Response: Creating the Conditions for Change*

Before I respond to a paper you haven't heard or read, I want to categorize some of the concepts of change that have been discussed here, and to try to apply those to the processes of library activity. After that I will say a few words about the processes themselves. First, we can categorize those concepts which are available now. Many of them involve quickening the speed of response; for example, automation activities and the computer-assisted instruction of PLATO are all a part of the quest for efficiency. These might be called examples of "quick change." There is also a group we could call "small change." These are no-growth alternatives, the alternatives of lifestyles. The effects of automation on organization, for example, will result, I believe, in smaller organizations and units, and those effects would be a "small change." We also have "loose change" — the concepts which we know will affect librarianship and us, but we are not sure how. We know they exist, and can see changes occurring in society, yet just how they will affect the library is still unclear — although the fact that they will affect is not at all unclear. Concepts such as "women in society," the "end of our present hydrocarbon age," and "changing attitudes toward work" are all examples of "loose change."

All of us have to live within this changing society, and changing institutions, including changing libraries, are condemned to it. When our sociological models, which Ely will discuss, are relatively rational planning processes and systems which can be plotted through the identification, planning,

* As an example of "experimental change" arranged by the chairman of this final session of the institute, the response was presented before the concluding, prepared paper.
and processing of the change, the resulting decision-making (at least some of it) will seem rational. Ely will present graphs showing relatively neat sociological diagrams of how this works; but I suggest that many of the things that we in libraries are most worried about are not so neat at all. They are, in fact, more likely to be akin to those discussed in recent studies on earthquakes and other natural disasters, phenomena which can have tremendous effects and produce enormous changes. Those changes, however, are not the result of rational or quasi-rational decision-making that takes place in implemented and planned change. It should be noted that, after the fact, change can be diagrammed as if it were planned, whereas at the time of the change, such neatness simply did not exist.

The effects of change on the family, as we learned from earlier discussion, seemed to develop through a long, slow process of approximately 200 years, during which there was a shift from village economy and life to urban life. Remember, however, that the Black Death in Europe, in a space of two or three years, speeded up that process enormously. One fortuitous accident of the plague, i.e. depletion of the labor force, probably hastened the development of coinage for purposes other than taxation and international trade. When workers began to be employed for pay, labor was no longer dealt with as a responsibility or as a barterable commodity. Thus, we see that some enormous changes occur accidentally, and while they are within a generally rational framework, they do not follow a rational decision-making system. Sometimes the causes are political, e.g., the Enclosure Laws; sometimes they are technological, e.g., the inventions of the spinning jenny and the steam engine; and sometimes they are sociological, e.g., the rise of fascism. These phenomena produce something like a starburst of change, occurring in almost a circle around the center. The parallels to "catastrophe" are obvious.

Sometimes the results are only minicatastrophes; they don't have to be outrageous or world-shaking events. For instance, if the legislature or the city council suddenly cuts the library's budget, the resulting minicatastrophe will produce a series of changes not planned for, since there was no time to do any planning. Nor are planning committees useful at this point. The situation must be dealt with immediately. I was talking to a gentleman today who had lost a significant portion of his audiovisual collection in a fire on a delivery truck. Suddenly, he had to respond to a catastrophic occurrence and the normal pattern of preparing for change was useless. The creation of OCLC, or its sudden failure, are types of sudden changes that simply don't follow patterns. I suggest that this kind of change, about which we are most likely to be worried, will probably best be understood in light of the research now underway on earthquakes and other natural disasters.
In his presentation, Ely will discuss Elizabeth Stone's list of priority items for change drawn from a survey in 1973. At the time of that survey, a representative sample of librarians felt that the greatest need was for continuing education. That list posits a library that is essentially like any other library, but only slightly different. It assumes the same fundamental structure of libraries, which is wrong.

