

SOCIOLOGICAL FOUNDATIONS OF LIBRARIANSHIP

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- 1 P N Kaula, *Ed.* Library movement in India.
- 2 S R Ranganathan. Classified catalogue code etc. ed 5. Assisted by A Neelamegham.
- 3 —. Library administration. ed 2.
- 4 —. Colon classification. ed 6.
- 5 — and Girija Kumar, *Ed.* Social science research and libraries.
- 6 —. Library manual. ed 2.
- 7 —. Education for leisure. ed 3.
- 8 —. Elements of library classification. ed 3.
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- 11 R S Parkhi. Decimal Classification and Colon Classification in perspective.
- 12 S R Ranganathan. Five laws of library science. ed 2
- 13 Umesh Datta Sharma. Pustakalaya vinyan ki bhummika. (Hindi tr of S R Ranganathan's Preface to library science).
- 14 P N Kaula, *Ed.* Library science today: Essays offered to S R Ranganathan on his seventy-first birthday. (Ranganathan festschrift, 1).
- 15 A K Das Gupta. An essay in personal bibliography: Bibliography of the writings on and by S R Ranganathan. (Ranganathan festschrift 2).
- 16 S R Ranganathan. Library book selection. ed 2. Assisted by M A Gopinath.
- 17 —. A descriptive account of the Colon Classification.
- 18 N D Bagari. Granthalaya kaipidi. (Kannada tr of S R Ranganathan's Library manual).
- 19 B I Palmer. From little acorns. (Sarada Ranganathan lectures. 1; 1969).
- 20 S R Ranganathan. Prolegomena to library classification. ed 3. Assisted by M A Gopinath.
- 21 — and others, *Ed.* Free book service for all: An international survey.
- 22 P K Garde. United Nations family of libraries (Sarada Ranganathan lectures. 2; 1966).
- 23 J H Shera. Sociological foundations of librarianship (Sarada Ranganathan lectures. 3; 1967).

beings in isolation except, if you will ignore for the moment, that of an occasional hermit here and there. But hermits are hardly typical human beings. All our knowledge of the behaviour of people, all the records that have come down to us, all anthropological evidences that have survived, relate to men in groups, not to men as individuals. Even in the story of Adam and Eve, there was Eve and the snake and it was not very long before there were progeny. What then is a society? Professor Robert Redfield of the University of Chicago defines a society as "People doing things with, to and for each other for the benefit of each and in ways which have been accepted by all." There are many definitions of the term but I have found Redfield's as satisfactory as any. In other words, a society is a group of cooperating individuals, be it a family, a clan, a city state, or a nation, whatever the construct may be. Even in primitive societies, the social organisation, as we shall see at a little later point in this discussion, is a very complex inter-relationship of constituent parts.

12 CULTURE

121 *Anthropological Definition*

Now, let us pass from the concept of a society as people working together to the anthropological definition of a culture. Culture is a term which has been variously used. John Ruskin, for example, in

CHAPTER E

LIBRARY AND SOCIETY

0 Library is a Social Creation

At our last meeting, or perhaps it would be more accurate to say, that at your last meeting, I discussed some considerations relating to the relation of the library to the individual. These, I believe, are fundamental, because it is between the library and the individual that the librarian operates. But, the aim, of course, is not only the improvement of the individual but also the improvement of the society of which the individual is a part. Moreover, the library itself is a social creation. Therefore, we must not only consider the relation of the individual to the library, but also the relation of the library to society, of which both it and the individual are parts. Therefore, we must begin with certain basic definitions relating to the character and structure of society itself, before we can think intelligently about the place of the library in the social order.

1 Society

11 DEFINITION

First of all then, what is a society? We have no knowledge, hardly or almost not enough, of human

his essay on *Culture and anarchy* says that "Culture is the complete and harmonious development of all the faculties which make up the beauty and the strength of human life." This is a good statement, but it is not exactly the idea of culture that we have in mind here. Culture, of course, to most people, at least in my part of the world, is equated with elegance, good conduct, or knowing how to behave in social affairs and social activities. Such a notion is certainly very far from the sense in which the anthropologists use the term. Culture, in the anthropological sense, was of course derived by the late nineteenth century anthropologists from the German term '*Kulture*' and it was such scholars as William Graham Sumner and others who have given it its present meaning. Culture, again to quote Professor Redfield, "is an organisation or integration of conventional understanding." Others have said that culture is the sum total of human understandings and beliefs. These terms, you will see, if you do any extensive reading in the literature of anthropology, tend to vary somewhat in their meanings, depending upon the particular school of thought in anthropology, that the author represents. I have given you here only those which seem to me the most appropriate to our needs, though I am quite aware that anthropologists with different points of view would perhaps present somewhat different interpretations or definitions. Nevertheless, these I

am using I believe, are adequate to our present purpose.

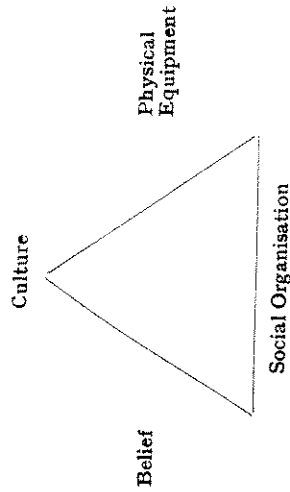
13 LIBRARY AND CULTURE

In our previous discussion, I mentioned the library in relation to books and people as a triangle. I would like now to revert again to this concept of triangularity in relation to culture. One side of our new triangle will be belief, or theory. This is the total body of theoretical constructs that the society has evolved, derived from its experience, and coalesced to form their philosophic systems or theological systems or whatever relates man to other men and to the totality of his universe in which man finds himself and to which he must develop a satisfactory intellectual and spiritual harmony. Belief, operating through mores, establishes norms of conduct.

The second side of our triangle is the physical equipment of the culture. Every culture, even primitive culture, has tools. In the stone-age, man had his stone axes. We today, of course, have our complex electronic mechanisms and these evolved over the years, as any student of the history of technology knows, in response to changing needs of the society and its culture.

The third side of the triangle, then, is social organisation or the institutions. In other words, a culture is not an unorganised system. It is very

highly specialised, even in primitive societies. So, you see, we have here then, a threefold division of culture. The body of theory or belief; the physical equipment, the mechanism through which it operates and the social structure, the social organisation which enables the culture to operate and the society to function. Again a diagram may be helpful.



14 DISHARMONY IN DEVELOPMENT

Now, all the three of these aspects of culture should ideally develop more or less in harmony. When one element of a culture runs too far in advance of the other, all sorts of maladjustments and dislocations can result. We can see this very clearly today. Many people feel that our physical equipment, our technology, has run far ahead of the theoretical and the organisational. We are not socially organised in ways to take full advantage of our theory or our technology. Thus we worry about the alleged conflict between the sciences and

the humanities, when in reality there is no conflict, the two are parts of a whole. The failure is ours, in our cultural imbalance. I may wish to come back to this point, probably in the fourth lecture, but at least I want to emphasise, here, that ideally the tripartite aspect of culture should be developed in concert. Obviously, they will never all advance at the same rate of speed. There will always be some differential. But this differential should not be permitted to extend too far in any one direction or, like a three-legged stool in which one leg is longer than the others, we will find ourselves in a very unstable, not to say uncomfortable position.

Now, I have said that the third aspect of the culture is its social organisation, and this social organisation comprises certain organised groups of individuals, of members of the society. These may be sub-cultures within a culture, they may be institutions — I want to revert to institutions in just a moment — or they may be agencies. But all of these are creations within the culture of the society.

