

communication, nor can future needs and purposes be precisely predicted. This does not imply that all communications must therefore be treated as equally important, or that prior judgments cannot be made with a high degree of reliability. It does mean that judgments to exclude a particular document or, having once included it, later to eliminate it, must be made only with the greatest care.

The essential content communications must be identified and tagged for potential retrieval, and accommodation made for changing terminology, interpretation and language. Each unit of the record should be digested and prepared that it may respond at any appropriate level and in a wide variety of forms, as may be needed. Demands, for example, may require statements of data, bibliographic citations, abstracts, distillations or digests, locations of documents, or the complete documents themselves. Information from related units should also be incorporated in continuously updated larger summaries and reviews. Thus, provision must be made for storage not only of the original records but of various surrogates representing or substituting for such units.

In addition to access to the content of all recorded information, it should also be possible to obtain current, short-term, periodic reports of information newly received. The parameters of such continuing reports should also be readily modifiable, to reflect changing interests and developments. Any system must also have the capability of referring an initial query to the most relevant sources, of switching a request to an appropriate store of information, and to succeeding stores as required.

Implementation of intellectual access requires parallel processing of inquiries, so that needs may be matched with available units of information. Definition, refinement and qualification of requests will have to be as complete as possible, prior to any attempt at access. However, it should be possible to modify requests during the searching process, in the context of information found to be available. Such "dialogue" may take into account a disclosed volume of existing information; it may also involve examination of various surrogates, or restatement of level of character of need, to aid in further refinement of the request.

In contemplating any national system responsive to requests from all geographic areas, in all subjects, and with varying levels and forms of output, the need for compatibility and standardization is obvious. Yet it is recognized that different subject fields present different requirements in all phases of information handling. These requirements will be satisfied best by specific system components and techniques. Furthermore, research and development now under way, already completed, or still to be initiated will employ theories, solutions and equipment of quite specific nature. There is a problem of immense complexity, therefore, in achieving any degree of universal access to information through common channels, by conversion, switching capability or other means, and only substantial capital investment in research and development can hope to find satisfactory solutions. Such an investment is not only of national benefit, but beyond the capacity of any single field or library.

It is undebatable that any future system must start from and be built upon the existing information structure. A number of surveys have studied some aspects of this present structure, but a much more thorough study of present indexing, abstracting, and cataloguing services is required to discover more precisely the existing gaps, inadequacies, and duplications, in order to determine where improvement is most required and how it can be provided. Delegation to, and support of, existing but inadequate private agencies—commercial as well as non-profit—as well as public agencies providing bibliographic services must be anticipated and provided for.

Production and consumption of information knows no national limits, and the importance of information-oriented activity in other countries is well recognized. The intellectual access to which we refer incorporates publications and resources of all countries and of all time. It follows that consideration must be given to a world-wide approach to the problem, with fullest possible coordination of talent and work in all parts of the world.

PHYSICAL ACCESS

Physical access is the second of the two essential steps to information. Once the existence and location of a text or data is determined, it must then be made available. Bibliographic access alone is only a means to an end. It tells the inquirer what it is he needs, but then he must be provided with that material.

As with intellectual or bibliographic access, this physical access must be available to all and in all fields of information. It cannot be limited to certain areas,