Let us now try to apply beforehand the six seemingly necessary prerequisites for change which Ely will present: (1) dissatisfaction with the present situation; (2) the librarian's knowledge about possible innovations and possession of the skills to implement them; (3) commitment by all persons involved; (4) resources to do the job (I'm including time as a resource; Ely talks about it as a separate item); (5) reward for the effort; and (6) leadership. Apply these prerequisites to "quick change"—change which is available now in such forms and concepts as the PLATO system and "information as power," which are associated with efficiency. I think that we all generally agree that there is dissatisfaction with present instructional services. There is certainly a high level of agreement that the instructional role of the library is not meeting the needs expressed by our clientele, and that this lack is producing dissatisfaction. Sometimes that dissatisfaction is a result of not having enough people. We wouldn't have to use PLATO, for instance, if only we had seventeen more undergraduate assistants to help out with those tours we all worry about. Viewed in this way, it is a question of alternatives, of various possible methods for meeting a need. It is evident from the PLATO demonstration you saw earlier that PLATO interactive instruction is probably far more efficacious than any guided tour, because we simply cannot afford one librarian for every student or teacher. We must face therefore the realization that a one-to-one alternative is not the solution.

On the concept of information as power, there is not as much agreement. Whenever a librarian says, "I can't get the board (the university administration, the city council, or the state legislature) to fund a new information service," it becomes clear that the idea that information is power is not generally accepted outside the library world. Nevertheless, I think that a change is going to occur, and that in some cases, the question of dissatisfaction may be not a perceptual problem but a real one. There may truly be an unmet need whether or not anyone on the board, in the city council, or in the university administration perceives it. When someone demonstrates the need, however, a change may well occur.

Regarding small change, I am not sure that the dissatisfaction question is a real one, or is one that will effect change. Some changes will occur because of the structure. It seems unlikely, for instance, that when decentralized automated circulation, cataloging, acquisitions, and even reference (as in
some information retrieval or current awareness services) are provided, one can avoid the restructuring of the libraries involved. Library staffs seem to be growing, yet we know that groups larger than about twelve cannot work together efficiently. For every group of twelve people in the system there should be a unit head — and that may be too high a price to pay. Librarians know that this kind of administrative overhead is enormous. At the same time, we see that people want to go backpacking or live a simpler life, and we see economic and technical forces also pushing for smaller units. Thus, restructuring may be forced on us not only by economics, but by the energy situation and/or by change in the whole lifestyle. This combination of ability and desire (which may be the same as dissatisfaction with the present situation) is also forcing change; that combination may indeed be the first rule of change.

In discussing loose change, I have more difficulty applying the dissatisfaction criterion. I defined loose change as those concepts, activities and predispositions which will have an inevitable, but as yet an indeterminable, effect on the library. Certainly the changing world produces some dissatisfaction with the present situation — so change will happen. Current changing concepts of different work, different lifestyles, shared jobs, different approaches to life’s game, should not bother us, however. As we change, so will our communities; complaints and pressures from this changing clientele will also change. If we are like our clientele (which we should be), then the drives and the changes occurring within us should be occurring within them and will more or less correspond.

The second prerequisite for change is the librarian’s knowledge about possible innovations and the possession of the skills to implement them. This precondition again assumes a rational change — a change to MBO, a change from typed cards to keysort, a change of rules in the catalog, of vendors in acquisition, in bibliographic abilities, and changes which are relatively minor. Such change is a slow process. If we identify dissatisfaction, we can probably also identify those measures which will cure or alleviate the dissatisfaction without having to be experts in the techniques. It isn’t necessary to know how an internal combustion engine works to be a fairly good driver. But there is a needed commitment by all persons involved, although that commitment can be passive to the method of change. We must agree on the solution, but not necessarily on the process.

It is absolutely true that the resources must be provided. The problem that children’s librarians have in integrating children into the rest of society — into the same reference service, the same guidance service, the same collections, and the like — is one example. It is not just a question of providing funds with the implication of more funds; it may be a question of reallo-
cation both of funds and, certainly, of time. Even when you don't have a choice, you must respond. A response had to be made to that delivery truck fire, a response must be made to a budget change, and a response will surely be made to the energy crisis.

There must be some reward for effort, and the obvious reward is survival. The bureaucracies that we work in have the same drive for survival as we ourselves have. The problems associated with change when people do not see the results as being good may be considerable. People may not see that there is a reward. It is in this area that we are going to have some of the great conflicts in library work: between large groups and small. The final prerequisite is that there must be leadership, and here all of us have a responsibility. I suspect we will lead when necessary, not because we are all so enamored of change, but because we, too, want to survive.