15 INSTITUTION

151 *Building Block of Society*

An institution, again, has been defined in several ways by anthropologists and sociologists, and here you will see that I make a distinction between an institution and an agency that is not always to be

found in the literature of anthropology and the other social sciences. Nevertheless, for our purposes, I think it is a meaningful distinction to make and you can accept it or reject it, as you see fit.

An institution is a social creation, a social instrumentality through which the culture operates, in order to maintain itself. It is the basic building block of the structure of society and especially, the structure of the culture. These institutions are extremely powerful. Again, even in primitive societies, they establish norms of conduct, they grant rewards, they exact penalties, and one departs from them at his peril, even of his life, certainly at the peril of his social status. Institutions are basic fundamental reflections of the beliefs of the culture mirrored in its social organisation. They represent forces that are fundamental to cohesion of the society, without which the society would collapse, would almost literally blow apart.

152 *Family as a Social Institution*

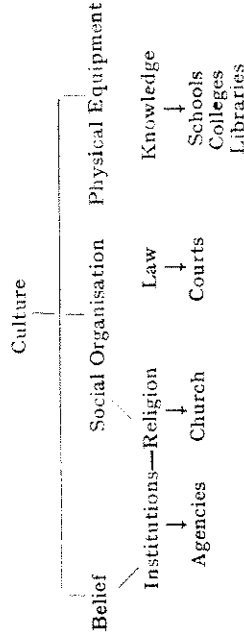
The family, or the clan, if you carry the extension of family and blood relationships somewhat further than the immediate family circle, is one of the best examples of a social institution. Religion is another example, law another. Knowledge, I suppose, or education — there is not a good name for it — the process of knowing, what you are supposed to know in order to operate effectively in the culture, is yet another example of a social institution.

16 AGENCY

Well, what then are agencies? Here is where I tend to differ somewhat from many anthropological philosophers. An agency, to me, again is a social instrumentality, created for the benefit of the institution. It is the instrumentality through which the institution operates. I said that law was an institution; the courts, then, will be its agencies. Religion is an institution; the church is an agency. Education, or knowledge, is an institution; the school, the college, the university, and the library are agencies.

17 IS LIBRARY A SOCIAL INSTITUTION?

Thus I tend to differ from those who talk about the library as a social institution. I see here a kind of continuum that can be diagrammed thus:



Some thirty years or more ago, Lloyd V Ballard wrote a book on *Social institutions* — in which he interpreted the term somewhat more broadly than I have — and included a chapter on the library as a social institution; and in the *Library quarterly* for

October 1937, Low Martin wrote an essay on the library as a social institution. These two documents really set the pattern for the use of the term by librarians.

18 LIBRARY IS A SOCIAL AGENCY

I prefer to think of the library as a social agency — as an agency rather than as an institution — because, I think there is a real distinction between the great concepts like family, religion, law, and so on, and the agencies that are responsible for implementing their basic underlying bodies of belief. Well, as I have said, you can take it or leave it, depending upon your own predisposition. But, at least, it is one man's point of view. So much then for the concept of culture, of society, and of the institutions and agencies that derive from them and comprise the fabric of society.

2 Role

21 INDIVIDUAL AND SOCIETY

Thus we are brought to the problem of the role. Shakespeare says that all the world is a stage and in his life every man plays many parts. In a complex construct like the society, different people of course do different things. Redfield said that a society was people doing things with, by and for each other. (See Sec E11). Role, then, is the generic name for these things which individuals do. These roles may

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be highly structured, highly specialised, complex configurations, intricate social organisation — roles are, then, part of the social organisation or the culture. But roles may be very generalised, very broad; the more sophisticated the society, the more specialised roles become; and certainly the more complicated and complex the physical equipment of the culture, or the more complex the underlying theory, the body of belief, again the more they tend to dictate highly specialised roles. We have engineers, of course, but also we have civil engineers, electronic engineers, chemical engineers, and so on. All of these have very specialised roles, each contributing in one way or another his particular share to the success of the whole.

22 CHANGE WITH CONTEXT

Individuals are assigned or assume, with the consent of the group, certain specialised roles. But an individual, as Shakespeare said, plays many roles in his life. He is a teacher during the day, let us say. But when he goes home to his family he drops his role as teacher, or subordinates it somewhat, and becomes a husband, a parent, an active participant in the affairs of the community, which may have nothing to do with his official role as a teacher, or, on the other hand may have a great deal to do with it. Teachers are often expected to participate in important ways in community service. These

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roles are constantly changing, both for the individual and for the society. These roles are not only very flexible with respect to the individual, but also they are flexible with respect to the society. Roles are continually being discarded because there is no longer any function for them. In the United States, for example, the role of the blacksmith in society has practically disappeared, because there are not now many horses that need to be shod. There is nothing about an automobile for a blacksmith to do. So, as our physical equipment changes, the roles related to it change. As the body of belief changes—there are shifts in that part of the culture, too,—the roles associated with it change. The whole system is a constantly shifting sea of human movement, behaviour, and conduct.

23 INSTITUTIONS AND AGENCIES

Institutions and agencies, too, have their roles. Thus the library has its particular role or roles. These roles of the library can also change indeed. I think we are seeing such a change today. But we will come back to that in a later discussion. The roles of the agencies can change with relative ease, though one must emphasise *relative*. Social change is seldom, if ever, easy; there is always hardship for some one. In periods of great social ferment or social turmoil, the roles even of institutions can change, and this results in a very serious alteration

in society. Institutions are so powerful that when a society reaches a point where the role of an institution is rejected, or subjected to some kind of outside intervention, an entire social structure may be overthrown. A physical catastrophe of some sort, war, or some other kind of tremendous upheaval, may be reflected in the roles of institutions, or the institution itself might conceivably be rejected and discarded. These shifts are, of course, one reason why the field of social sciences is so complex and so difficult precisely to describe, so difficult to isolate. One cannot put society in a test tube and measure it as one can a chemical reaction. Yet, these cultural alterations are very basic, very important to our understanding of society and we must study them as best we can, given the kinds of limitations under which we are compelled to work.

3 Communication and Culture

31 BINDING FORCE

Now, how is this very complex structure or system held together? It is held together by language. I discussed language in relation to the individual at our first session; because, of course, our understanding of language must begin with the individual. The individual must first of all communicate with himself. There is considerable argument about whether a person can actually think if he has no language. Our brain has to have something to work

upon, to work with, and language provides that fabric. I spoke of the brain as a magic loom; language is the thread with which the brain weaves the patterned fabric. The same is true of society, because society, like an individual, is also an organism. There are specialised mechanisms in our body, specialised functions, specialised roles. These have to be held together by the processes of the neurological system which operate with the aid of language. One finds here an almost perfect analogy with society. So language, then, is essential to social organisation, essential to a culture as it is essential to the organisation of the communication system or the individual. Indeed, some anthropologists say that it is impossible to conceive of culture without the presence of language, without a system of communication that binds the whole together, through which the components of the system, people that make up the society, achieve, as I said last time, a degree of like-mindedness. So language, then, as a communication system, is fundamental to the understanding of culture.

4 Language

41 DEFINITION 1

Now, what is language anyhow? Here in a sense, I suppose, I am repeating myself, but when one talks about both the individual and the society, one runs squarely into the problem of communication

in both its individual and social relationships. So there must be a certain overlapping, a certain repetition. What is language in the anthropologist's sense? I think as good a definition as any is that of Melvil J Herskovits, a distinguished American anthropologist, who says that language is "a system of arbitrary signs and vocal symbols by means of which members of a social group or culture are able to interact or to cooperate." In other words, it is a system of symbolic representations that are accepted and understood by the members of the group. These symbols may be either vocal or written or unspoken. The sign languages—gestures or kinesics, as the anthropologists call them—can be very powerful channels of communication. These too, are part of the communication system; and in its broadest sense, language is a system of symbolic representation or structures in any form acceptable to the community. So, if the agencies are the building blocks of which the institutions and the culture are the structure and the roles are the functions assumed by or assigned to the building blocks, then language is the binding force, the cement which holds all together which makes it possible for the structure to retain its form.

