought together in a balanced programme which will enable each country, whatever its stage of development, not only to reap the full benefit from these world systems but also to participate in a two-way flow of the information resources available to the world's community.[3]

The report defined a number of requirements to accomplish the NATIS proposal.[4] At the national level, there should be a commitment to NATIS or an awareness of the need for it. NATIS should be planned with the needs of the potential users defined and the present status of existing information and manpower resources analyzed. A legislative definition of the terms of reference for NATIS would be desirable as a basis for resource allotments and the organizational structure created. Once all this work was done, implementation would begin and consist of manpower planning, the application of the necessary technology, and the use of a universal bibliographic control to describe information. Finally, at the international level, UNESCO would use its offices to promote the concept and elements of NATIS.

The NATIS proposal undoubtedly reads to some like world federation or global-village-type thinking carried to an impossible conclusion. There are a number of activities currently underway, however, that undermine any opinion that NATIS is a fantasy. National agencies and organizations handling bibliographic records for various media have been working for some time towards the creation of better bibliographic records which are exchangeable at the national level (National Bibliographic Control). The International Federation of Library Associations (IFLA) has been working for years towards the standardization of bibliographic records at the international level. For this purpose the Executive Council of IFLA in 1973 established the International Office for Universal Bibliographic Control (UBC). The aim of the UBC program is to have

in principle the comprehensive bibliographic record of each publication . . . made once only in the country of its origin by a national bibliographic agency in conformity with international standards . . . [and] made available very promptly in physical forms which are internationally acceptable. Thus, there would be a network made up of component national units, each of which would cover its own publishing activities, all integrated at the international level to form the total system.[5]

International standards are being and have been developed for the recording of bibliographic data in the UBC interchange form. International Standard Bibliographic Descriptions—ISBD—have been prepared for monographs—ISBD (M)—

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[3] Ibid., p. 31.
[4] Ibid., pp. 25–33.
[5] Ibid., p. 30.

and serials—ISBD (S)—and are being prepared for cartographic archives. Another program which is in existence and which reinforces the UBC objective is the World Science Information System (UNISIST). UNISIST is the NATIS concept at an international level applied to the communication of information related to scientific and technical publications, reports, and documentation.[6] There is no agreement on a universal system of subject classification, but the International Federation for Documentation (FID) has undertaken within the UNISIST program the elaboration of a Broad System of Ordering, also called Subject-field Reference Code (SRC) to allow some compatibility of subject references.[7] There is in use to varying degrees the Universal Decimal Classification (UDC) system. There have been unsuccessful attempts in the past to create a system of world-wide bibliographic control. UNESCO feels, however, that the need is apparent now and the goal is attainable.[8]

Is NATIS technically feasible? There are problems in the area of technology, but they can be solved with the necessary resources and expertise. The technical problems are facile, however, when compared to the human ones. The nontechnical goals that must be achieved are the standardization of bibliographic records at national and international levels; the standardization of the recording of bibliographic data; a subject classification system; and, on the resource side, of funding and of finding or developing the necessary manpower expertise.

The technology most suitable to NATIS, that is the hardware, the software, the communications system, and the means of input and output, is, directly and indirectly, computer oriented. International standards for computer technology and related areas are being planned or developed, or have been developed, for such areas as telecommunications, information interchange on magnetic tape, and computer program languages. Software systems can be exported relatively cheaply and used on different hardware systems either through the use of an emulator, which provides compatibility, or through the use of internationally recognized source languages such as COBOL or FORTRAN. A Universal Machine Readable Catalogue (UNIMARC) is being developed as an international standard for the exchange of bibliographic data in a machine readable form. In summary, the technology, despite some problems, presents no real impediment to the success of NATIS.

After my own brief review of NATIS it was my conclusion that national and international information systems for libraries and documentation centers were humanly and technically feasible and desirable. One question remained, however: where does the archival world fit into the NATIS proposal?

The archival world was well represented at working sessions prior to and at the plenary session in Paris on NATIS. The Paris Conference, as presented in the documentation distributed and in the final report, was a FID-IFLA show despite protests that may be made to the contrary. The library and documentation center representatives were in Paris as the vanguard of NATIS development. The archival repre-

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[6] Ibid., p. 40.

[7] Intergovernmental Conference on the Planning of National Documentation, Library, and Archives Infrastructures, Paris, 1974. *Working Document: Intergovernmental Conference on the Planning of National Documentation, Library, and Archives Infrastructures, Paris, 23–27 September, 1974* (Paris: UNESCO, 1974), p. 27.