Ely finishes his paper by pointing out that life has changed and that we don't have the time to reflect on it. We are now geared toward jet aircraft and computers. I would suggest that we in the information business, in the communications enterprise, are probably less affected by jets and computers than other people are, even though we may use jets and computers, and use them constantly.

The real model-setter for us is the telephone, as unpleasant a thought as that may be. It is probably, in most of our patrons' minds, the obvious, efficient, useful, cheap application of new technology—the effective communication device. One picks up the telephone, and within one or two seconds hears a dial tone. That tells the person the system is working. (We do not have that kind of response in the library!) It then takes only some twelve seconds to dial, and one knows from clues all along whether the system is working; if it doesn't work, the person hangs up within four to eight seconds. That is the extraordinary response time that we all expect. (We are not matching it in libraries!) The telephone system is extremely accurate. If we get a wrong number, we assume right away that it is our fault, not the system's fault, and that is an extraordinary admission. The company produces a catalog once a year that is quite efficient as a system for indexing. (By the way, if Bell ever gets approval for charges for directory assistance and for information, I suspect that libraries can start charging at the reference desk.) Society uses the telephone system as a model so much so that it is, in fact, going to make or break us. Living with the model of "Ma Bell" may be an annoying or scary idea, but I think it is true.

Ely's paper expresses some ideas about external and internal forces for change. I will leave you with the idea that some of the concepts discussed at this institute have been external, e.g., the community information idea, aging, the demography change, the demand for accountability, and perhaps chang-
ing continuing education. There are, however, also some internal forces: the children's library problem, internal automation, efficiency, and the like.

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Creating the Conditions for Change

We must dispose of the notion that social change is a process that alters a tranquil status quo. Today there is no tranquility to alter. Given the swift transformations in our world, even institutions that are fairly young, as history goes, find themselves woefully out of date. The rush of change brings a kind of instant antiquity.1

Humanity has always lived in a time of change, but in the past 70 years the conditions of life have been altered more than in all of the previous 2,000 years. The only constant seems to be change itself.

Today we are living through a change in the human scene that challenges the ideas and the activities which we have inherited from the past. The transformations of our natural environment, the relationships among people, the new technologies, and the apparently inverted value systems call for new ways of coping with the changes that are about us.

The unsettled time in which we live has been brought about by a variety of new developments, some of which can be isolated as the causal factor; consider, for example, the population explosion; the pollution of air, land and water; the demand for energy, computers and automation; and the
rising expectations of people. All these contemporary concerns press upon us, and we often find ourselves unable or unwilling to cope with them.

Changes will occur, and to resent them makes us less able to make the necessary adaptations. If the prospect of change fills us with anxiety, the least we can do is to analyze the situation, determine the worst that can happen, and try to improve upon that; or, better, we could estimate the best that might happen and try to enhance the factors that will help to bring about the best results. The anxious person will run away from change with the hope that it will disappear. This is clearly a time of coping, not retreating; it is a time for deliberate movement rather than passive response. The purpose of this paper is to consider the meaning of change, the process of change, and the conditions for facilitating change so that both the individual and the institution can emerge as proactive participants helping to create the future rather than being shaped by it.

THE MEANING OF CHANGE

Change is often synonymous with innovation because innovation infers change. In this paper these terms will be used somewhat differently. "An innovation is an idea, practice, or object perceived as new by an individual."2 Acceptance or adoption of an innovation usually demands some type of change. It is possible for an innovation to exist apart from an individual or institution, but as soon as that individual or institution attempts to adopt or adapt the innovation, the process of change occurs: "This view of innovation as a process starting with the recognition of a potential demand for, and technical feasibility of, an item and ending with its widespread utilization is perhaps the broadest use of the term innovation in the existing literature. It blends the idea of invention with that of adoption."3

There has been what Rogers calls a "proinnovation bias."4 This bias assumes that innovation is good and that everyone should adopt the new ideas or practice. Rejection, in this context, is an undesirable or irrational decision. This attitude persists as a residue from the earliest diffusion research which was concerned about the adoption of hybrid corn by farmers. It is no longer adequate.

