

retrieving and transmitting information, are proving technically feasible, though still not wholly useable because of economic factors. Long-range planning must be initiated and capabilities strengthened to take complete advantage of such methods at all stages of the information cycle and to serve the needs of all individuals.

Achievement of success by new systems can be assured only if sufficient resources are made available in development and application. Yet complete achievement is recognized to be still some years away—whether five, fifteen or thirty. The present need is too urgent to be endured without a considerable measure of relief. Therefore, it is also essential that study, planning and implementation occur with respect to short-term requirements. In brief, work must proceed simultaneously on carefully established short-, intermediate- and long-term goals, and not be limited to long range goals only.

The Committee is quite aware of the magnitude of the task. The problems are complicated and many, reaching well beyond the world of libraries *per se*. In the following sections, some of the basic elements of total problem and total system are outlined, with major points which must receive consideration.

The process of placing desired information in the hands of an inquirer consists of two steps: first, determination of the existence of the information and its location within the system, and second, obtaining and delivering to the inquirer the information thus identified and located. Automatic systems of the future will probably accomplish these steps in a way that makes them so nearly simultaneous, as far as the user is concerned, that he thinks of the process as only one step. Indeed, the response in some present-day operating systems gives this impression. Nonetheless, in any system these two distinct operations are involved, however simultaneous they may seem, and they are here considered separately for this reason as well as because immediate improvement in access to information will most probably require improving each of these steps by different methods.

INTELLECTUAL ACCESS

The complexity of the identification process is not always well recognized and better solutions to the problems, in many cases, have yet to be achieved. The identification process includes subject analysis and classification, as well as the physical description of the publication, and in some cases, note of its location(s). There has been decreasing success in control, and increasing dissatisfaction. One cause is the high degree of knowledge and training required for the task; personnel with greater specialization and in large numbers have been needed, yet they have not generally been available for this endeavour. Other causes are the mass of publication, which has increased to the point of near-suffocation, and the new forms of publication (separately published research reports, for example) not easily fitted into established bibliographic patterns. Finally, analyses that have been prepared are not always widely available, or compatible with those done elsewhere, resulting either in unnecessary duplication with waste of manpower and resources, or in deprivation of wider access.

Particularly because, as seems most likely for some considerable time yet, every local library collection cannot contain every publication its particular community of users requires, every library must at least be able to provide full intellectual (bibliographic) access to all significant information and not merely to that in its own collection.

Improved intellectual access requires, initially, enlargement of coverage. In simplest terms with infinite implications, all documents and records must be subjected to some or all parts of a screening and analysis process. This must occur not in some subject fields only, but eventually in all fields. The importance now attached to science and technology, and the services presently operating therein, may bring about activity in this sector more immediately. Yet the need in other disciplines is no less urgent, and in some possibly more so, in the light of social, political and artistic implications of our times. No discipline can flourish in the absence of information exchange; it is quite recognized that adequate provision is simply non-existent in many—if not most—of the social sciences and in the humanities. While certain non-science disciplines are undertaking programs of improvement, their requests for assistance have not been satisfied to nearly the same extent as have those in the sciences. It is certain that there are degrees of need by economists, for example, no less urgent and important, if with less glamor, than the needs of physical scientists.

An obvious problem will be the screening of publications and other input to any store of information, to admit material of deserving significance. This significance cannot be determined by simple and arbitrary rules applied to a