42 DEFINITION 2

Just for the fun of it, you might like a more complex definition of language and the only reason for introducing this is no more than to enjoy a little

amusement. Also, the definition of language that I am about to give, demonstrates the extremes to which some of these social philosophers and anthropologists will go when they become victims of their own jargon. So I take here a definition of language by Charles Morris in his work on *Signs, language, and behaviour*, in which he says a language "is a set of plura-situational signs with inter-personal significata, common to members of an interpreter family, the signs being producible by means of the interpreter family and combinable in some ways but not in others to form compound signs." Well, there it is, my friends, I will wager a fair sum of money that my old friend Dr Ranganathan, at his most abstract and theoretical best, cannot do any better than that, for lack of clarity. Nevertheless, if you will think about this definition a little — of course, it is not easy to do when you hear me recite it in the way I have — you will discover that it does have real meaning, which is basically nothing more than that a language is a system of symbolic representations, that have significance for the group that is using them, can be produced by the members of that group, and can be combined in certain ways to produce very complex, abstract concepts or ideas. That is all that Morris is saying.

5 Language and Library

51 USE OF LANGUAGE

Well, why is this important to librarianship? I

think it is very important to librarianship for the simple reason that, first of all, the library is an agency of communication; it is a part of the total communication system and as such, of course, it depends heavily on language. We cannot get away from the linguistic element. It is through language that we approach the mechanisms of the library, its subject headings, and its classification systems. Because, after all what is a classification system but a form of language? It is a means of communication, a means of expression. Simply because we use certain numbers or letters or symbols, to stand for certain things, does not in any way alter the character of the classification as a medium of communication, as a language. Mathematics itself is a language. It is a means of communicating ideas in graphic form that you cannot easily express in any other way. If one tried to solve even a simple mathematical problem by writing it out, one would soon find himself in a rather hopeless situation. Mathematics could not go very far without developing this purely arbitrary and artificial language to enable mathematicians to perform the kind of mathematical operations that they want. These symbols are in fact so abstract in many instances, that what they stand for has no significance. Three is three, whether it is three apples or three oranges, or three horses, or three automobiles. What the symbols stand for has no significance whatever so

far as the mathematician's operations are concerned. The only significance is in their relation to each other, and what can be done with them in relation with each other. Also mathematics is no less a language when mathematical symbols are used to describe the subject content of books instead of the stuff of which pure mathematics is made.

52 UNDERSTANDING LANGUAGE

We must, then, as students of librarianship, understand quite thoroughly the semantic problem, the nature of language, the nature of meaning, because it is through meaning that we interpret the contents of the library and make it available to the individual patron and it is through meaningful semantic interpretations, that the patron of the library uses the material he receives. But despite this fundamental importance, the librarians, I think, have not paid enough attention to the vital role of language in the librarian's work. All that librarians have done is in a casual, general sort of way to babble about subject headings and synonyms and about the need for controlled vocabulary. But any real understanding of the nature of language in the process of communication, on the one hand, and the nature of language in relation to the library as an agency of communication, on the other, has not been given nearly as much attention as it demands.

6 Communication System

61 TECHNOLOGICAL PROGRESS

Now let us turn to the communication network itself. I think that I hardly need it in any detail to this audience. I am sure you are all aware of the tremendous expansion — and here again we are confronted squarely by an important manifestation of the physical equipment of our culture, the technology of our culture — the tremendous advances in communication technology that have been made over the millennium that spans man's adventure, and especially those of the last few decades. From the signal fire or the drum beat all the way to the communication satellites is, indeed, an enormous leap. Yet today it is almost a commonplace event for me, over here in the United States, almost half-way around the world from you, to see, virtually instantaneously or at the speed of light, what you are actually doing at the moment you are doing it. If we were at this moment connected by satellite, I could sit here at my desk and talk to you almost as though we were all in the same room. But even the technique we are using brings us closer together than would be the case if some one were to read to you my written speech. From the standpoint of the technology of our culture almost any form of communication is completely possible, the only problem is the problem of economics. We in the United

States have had televised discussions with one participant in the United States, one in London, and another in Paris, and so on, all talking together while the viewer sits comfortably at home watching the television screen seeing all that goes on and sharing in its intellectual stimulation. He can even see the several participants simultaneously with the use of the split-screen technique. All this is a far cry, indeed, from a time when communication could not reach beyond the range of the human ear, the power of the human voice, or the perspective of human sight.

611 *Impact on Library*

What the impact of these communication advances may be expected to have on the library, I shall leave for somewhat later consideration. But the important consideration here is that our society is experiencing some very significant changes, far-reaching changes, in which, I am convinced, the library is going to share; changes that will have tremendous importance for the services which the library can offer, the ways in which it can offer those services, the advances it can make in its own technology, and in the whole underlying theory of what librarianship is.

62 ELEMENTS OF THE SYSTEM

621 *Transmitter and Receptor*

Now, let us turn our attention to the elements of

the communication system. Obviously, in any communication situation there is a transmitter and a receptor. As we converse with each other we produce certain audible signals, with our vocal chords, which have an impact upon the ear drums of the listener. In this situation there is direct person-to-person communication. In some ways, it is the most satisfactory method of communication. But, in other ways, it is the most unsatisfactory. First of all, it makes possible an inter-play between the two who are communicating. That which is not understood by the receptor can be explained by the communicator. But this form of communication can be most unsatisfactory unless some kind of recording mechanism is present, otherwise it is completely transitory. What has been said has been said, it passes into history; it is lost in oblivion.

622 *Instrumentality*

Man's study of communication and his manipulating of the communication system has been a constant search for means to improve the effectiveness of this simple person-to-person conversation—to expand its range, to improve its quality, to reduce misinterpretation, to minimize redundancy without loss of clarity, to achieve a degree of permanence. I have mentioned the general semantist's term 'time-binding', the ability to leap space and time, but to accomplish this, there must be introduced a third element in the communication sys-

tem—an agency, medium, or instrumentality. In primitive communication system, of course, the drum or the signal fire were early media with a range greater than the human voice. But, of course, one cannot speak with a signal fire or a drum. So certain arbitrary signs of one kind or another must be devised and understood by those who are communicating. We have here, of course, a form of language, but it is a language with a very limited capability for the transmission of information. So man has injected various techniques, technologies, to give the process not only a greater range and a measure of permanence but also an increasing carrying capacity to carry information.

623 *Evolution of Communication*

The earliest form, of course, of giving permanence was the development of writing, the development of symbolic representation by graphic signs of one kind or another, all the way from the pictures on the walls of the caves in southern France and Spain, to hieroglyphics, to phonetic alphabets, and on to the computer language of today. From writing man has evolved other mechanical devices, all of which are well known to you, for recording human communication and increasing its time-binding capability. These are extraneous elements; they increase the opportunity for the message to go astray. The more complicated these intermediary elements become, the more opportunities there are

for the interjection or interference into the communication system, the more the medium tends to shape the message.