Many innovations do not have universal usefulness. Some may be appropriate for certain individuals or organizations at some point in time but not for others. Neither stability nor change has any intrinsic value. The worth of stability is in the goodness it preserves, while the worth of change is in the goodness it brings about.

For good or for ill, change is about us. It creates a disequilibrium, a dissonance, a division between what is and what ought to be. One simple an-
swer to the dilemmas presented by change is to try to understand the process. We need to study the process of innovation and change so that we can use the principles to our advantage.

THE PROCESS OF CHANGE

The process of change is at once a simple and a complex concept. The simple dimension presents change in the guise of conventional wisdom. A new idea is presented, considered, and rejected or adopted. The complex dimension portrays change as multidimensional, a process in which an innovation "is communicated through certain channels, over time, among the members of a social system." This view considers such variables as decision processes, stages of implementation, control, resistance to innovation, characteristics of persons and organizations, feedback mechanisms, and other elements. This "soft" area of social science research is difficult to discuss in simple, empirically-based paradigms. Nevertheless, as an elusive area of research, it challenges a small but diligent group of researchers from sociology, anthropology, education, communication, marketing, and other disciplines to seek a more comprehensive understanding of the process.

The Research Tradition

Over the past thirty-five years, increasing attention has been given to the process of bringing about change in individuals and organizations. Empirical research has centered on the introduction of innovations, with the adoption of an innovation being the dependent variable. Within this context, three categories of investigation have emerged, i.e. those concerned with characteristics of: (1) adopters (such as age, status, or attitude); (2) innovations (such as relative advantage or observability); and (3) the change process (such as communications, decision-making) or techniques of introducing innovations. A guiding assumption of these investigations has been that change is needed or desirable, and further, that to identify its correlation, to predict outcomes, and eventually to understand and control change will make the process more expeditious. This process is called planned change, to distinguish it from random or chance change.

A Model of the Process

Several models of the innovation/change process have been posited. Some models focus on change in the individual, while others are concerned
with change within an organization. One way of relating the individual to
the organization and to the larger society is to consider individuals as dis-
crete entities, randomly distributed. When those individuals are brought
together, however, institutional groupings emerge, e.g., families, schools,
businesses, churches, and the like (see Figure 1). Many of these institutional
ties overlap. All of these institutions, which are congeries of people, are
elements of a larger society of which all institutions are a part. Change may
be brought about by forces external to the individual, e.g., from the organiza-
tion or the larger society, or they may emerge from individuals who then
affect the institution and perhaps the larger society. Examples of the external
forces might be the increasing mass of information and the pervasive nature
of computers. On the other hand, internal forces might be exerted by leaders
in response to external forces or through creative inventions which arise
from an individual without regard to external forces. The recent presidential
election might be an example of external forces providing an external stim-
ulus to which the new president must respond. During the campaign he did
not spell out how his proposals would be carried out, but now he must. An
example of internal forces might be observed in the work of John Cage or
Charles Ives in music or in Frank Lloyd Wright's work in architecture.

One good example of a change model oriented to individuals was de-
developed by Rogers and Shoemaker (see Figure 2). Organizational change
and innovation is summarized in a comprehensive model developed by Zalt-
man, Duncan and Holbek (see Figure 3). Regardless of which model is most
helpful in understanding the process of change, the point to remember is
that change is a process. One flaw in thinking about change is to consider
change as final rather than continuing, i.e. to believe that the latest change
is the last change.

A useful summary of the topology of innovation is offered by Zaltman
in which three dimensions are considered (see Figure 4). The various types
of innovation are not mutually exclusive, but certain combinations are more
likely to come about than others: "Programmed innovations are usually
routine innovations, whereas nonprogrammed innovations, particularly of
the distress variety, often appear as relatively radical innovations because
they tend to produce changes in the subsystems of the organization."?