[8] *Final Report: Intergovernmental Conference on the Planning of National Documentation, Library, and Archives Infrastructures*, p. 30.

sentatives, on the other hand, did not make a significant contribution either in their past activities or proposals.

In my experience, the possibility of a comprehensive national information system for archival services has not been seriously considered. Some elements of such a system exist or will come into existence shortly. In the United States the National Union Catalog for Manuscript Collections (NUCMC) can be considered as a national information system for textual archives. The Union List of Manuscripts (ULM) is the Canadian equivalent to NUCMC. The Public Archives of Canada is also developing, in cooperation with an ISBD committee, a national information system for cartographic archives in Canada. With these exceptions, however, it can be said that a comprehensive national information system has not been formally proposed in any of the literature of which I am aware. This state of affairs is in stark contrast to the work of FID and IFLA. If librarians and documentalists have considered a national and international system for printed or near-print material, why have we not done so for textual, cartographic, film, sound, photographic, or machine readable archives?

In the world of print and near-print there is a production run and national or international distribution of the product. There is a tangible, immediate benefit if that item is already cataloged or will shortly be cataloged when it is received by the library or documentation center. The concept of dividing up all the library and documentation resources of a country into areas of cataloging responsibility is logical, cost effective, and of great benefit to the user community. This concept could also be applied to all the library and documentation resources of the world to achieve the same end on a global scale. This is the practical and immediate basis of NATIS.

The cataloging of one item which has been distributed nationally or internationally and sharing that catalog description does not apply, to the same extent, to the archival environment. The impact of NATIS in terms of the economic benefits to archives would not be as dramatic as it would be in the library world. To the user of archives the NATIS proposal would be of considerable benefit since immediate access to all relevant current information on a particular subject would then be possible. It is doubtful, however, that the researcher sees this type of service as being essential at this time. In short there is no awareness of a pressing need for a national or international information system from the viewpoint either of archivists or of the users of archives.

If it is to be embraced by the archival world, NATIS will rest on the acceptance of the idea, or the existence, of national networks. The rationale for a national network is the premise that archival resources in a country are scarce and should be organized under a national strategy that allows for their most effective and efficient use. In this context, it is my opinion that national networks are inevitable. Such networks would require national policy on the acquisition of archives and their processing. It would also follow that in such networks all the participating centers would be linked by a standardized system of reporting on their holdings. Such a system would in fact be a national information system. If it is agreed that a national archival network is inevitable, then a national information system must follow.

The answers to the previous questions on the NATIS proposal and its application to libraries and documentation centers are applicable to the archival world. Archivists should work toward an international information system "to provide access to the world's store of information" and "to participate in a two-way flow of information resources" regardless of the state of development of the national infor-

mation systems. The requirements for national and international information systems are the same as those for a comparable library or documentation center system. The technology necessary to support such a system exists. The major obstacle to its creation in the archival world, after the lack of awareness of a need, is the problem of people. If compromise were to be the hallmark of any discussions on standards for record format, or data entry, or subject classification, a major element of the people problem would be negated. In short, a national and international information system is attainable for archives.

A national archival information system is inevitable and attainable; an international one is desirable and attainable. If these propositions are accepted, should archivists work with librarians and documentalists on the NATIS proposal of UNESCO? If archivists wish to begin with a *tabula rasa*, there is nothing to prevent this course of action. If, however, we archivists wish to take advantage of the years of work and experience of librarians and documentalists, then we should consider cooperating with the NATIS proposal. The direction is logically one of cooperation.

The proposal for a national archival network, at least in North America, is only, to be optimistic, at the conceptual stage. If a national archival strategy exists in other countries, then the equivalent of a national information system should exist. If this be true, then it is difficult to account for our silence in Paris. For those countries that do not have a national information system, regardless of whether a national archival strategy exists or not, there should be serious consideration given to planning for NATIS implementation both at national and international levels in the very near future. Most of the elements of NATIS are at some stage of development by FID and IFLA. It is obvious that the archival timetable for NATIS does not correspond to the library and documentalist one. The archival world, however, is now at a point where there is little freedom in deciding what its timetable will be. The major decision currently before archivists is whether they wish merely to accept eventually the elements of a national and international information system that are being produced by FID and IFLA, or to participate in an active way in their creation.