624 *Four Basic Elements*

But still there are but four basic elements here: the communicator, the media of communication—whether it is an electronic impulse or an air wave—the receptor, and finally there is the fourth element, the message itself. To say that the message is extremely important to the act of communication, is certainly an understatement. It is the reason for the act of communication. It is what the whole communication act is all about. So again we are brought straight back to our problem of language, the problem of understanding, of achieving like-mindedness; because the message itself must be unambiguously expressed in some symbolic form whether that be a gesture, a spoken word, a written word, signal of some sort, or whatever it may be. So, to summarise, in the communication system, we find four basic ingredients: the communicator—that is, the transmitter—the medium, the receptor, and the message.

7 **Library and Communication**

71 LIBRARY AS MEDIUM

Now, where does the library fit in our analysis? The library is, of course, one form of media. Simply

because the message is recorded in a book which is deposited in and serviced from a library, does not change the basic character of this communication act at all.

72 CLASSIC QUESTION

Therefore, we must look closely at the psychological significance of communication. What is the classic problem of communication, the classic question asked by the student of communication? The classic question which, I am sure, you all encounter in one way or another is: "Who says what to whom, by what means, and with what effect?" In other words, the student of communication is concerned with the whole spectrum of influences implicit in achieving like-mindedness, of understanding what has been said. 'Who' is, of course, the person, the transmitter: 'says what' is the message; 'by what means' is, of course, the medium; and 'to what effect' is the effect on the receptor. In the jargon of the student of communication 'who' represents control analysis; 'says what' content analysis; 'by what means' media analysis; and 'with what effect' effect analysis. Each of these four areas is basic to an understanding of the communication process and each can influence the other. We know this is true of all communication. We see it in propaganda techniques. We see it in television, we hear it from the teacher, we read it in books.

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73 MEDIUM IS THE MESSAGE

I do not know what you may think of Marshall McLuhan's little volume which has aroused so much discussion, *The medium is the message*. I must say that I certainly do not agree with all that McLuhan says, but with much of what he says I do agree, even though it has already been said by other people. At least he has dramatised the communication problem and brought it to public attention. It certainly is true that the medium is the message; it does influence the message, both in content and emphasis. This we see all the time. Television provides an excellent example. On the television screen it is quite easy to make a little skirmish in the street look like a major civil riot. It is certainly the medium, the skilful use of the camera, that has made the message, that has shaped the message to give the emphasis that the communicator wanted. The medium of the book has shaped the message throughout history. There are things one can say in a book and there are things one cannot say because of the physical limitations of the book, and the same generalisation can be made of any communication medium.

74 AUDIOVISUAL TECHNIQUES

Such realisations as these have given rise to the new technology of audiovisual materials, the steadily increasing use of pictures, motion pictures, the

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television, closed circuit television, transparencies, and the mass of hardware that is used with them. By the same token, there are things that a book can say that these new media cannot say at all. If you listen to a 'Dyed in the wool', audiovisual enthusiast, he will doubtless deny that there is anything his gadgets cannot do. He believes one can say practically anything can convey any message by means of these audiovisual techniques. Perhaps in the future, we will develop techniques, mechanisms, that will be just as effective as the book in conveying abstract concepts and ideas, I do not know. But to me, at the moment, it seems unlikely. I still do not see how one can convert Socratic dialogues to audiovisual form; maybe some day some device will make this possible. But for our present purposes, I think, we can safely assume that the book is here to stay, and that it has certain eternal values possessed by no other medium.

75 FUNCTION OF LIBRARIAN

What I want to emphasise here is that any mechanism of this sort, any medium of communication, will have some impact on the content of the message and the library as a medium of communication is going to have its impact upon the communication of knowledge too. It is our objective, our role in society, our dedicated purpose, to make this communication as complete as possible. In a

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sense I am saying what Dr Ranganathan says in three of his Five Laws, 'Every book its reader, Every reader his book, Save the time of the reader...' basically this is all I am saying and I am doubtless taking a much longer time to say it less effectively than Dr Ranganathan has. Make the communication process as useful as possible and employ all techniques that seem to have any promise at all to the achievement of that end, that is the grist for the librarian's mill.

8 Medium Influences Message: Example

81 NO INSPIRATION FROM MECHANICAL DEVICE

I think the time for this lecture has just about expired. Also, I rather suspect that you are weary of the sound of my recorded voice. But for the few remaining minutes let me enumerate some of my psychological reactions to the method we are using in the presentation of these lectures. The observations may have some interest to you as students of communication and some bearing on what we have been saying about communication. First of all, for me, it is far more tiring to talk to a mechanism than to say the same things directly to you as an audience. I miss your response, I miss seeing you, I miss the inspiration of your presence, the exhilaration that an audience always gives me. There is no inspiration in this mechanical device grinding relentlessly

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towards the end of the tape. It could not care less what I am saying to you. As a matter of fact it does not even know what I am saying. If I make a mistake there is no need to apologise for there can be no forgiveness — only the relentless recording of my error for posterity.

82 AUDIENCE-SPEAKER INTERPLAY MISSING

Recording thus becomes a constant strain. I feel that I must constantly say something. In fact if I were talking directly to you, I would constantly interrupt myself, vary my speech; I would walk over to the blackboard and draw one of those triangles, or I would walk to the window, or do something of that sort, because I am a congenital pacer in the classroom. I like to walk back and forth; I dislike a microphone that ties me down to one place. All this movement is relaxing, it helps to refresh me, but I cannot do it with this device. So I find that after three-quarters of an hour of this sort of thing, I am rapidly — you can probably see from the way I am talking — approaching the point of diminishing returns, and this is bound to have an impact on what I am saying. I am sure I am not expressing my thought as clearly as I should, or as I hope would, if I had you all before me and we had real psychological interplay.

83 AUDIENCE REFLECTS THE SPEAKER

For your part, I suspect the same is true. I sus-

pect that it is much more tiring to listen to my voice over a loud-speaker than it is to listen to my person. You, too, do not have these moments of relaxation, of interruption, this pacing back and forth, or drawing designs on the blackboard. All of these behaviour patterns not only relax me, but when they relax me they relax you, because the audience is bound to be the reflection of the speaker. About all you can say about this kind of device, I hope, is that it is better than nothing at all. I would be pleased to hear from any of you, about your reaction to this kind of presentation. Do you find it tiring to listen? I am sure I would. I can listen to a lecture for an hour or even an hour and a half, if the lecturer is really an excellent speaker; but if he is only an average speaker, forty-five to sixty minutes is the limit as far as I am concerned. I think listening to a machine like this for three-fourths of an hour is about all that I myself could tolerate. Again, the medium, very definitely, is the message. If it is not the message, it certainly shapes the message and influences it.

84 PICTURING THE AUDIENCE-REACTION

It has been fun talking to you in this informal way. It is pleasant to be talking to you about these psychological reactions. But it would be more enjoyable if I were there. But I find that I must engage myself in almost a kind of fantasy to pull me

along. I have to pretend that you are all here and imagine that you are smiling, that you are pleased by certain things that I have said. Maybe I can imagine some applause at the end. Maybe all this rambling is an attempt, conscious or unconscious, to humanise the machine, to set the psychological balance straight. Anyway, I think we have come to the end of this discourse, if not to the end of the tape. In the next talk I shall talk about the problem of knowledge, the problem of knowledge in society, and the problem of epistemology. At the moment I must leave to deliver an address at Vancouver, to the Association of British Columbia Librarians; when I return, perhaps I will be more knowledgeable than I am at the moment about knowledge.

