

population or research. The national interest is best served by equality of access by all elements of the economy, wherever located, to insure equality of opportunity and competence. Minor differences in speed and convenience of access will undoubtedly remain inevitable because of differences in location, but even the slowest and least convenient access must not be so slow and inconvenient that, practically, as in many cases now, it amounts to no access.

It is recognized of course that distinctions must be made between users and their purposes in order to prevent abuse and overload of the system. The high school student writing a theme, and the doctor, do not need, or want, the same amount and detail of information about the cause and treatment of cancer, for example. But this is a minor problem and solvable, as it is solved now, by common sense. What is important is the safeguards and limits not be sought in payment schemes. Access to information should not be a function of the ability to pay for it.

ACCESS IS EQUALLY URGENT FOR ALL FIELDS OF KNOWLEDGE

The need for maximum information exists in all realms of human thought; any consideration of the problem must encompass the social sciences, basic sciences, humanities, technologies, etc. The complexities, interrelationships and fluidities of today's disciplines, and the unpredictability of tomorrow's, require initial acceptance of this *total* approach to the information problem. An advanced society is unquestionably dependent upon advanced technology, but it is no less dependent upon advanced social sciences and a sound humanistic understanding. Our purpose is to build a society in which humans can live happily as well as machines.

Inherent differences in information characteristics, modes of analysis and storage, and types of need in various subject fields, may require somewhat different systems of solution in different fields, and different timetables for development will result not only from this but from recognized priorities of need. But independent uncoordinated developments by type or discipline cannot hope to solve even their individual problems. The inherent interrelations and overlaps between subject fields makes them interdependent and requires a common system even though that system in turn functions through a multiple switching capability.

THE PROBLEM ARISES FROM THE LARGE QUANTITY OF INFORMATION

The amount of significant information existing and being added daily is beyond the grasp of any individual; he cannot hope to be familiar with all of that now existing, or to keep current with the new additions to it. The impossibility of this, together with other limitations such as his memory capacity and time available for work, has resulted in the now familiar phenomenon of specialization by individuals in only one area of knowledge. But the number of publications is so great that the individual cannot hope to acquire for his personal library even that portion of the total pertinent to his own specialty, and he must therefore depend upon library/information centers as sources for needed publications. Yet none of these, in turn, can cope with the requirements in acquisition and processing of the potential input, at anything approaching comprehensive and uniform levels. At the same time, the individual, even with specialization, is still left with the problem of having to locate within the large and rapidly growing body of communications that information that is pertinent to his needs and interests, without missing any of importance, when he has not time enough to scan all of it to find those parts that are pertinent to him. Present techniques for recording the existence of information, for analysis and evaluation, for creation of surrogates (abstracts, indexes, catalogues, etc.) for retrieval by users are inadequate, and adequate new methods are not yet fully developed. This is true both in conventional libraries and in other information systems, whether automated or not, despite the range of present operational, pilot, and experimental efforts. Everyone now lacks access to information he can profitably use by reason of the mass to be screened, the inadequate bibliographic controls, his own lack of time, and his library's inability to possess all the information he needs.

It is obvious that the only solution to this difficulty is one that will enable any user to identify with only a short expenditure of his own time—and it must be short if he is to have sufficient time left to read what he identifies and then put the resulting information to use—all of that smaller segment of information within the larger body that is important to his needs.