9 Suggested Readings

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- 7 GELB (I J). Study of writing. Chicago; University of Chicago Press. 1952.
- 8 HALL (Edward T). Silent language. Garden City, N Y; Doubleday. 1959.
- 9 HOLZER (Harry), Ed. Language in culture. Chicago; University of Chicago Press. 1954.
- 10 KLUCKHOHN (Clyde). Mirror for man. New York; McGraw-Hill. 1949.
- 11 KROEBER (A L) and KLUCKHOHN (Clyde). Culture. New York; Knopf. 1952.
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- 13 LINTON (Ralph). Tree of culture. New York; Knopf. 1957.
- 14 MORRIS (Charles). Signs, language, and behavior. New York; Prentice-Hill. 1946.
- 15 REDFIELD (Robert). Human nature and the study of society. Chicago; University of Chicago Press. 1962.
- 16 SAPIR (Edward). Language. New York; Harcourt, Brace. 1921.
- 17 SUMNER (William Graham). Folkways. Boston; Ginn. 1910.
- 18 WHORF (Benjamin Lee). Language, thought, and reality. New York; Wiley. 1956.

individual. Just as the individual mind deteriorates when it is deprived of knowledge or information, so also society disintegrates when there is not a constant flow of knowledge among its members, and throughout the parts that comprise its structure and organisation.

121 *Analogy with Organism*

An individual is an organism, a biological organism. A society is also an organism, a social organism. Both are living entities. But the knowledge of the individual and the knowledge of society are two quite different things. The society collectively knows all the contents of all the encyclopaedias, the reference books, the proceedings of learned societies, *et cetera*, that have ever been published or have in any way been made available to it. Collectively it knows the sum total of human factual knowledge, far more, of course, than any single individual can ever hope to accommodate. On the other hand, the individual has an emotional experience with recorded knowledge that transcends the informational store. That is the collective property of society. The individual can appreciate and comprehend beauty and the texture of human life as it has been recorded in the transcript of the human adventure in ways that society collectively can never understand.

122 *Two Kinds of Knowledge*

Thus, we are confronted here with two types of

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CHAPTER F

LIBRARY AND KNOWLEDGE

I Social Context

11 REACHING SOCIETY THROUGH INDIVIDUAL

In our previous discussions we have been dealing largely with the relation of the library to the individual, specifically the relation between the individual's knowledge and the library store, and the services the library can provide to its users. I want today, however, to direct your attention, away from the individual, and to society, because it is the social context of the library with which we as librarians must ultimately be concerned, even though we must work through the individual to achieve the social end.

12 INDIVIDUAL AND SOCIETY

Now, there are certain similarities between the individual's relationship to knowledge and that of society. But there are also some very marked differences between the two and these differences, I submit, the librarian has in the past more or less overlooked, not to say, neglected. Certainly the need for knowledge drives society as well as the

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• knowledge. The one in relation to the individual, I have called 'intrinsic'; the other in relation to society, I have called 'extrinsic'. And it is in both of these areas, which the librarian must operate. He must in effect carry on a kind of schizophrenic existence, keeping his eyes constantly on the informational, and intellectual and knowledge-needs of the individual, while at the same time, not forgetting the knowledge-needs of society. It is, then, in this complex individual-social relationship, that the librarian must operate. Let me see if I can state this somewhat more clearly.

13 MUTUAL INTERACTION

131 *Knowledge and Society*

The librarian must see his role in the communication process as being more than a link in a chain. He must also concern himself with the knowledge he communicates and the importance of that knowledge both to the individual and to society. Yet the study of the nature of knowledge and the relationship between the structure of knowledge as it has developed in contemporary Western civilisation and the librarian's tools for facilitating intellectual access to that knowledge have received almost no attention and certainly, no real exploration. Yet here is a study so fundamental to the work of the librarian that there must be developed, in my opinion, a new discipline which is directed towards an im-

proved understanding of the role of knowledge in society. The librarian must evolve for himself a comprehension of the role of knowledge in influencing society and the ways in which society influences the growth of knowledge.

2 Social Epistemology

21 WHAT IT IS

I have called this new discipline 'social epistemology', a term which was, if I remember correctly, originally devised by my former associate Miss Margaret Egan under whom some of you studied at the University of Chicago, and who later became a member of the Faculty at Case Western Reserve. As she has pointed out, psychologists have studied behaviour with reference to the conduct of the individual; epistemologists have studied the origins, growth, and development of knowledge, but again with reference to the individual. The sociologists have studied the behaviour of people in groups, but never really with reference to the influence of knowledge upon that behaviour. In other words, epistemology has never been taken out of the realm of individual's relation to knowledge and studied in relation to the sum total of social behaviour, social action. Epistemology, I need hardly tell you, in its pure sense is the study of knowledge about knowledge itself. It is knowledge of knowledge itself. Therefore, social epistemology is

the study of knowledge in society. It should provide a framework for the investigation of the entire complex problem of the nature of the intellectual process in society; the study of the ways in which society as a whole achieves a perceptive relation to its total environment. It should lift the study of the intellectual life from that of a scrutiny of the individual to an enquiry into the means by which a society, nation, or culture achieves an understanding of the totality of stimuli which act upon it. The focus of this discipline should be upon the production, flow, integration, and consumption of all forms of communicated thought throughout the entire social fabric. From such a discipline should emerge, then, a new study of knowledge about knowledge, giving rise to a new synthesis of the interaction between knowledge and social activity, or, if you prefer, social dynamics.

22 RECENT STUDIES

Now, there have been, in recent years, three studies which tend in this direction and, I think, should be brought to your attention. The first is a volume by Fritz Machlup, entitled *The production and distribution of knowledge in the United States*; the second is by Harbison and Myers, *Education, manpower, and economic growth*; and the third is a little volume by Kenneth Boulding, a Professor of Economics at the University of Michigan, called, *The Image*.

Now, none of these three volumes really deals with social epistemology in the way that I am using the term here. But all the three are basic to the study to which I am directing your attention and are worthy of being brought to your attention. I shall refer to both Boulding and to Machlup as we proceed in our discussion today.

23 SOCIAL EPISTEMOLOGY AND THE LIBRARY

231 *Inter-Disciplinary*

What then is social epistemology in relation to the library? What are the kinds of questions that we would expect social epistemology to answer or at least to illuminate in one way or another? Social epistemology, as I conceive it, should have its own corpus of theoretical knowledge. It should be truly inter-disciplinary in its heavy dependence upon many fields of inquiry. Sociology and anthropology are obviously related closely to it but so also are linguistics, since we are dealing with a system of communication; economics; the psychology as well as the physiology of the human nervous system; mathematics; information theory; and many others. There would be little point here in carrying this catalogue to its limits, because I am sure you can see that many disciplines contribute to this study for we are dealing with the whole spectrum of social action, social behaviour, social intellectual activity.

232 *Practical Aspects*

Social epistemology may also be expected to have practical results. It is not just a theoretical discipline, pursued for its own sake or for the intellectual challenge it presents. And one of the most practical applications of social epistemology will be in librarianship, for, there exists a very important affinity between it and librarianship. Librarianship, whether its practitioners recognise it or not, is based on epistemological foundations, because it deals with the nature of knowledge and the utilisation of that knowledge by men both individually and in groups, that is, collectively.

3 **Theory and Technique**

31 THEORETICAL FOUNDATION IMPORTANT

Clearly, if the librarian is to become an effective mediator between man and his graphic records, as we have indicated in an earlier lecture, librarianship must be more than a bundle of tricks, taught in a trade school, for finding a particular book, on a particular shelf, for a particular patron, with a particular need. Such techniques have a place in the skills of the librarian. I think no one can question the importance of a mastery of skills, and, as we said earlier, technology and theory must develop harmoniously. But the librarian will do his job badly if he does not possess a true mastery over

the means of access to recorded knowledge. This mastery implies not only a thorough understanding of the nature of that knowledge with which he is dealing, but also an appreciation of the role of knowledge in that part of society in which he operates. If the librarian's bibliographic and information systems are to be structured to conform as closely as possible to man's uses of recorded knowledge, the theoretical foundations of the library profession must eventually provide answers to such questions as the problem of cognition, how man knows, and we have already talked about this in an earlier session.

32 UNDERSTANDING CULTURE

But this theory must seek an understanding of the problem of social cognition, the ways in which society knows, and the nature of the socio-psychological system, by means of which personal knowledge becomes social knowledge. There is also the problem of the history and philosophy of knowledge as they have evolved throughout time and in various cultures. I would emphasise *various* cultures because cultures are not alike in their utilisation of knowledge, and certainly we cannot understand our own culture if we regard it as an isolated phenomenon. We must look at our culture in terms of other cultures, other values, other forms or patterns of right and wrong, other moves, as William

Graham Sumner used the term, and other ethical systems. The problem, again, is one of understanding and interpreting existing bibliographical mechanisms and systems and the extent to which they are in harmony and congruence with the realities of the communication process and the findings of epistemological enquiry. In other words, if our systems are not brought into coincidence with the uses to which society, as well as the individual, puts knowledge, then certainly they are not going to be very effective.

33 LIBRARY PROCESS

331 *Closed System*

Where does this view of the library bring us in our considerations? In the past, the library has operated as a kind of closed system. We have built our classification schemes, our bibliographic guides; the whole field of subject analysis of library materials have implied, whether we realised it or not, that the relationships of various segments of knowledge are relatively permanent, that these relationships stand, more or less, for all times. The great weakness in the Dewey Decimal Classification and the classifications of his contemporaries, was that they all viewed books in a taxonomic sense. We must remember that these schemes of library organisation were evolved almost immediately after the period of Darwin and the re-

volution which the Darwinian theory of the *Origin of species* and the theory of organic evolution was illuminating the world of biology. So the classification systems were basically taxonomic. Dewey, Cutter, and their contemporaries saw books as biological, or physical specimens that had certain generic characteristics. These characteristics, even though they were intellectual, were still seen in morphological dimensions.

332 *Dynamic System*

Now, it is true, of course, that books do have certain characteristics, not only physical characteristics, but also intellectual characteristics. But these characteristics are not stable; many of them change from period to period and even from reader to reader. The meaning of a book for one individual may be quite different from its meaning to another individual. We say conventionally that a book says so and so, but, of course, a book does not really say anything. A book is only pieces of paper on which have been inscribed in one way or other, certain symbolic representations that are meaningful to the interpreter family, to use Charles Morris's phrase, and these symbols can be interpreted in various ways by different readers or even by the same reader at different times. To me, a book in abstract physics says absolutely nothing, but to a trained physicist, it says a great deal. Yet the content of the book, the marks on its pages do not

change. So, we are not dealing here with a closed system, but with a system that is very open-ended, a system that is subject to constant change, constant reinterpretation. Therefore, in a sense, each generation must recreate anew its bibliographical instruments, its tools, because what was adequate for one generation may be completely inadequate for another. This is one of the great errors that, I think, Bliss made when assuming that he had discovered for the library world, the true "order of nature"; but I shall have occasion to refer to Bliss again a little later.

4 Knowledge

41 WHAT IS KNOWLEDGE?

At the present time, then, we are brought squarely up against the problem of what knowledge is. Knowledge is a word we use every day in a variety of contexts and we tend to take it for granted. But what really is knowledge? Here we are thrown back upon the work of the epistemologists. Is there a difference between knowledge and information? Webster's *Dictionary*, which in my country at least, is supposed to be the ultimate authority on words and their meanings, has no less than twelve different definitions of knowledge. Oddly enough, ten of the twelve treat "knowledge" as more or less synonymous with a "fact" or a "condition." But knowledge, of course, is that which is known and

there can be no knowledge without a knower. Knowledge does not exist, indeed I think it cannot exist, in an abstract sense. Just as there is the old argument over whether there can be sound if there is no one present to hear it, one can doubt the existence of knowledge without someone to know it. I am not here merely playing a philosophical game. It is important for librarians to remind themselves that there are no absolutes in knowledge, knowledge is always relative to the knower. Knowledge has to be evolved. It is a creation of the human mind, and of the collective mind, and we cannot talk about knowledge as existing somewhere out in space or in some kind of vacuum. There must be a knower and knowledge is that which is known. If there is absolute knowledge it must derive from, and be known only by a super-human Intelligence. But I have no desire here to get into theological argument.

42 KNOWLEDGE, INFORMATION, AND MESSAGE

421 *Creation of Image*

Kenneth Boulding, whose book I referred to a little earlier, says that "perhaps knowledge is not a good term," though he gives his book the subtitle "Knowledge in Life and Society." He says that "knowledge is the individual's or society's image of the world," and it is this subjective knowledge that is the subject of his book, *The image*. The message,

he says, is information. This is what is perceived through the senses in one way or another, either by reading or by direct experience, or by talking to some other individual. The message is what is transmitted; it is what is communicated. But the message is changed in the individual by meaning. Meaning then becomes the change which the individual or society makes by interpreting the message.

I have said earlier that there is no such thing as perfect communication and, of course, there is not. But the result or product of this meaning, which the individual or society places upon the message, is the creation of an image—a man's image of the world—and the message then is filtered through the ethical, moral, evaluative system of the individual or society, and through this constant process of filtering messages, the individual or the society evolves, what Boulding calls, the 'image'. This process of social cognition that Boulding describes is, I think, getting very close to what I mean by social epistemology—the sum total of what is known, the whole body of truth, fact, information, principles or other objects of cognition, acquired by mankind and filtered through its value system.

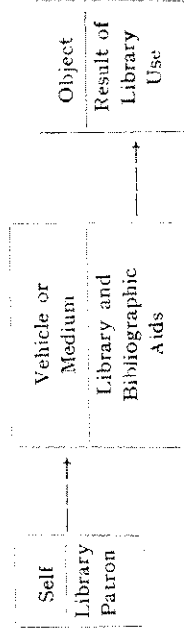
422 *Knowledge-situation*

There is then what one might call a "knowledge-situation," and this knowledge-situation is very closely related to the communication process which

we talked about earlier. There is a subject, a vehicle, and an object. The subject of course is the self, the individual. The vehicle is the message, that which is communicated, the medium if you will, using the phrase that has become so very popular at least in the United States; and finally there is the object which is that which the self or the subject derives from this process.

423 *Parallel with Library*

Now, there is a very close parallel with the library. The subject is of course the user. The vehicle is the vast conglomeration of the library store, the bibliographic aids to the utilisation of that store, the services which the librarian performs. Finally there is the object, that which the user derives from his use of the library materials—the end-result of this long developmental process which is the end and goal of the librarian's effort. Again a diagram may emphasise the parallel:



43 NEED FOR DIFFERENTIATION

How do we approach this problem of knowledge?

Fritz Machlup says that there is no difference between knowledge and information. He says such a differentiation is "silly," and he expresses it in almost those exact words. So he treats knowledge and information as being synonymous. I myself cannot agree with this. I think there is a very important difference between information and knowledge. Information, of course, both in the sense in which it is used by the biologist and in the sense in which we as librarians use it, is 'fact'. It is stimulus. really. It is the stimulus which we perceive through our senses. This information may be a single isolated fact or it may be a whole cluster of facts; but it still is a unit; it is a unit of thought. It can have any dimension. It is that intellectual entity which we receive, the building block of knowledge.

Knowledge, again going back to Boulding, is the consequence of a filtering process; the process of filtering these facts through the ethical system or the intellectual system, or the system of scholarship, if you want to call it that, of the individual who receives it. I think this is quite an important distinction even though Machlup rules it out of consideration in his discussions.

44 DIFFERS WITH CONTEXT

Again, I return to our definition of knowledge. Knowledge, as distinct from information, is the sum total of what is known, the whole body of truth,

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fact, information, principles, belief, or other objects of cognition, acquired by mankind. I have included truth here, but it has nothing to do really with truth or falsehood. Knowledge may be false knowledge, or it may be true knowledge. It is still knowledge, it is knowable and known. Of course, what is true in one society, in one culture, may be completely false in another and, similarly, what is fact for one individual may be knowledge for another. An individual may communicate to you a philosophical concept, which he has derived; for him, it is knowledge, because he has evolved it, he has filtered it through his image of the world. But for you, it becomes a fact, because it is what one man thinks. It does not really become knowledge until you have in effect processed it through your own value system, related it to your own image and perhaps changed your image of the world, as a consequence of it. Thus, in one way or another, large or small, significantly or inconsequentially your awareness or understanding of your world has been altered.

5 Classification and Nature of Knowledge

51 TAXONOMIC APPROACH

One of the best ways, perhaps, of trying to understand what is knowledge, is through the medium of classification. I have already touched on this in talking about the library as a closed system, and about the taxonomic approach to recorded

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knowledge employed by Dewey and Cutter and their contemporaries. We have seen that knowledge can be ordered in a variety of ways. The taxonomists ordered it in terms of its "characteristics," the morphology of knowledge, the kinds of knowledge there are supposed to be, if, indeed, one can speak of a "kind" of knowledge. Knowledge is so polydimensional, that it is hard to analyze it in morphological terms.

52 BLISS'S ORDERS OF KNOWLEDGE

But, Bliss, to whom I referred earlier, and who I am sure is well known to all of you, through Dr Ranganathan's critiques of his work—very valid critique incidentally—says there are several orders of knowledge. First of all, there is the developmental order, the sequence in which knowledge evolved throughout time, by various societies, various cultures, and its cumulation up to the present. But he also holds that there is a pedagogic order, the order in which knowledge is taught to the child, the youth, and the young adult. There is also, he says, a pragmatic order, an order of utility. I suppose this was really the order which Dewey and Cutter and their contemporaries were struggling to discover, to devise. Bliss holds that all three of these orders can be harmonised, that the developmental order, the pedagogical order, and the pragmatic order, are all basically the same though there may be variance within. The educa-

tion of the child, for example, his process of learning recapitulates, to a certain extent, the development order in which knowledge itself developed, ontogeny recapitulates the phylogeny in a kind of intellectual evolution within the individual. Through harmonising these three orders—the developmental, the pedagogic, and the pragmatic—Bliss believes he can evolve, what he calls, the Order of Nature. This is the inherent, eternal, and everlasting order which somehow Nature in her infinite wisdom, justice, and truth, not only sees and comprehends knowledge, but actually built into it. And Bliss thought that he had discovered it; he says it will stand for all time. Well, I think his position is very tenuous, to say the least. If it is not nonsense, it certainly is egotism. I do not really mean to make light of Bliss, or make fun of his work, because he is a very significant figure in bibliographic classification, there is no question about that. He made a very important contribution, and I believe that my good friend Dr Ranganathan will agree with me, that he is the one American worthy to rank with Dr Ranganathan in the magnitude of his contribution to the classification of knowledge. There are many qualities of his classification scheme that are very good, quite fine, no question about that. But he was opinionated, maybe he had to be opinionated in order to do what he did. But to say that he had discovered the Order of Nature

that would stand for all time, I think, is sheer arrogance and nothing else.

53 ORDER OF NATURE

What is nature, anyway? Is there an inherent order in nature? Is there somehow a fundamental basic relationship that unites the whole totality of knowledge? Is there really a "Great Chain of Being"? I submit, that knowledge is unitary; that the world of knowledge is a unity; and that everything is related to every other thing in certain ways. But to say that this order is a fixed system, a closed system and once we have discovered it, we have it for all time, is, I think, completely absurd. Who knows what dimensions there are, that have not yet been discovered? About 1905 or 1906, the catalogue of the University of Chicago, the section listing the courses in the Department of Physics, was prefaced with the statement that physicists had discovered everything there is to be discovered, and all that remained was to refine the techniques of measurement, to make discoveries a little more precise, to improve the measurement of physical phenomenon.

54 CHANGING CONTEXT

Well, we can see how completely innocent these predecessors of Einstein were. What Einstein did to Physics and to the old Newtonian principles that

had dominated physics for centuries was to overthrow the whole concept of the physical universe. Alfred North Whitehead in one of his discourses says that when he was a young man he studied mathematics at Cambridge, under some of the most eminent mathematicians of that day, men who were truly distinguished, and yet in his lifetime, he lived to see most of these mathematical principles, some of which had stood for centuries, overthrown. Probably the ancients thought that "fire, water, earth, and air" were a classification that represented all phenomena and would stand for ever. We do not live in a closed system so that to say that knowledge is something absolute, with absolute relationships within itself, is a completely fallacious point of view. I remember hearing Enrico Fermi say that no matter how deeply man penetrated into the atom, Nature always seemed to keep one jump in advance. There is always some place further to go. Of course, discovery makes a tremendous problem for librarians, because what was in effect a library in 1876 when Cutter published his rules and what is in effect a library today, are two completely different entities. I am sure that the systems of bibliographical organisation, the tools the librarian will be using in the next hundred years are going to be just as different, perhaps even more different, from those we use today than ours are from those of the days of Dewey and Cutter and their group. So

classification, in the taxonomic sense or in the sense of trying to classify according to the essence of knowledge, or whatever the essence of knowledge would be, does not carry us very far.

6 Machlup's Classification

61 ACCORDING TO USE

I have criticised Machlup for his saying that information and knowledge are synonymous. But, I think, the classification of knowledge which he has evolved in terms of its utilisation, is perhaps more illuminating for our purposes than these taxonomic classifications which we have been discussing. Machlup holds that there are five different types of knowledge, classified according to use. His may not be the best possible classification, but I think it is focussed properly and it is relevant to my purpose here. He is fumbling, as we all are; certainly I do not pretend to have the answers to these questions about knowledge. But, if he is fumbling, at least his nose is pointed in the right direction.

62 PRACTICAL KNOWLEDGE

He says, first of all, there is practical knowledge, instrumental knowledge. This, of course, is knowledge we use in our day-to-day living. It can vary all the way from a treatise in physics that the physicist can apply immediately in his research, or in

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doing whatever he is doing—all the way from such a technical treatise as that to a little handbook that tells one how to operate a newly-purchased vacuum cleaner. Either extreme is instrumental knowledge, it is the how-to-do-it sort of treatment. It is the kind of knowledge which is very prevalent in a highly technological society such as ours. In primitive society, this practical knowledge was probably almost entirely verbal and orally transmitted. The experienced warrior tells the youth how to use a bow and arrow; how to make an arrow-head; or how to tip it with poison, so that it would kill the animal that is wanted as the entrée for supper. Of course, as our technology becomes more complex and dependent on the role of graphic records, the volume of the instrumental knowledge becomes enormous, as it is at the present time.

63 INTELLECTUAL KNOWLEDGE

The second category is intellectual knowledge—that is, knowledge that exists in relation to the intellectual processes of mankind. One can see immediately that the lines between these two get awfully fuzzy. What is intellectual knowledge? Intellectual knowledge can be very instrumental, can be very practical. What may be intellectual knowledge for you and me, for the philosopher may be intensely practical. But at least, I think, Machlup is trying to establish something here, that expresses

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were capable of understanding it, which I am not. So what is one person's pastime, of course, is another person's practical, instrumental, or intellectual knowledge.

66 UNWANTED KNOWLEDGE

And finally there is unwanted knowledge. This is knowledge which we receive all the time. I spoke earlier about the capacity of the brain to reject information which constantly pours into our nervous system, batters against our sense organs; and we reject it because there is no particular value in it for us. I mentioned the feel of the desk as my arm rested on it, and I ignore it. There is an enormous amount of unwanted knowledge, and if you live in the United States, all that you have to do is to turn on the television for a few minutes and you will get more unwanted knowledge than you can possibly not use. You will get so much knowledge that you will retain it even though it is unwanted. But perhaps we should not dignify television commercials as "knowledge." Perhaps we should call it just rudimentary sensory stimulation that admonishes you to keep your sinuses open and your pores shut.

Well, I think, enough has been said here, to give some indication at least of the complexities in attempting to identify the various possible types of

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F63 SOCIOLOGICAL FOUNDATIONS OF LIBRARIANSHIP

use. The border line between these two categories is sound in theory, but less clear when it comes to application. Again, we are going back to my earlier statement that a book really does not say anything in an absolute sense. The book is what you bring to it. You may bring to it a practical use or you may bring to it a purely intellectual use.

64 SPIRITUAL KNOWLEDGE

Machlup's third category is spiritual knowledge. The great religious writings, the writings that teach man about his soul, his life beyond the physical world, and all ethical and moral knowledge. Again the line between this group and intellectual knowledge is far from being sharp. I suppose for the preacher, the minister, the religious leader, much of spiritual knowledge is for him practical knowledge; it is instrumental knowledge because he uses it in his occupation. Again you can see how these compartments constantly tend to flow together.

65 PASTIME KNOWLEDGE

The fourth category is assigned to what Machlup calls pastime knowledge. We all read at one time or another for pastime, for pure entertainment, aesthetic enjoyment. I have friends who are mathematicians, and who read abstract mathematical treatises as a pastime. Certainly, for me at least, such reading would be intellectual knowledge if I

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knowledge and the interrelatedness of the total knowledge system itself.

7 Modes of Formation of Subjects

Well, where does this bring us? I have done nothing here, just as I said I would, at the very beginning, but raise questions.

There is one other approach that I think we should use before our lecture time runs out, and that is, to pay some attention to the morphology of knowledge growth. Here again, I must refer to my good friend Dr Ranganathan, because it seems to me that he has carried analysis in this area farther than anyone else. I wish he would carry it still further before he retires entirely from the field. But I think his—I do not need to spell this out for you folks who are quite as familiar with it as I—four forms of the morphology of knowledge-growth—denudation, dissection, lamination, and loose assemblage—are a very important contribution to our understanding of knowledge. I think that I would almost rank them as his most important intellectual contribution to the underlying philosophy of librarianship. Perhaps he would regard them as, not the most important, but certainly they are among the most important. As for myself, when I first encountered them as a relatively young man, I was very impressed, for I saw them as a really sincere attempt, and in many ways, a very

successful attempt, to determine how knowledge grows, how it is augmented. It still is necessarily, and must be, in rather philosophical terms, but it gives us some very important insight, I think, into this very obscure problem of the nature of knowledge.

8 Sociology of Knowledge

81 IN RELATION TO SOCIAL EPISTEMOLOGY

Finally, I want to say a few words about the sociology of knowledge in relation to social epistemology. We have heard a lot about the sociology of knowledge. Social epistemology, in the sense that I have used it here, is almost the reverse of the sociology of knowledge. The sociology of knowledge deals with the impact of the social fabric upon ideas. The cultural anthropologists have paid a great deal of attention to this; so have the historians of science. How knowledge has been influenced by social ideas, social facts; the conditioning of knowledge, in other words, by society is the substance of the sociology of knowledge. The social history of art as well as the growth of science are examples of this discipline. How is the value system of society filtered out in the transcript of the culture, as Boulding would say? Social epistemology is almost the reverse: it deals with the impact of knowledge upon society—not the influence of society upon knowledge, but the influence of knowledge upon so-

effective management of the transcript, to use Boulding's phrase, the graphic records of all that society knows about itself and the world in which the self lives. His responsibility includes that which the social organism has learnt, its values as well as its facts, its imagery as well as its reality. The librarian is at once historical, contemporary, and anticipatory. Thus he can carry out his social responsibilities with maximum effectiveness only when he understands the cognitive process in society as well as in the individual, and can translate that understanding into service. I submit that this is the real intellectual foundation of librarianship and once we have made some headway, some progress, in developing this discipline, which I have here envisaged, we will not need to worry any longer about whether or not there is a library science. Certainly we will not need to apologise for the activities in which we are engaged.

9 Suggested Readings

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- 2 BOULDING (Kenneth). *Image*. Ann Arbor; University of Michigan Press. 1956.
- 3 CASSIRER (Ernst). *Problem of knowledge*. New Haven; Yale University Press. 1950.
- 4 CHILDS (V G). *Society and knowledge*. New York; Harper. 1956.

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ciety. We are concerned, of course, with a complex phenomenon, one that is very imperfectly understood and very difficult to isolate. But I thought I must say a few words, as we draw near the close of this lecture, about the difference between the sociology of knowledge and socio-epistemology. The distinction is important; it is very easy, because of the similarity of the terms, to confuse the two and I would not want any of you to leave here thinking that this new discipline has already been encompassed in the field of the sociology of knowledge. It is not. We are talking about the other side of the coin entirely.

82 SOCIAL EPISTEMOLOGY AND LIBRARIANSHIP

Finally, what is the relation of social epistemology to librarianship? We have said much about the science of librarianship, and there has been much debate as to whether or not there is a science of librarianship. Is librarianship after all a science? The question is really not 'Is librarianship a science', but what kind of science librarianship is. This is, I think, a fundamental point. I submit here that social epistemology can give librarianship, — and we shall talk more about this in the final lecture, when we talk about library education, — that social epistemology can give librarianship its intellectual foundation for which we have been searching for so long.

The librarian's responsibility is the efficient and

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- 13 POPPER (Karl R). *Conjectures and refutations; The growth of scientific knowledge*. London; Routledge and Kegan Paul. 1963.
- 14 RANGANATHAN (S R). *Colon classification and its approach to documentation*. Shera (J H) and Egan (Margaret E), *Ed.* *Bibliographical organization*. 1951. P. 94 to 105
- 15 ---. *Prolegomena to library classification*. *Ed* 3. Bombay; Asia Publishing House. 1967. Part P.
- 16 SHERA (J H). *Documentation and the organization of knowledge*. London; Crosby Lockwood. 1965.
- 17 ---. *Libraries and the organization of knowledge*. London; Crosby Lockwood. 1966.
- 18 WOOD (Ledger). *Analysis of knowledge*. London; Allen and Unwin. 1940.

CHAPTER G

TRANSITION AND CHANGE

I Change

11 KINDS OF CHANGE

It is quite obvious, I think, that librarianship is now experiencing a period of rather drastic changes, and in this lecture, it is the nature of this change which I want to examine. Any change in society, if it is at all extensive, results in a measure of dislocation, and it is easy to view such change as a series of hostile acts, which destroy the little comfortable world with which we are all so familiar, by substituting for it a world in which we feel alone and afraid. These changes — and this is true of librarianship — can be both physical and intellectual; they can apply to the tearing down of old buildings, or at least the re-modelling of old buildings, or the obliteration of old intellectual boundaries. The problem of change then, as Elting Morison points out in his stimulating volume on *Men, machines, and modern times*, is to shorten, as much as possible, this period of *sturm und drang*, to bring the realities of change into operation as quickly and smoothly as possible, so that this period of transition, this period of great unhappiness, is kept to a