The paradigms above help to illustrate the process in general, but inno-
vation and change cannot be usefully considered in the abstract because
innovations are situation specific. The full power of the change models and
the generalizations from the research can only be demonstrated when they
are superimposed on actual cases. Hagen indicates that there is no such thing
as an innovation in the abstract. It must rather be in a specific field, involv-
ing specific materials and relationships among people.
Figure 1. The Relationship of the Individual to the Organization and Society
Figure 2. An Individual-Oriented Model of the Change Process
Figure 3. A Model of Organizational Change and Innovation
Figure 4. Combinations of Types of Innovation
CHANGING TIMES, CHANGING LIBRARIES

This conference is considering social change in the next twenty-five years and the impact of that change on libraries. By entertaining these future projections and estimating the potential changes which might stem from them, you are taking the first step in helping to create the future in which you want to live and work. Lest you have to wait twenty-five years to put into practice what we know about coping with innovation and change, let us consider some of the innovations which have already raised the anxieties of librarians across this nation and use these innovations as specific examples of changes which are occurring and will continue to occur. Although they may not be as much on the frontier as some of the projections you have heard, they fit the generic definition for innovations—an idea, practice, or object perceived as new by an individual.

In 1974 Elizabeth Stone published a report on Continuing Library and Information Science Education for the National Commission on Libraries and Information Science. In that report she summarized a study she had conducted earlier regarding continuing education content areas that had the highest priority for practicing librarians for the next three to five years. (Since the study was conducted in 1973, the 3-5 year period would end 1976-78.) While this is certainly not a long-range projection, it still serves as an indicator of needs. In priority order those needs are: human relations, nonprint media, management, automation, and public relations. From these needs may be inferred several innovations and changes which the library is facing and will continue to face in the immediate future. The growing use of nonprint media in the public library and the increasing influence of a wide variety of computer-based information systems are being viewed as major innovations in the library. The management procedures—such as management by objectives (MBO), program budgeting, and cost-benefit analysis—are new to many library administrators. The human potential movement has introduced new approaches, such as transactional analysis and organization development, which have direct applications to human relationships in the library both among the staff and in serving clients. In the face of these innovations within the library context, there is often a fear of change—the necessity of leaving the not-entirely-satisfactory routines of the present and substituting for them the often hazardous decision-making activities of the future. Many persons dread the thought of insecurity, of reorganizing old habit patterns. Innovation is not uniformly relished.

The resistance factors must be noted and allotted for in any design for innovation and change. The innovations listed above are imminent. Librarians must ask how soon each innovation will occur and how library profes-
sionals can be prepared to cope with the changes which the innovation will demand. In other words, what are the conditions in which innovation and change can be facilitated with a minimum amount of anxiety? There are certain conditions which, if present, will enhance the potential of an innovation being accepted and change being brought about.

THE CONDITIONS OF CHANGE

Broadly speaking, there are two types of change which occur:

1. radical — those which require significant shifts of personnel, resources, and facilities such as a complete computer-based circulation control system or integration of the print and nonprint collections; and
2. routine — those which cause relatively small shifts in procedures, role definition, and management structures such as program budgeting.

While the major (or radical) changes are much more dramatic and, in the long run, provide the greatest hope for significant new developments in the field, they are much more complex to study than the routine changes. Substantial time and financial investment is necessary to study major changes — and this study clearly needs to be done. Routine changes, however, permit microstudies of the change process. By concentrating on minor changes in a programmatic research sense, a series of findings can be parlayed into a synergistic outcome. Once changes are understood in small proportions, the likelihood of generalizations being formulated for the larger problem is enhanced. Much of the medical research and market research in mass communications follows this procedure.

The conditions which apply to innovations in general can be applied to the library setting:

1. There must be dissatisfaction with the present situation. Another way of expressing the same condition is to say that there must be a need to change. If a librarian does not have a problem, innovation will seem irrelevant. Dissatisfaction can arise from such situations as assessment of staff productivity or perceptions of the quality of service rendered to clients. Dissatisfaction may be induced by an increasing amount of client demand or a shortage of resources.

2. A librarian must know about possible innovations and possess the skills to implement them. Unless a person knows about new approaches to human relations, it is unlikely that any action can take place. A librarian needs to solve his/her own problems on his/her own terms, but often has no idea how to proceed. Individuals must have the skills to develop innovative practices.
3. A commitment must be made by all persons involved. Psychological ownership of an innovation is important to the persons involved. If a librarian is going to spend part of his/her time in planning, preparing, and introducing an innovation, there must be a commitment to do so. Likewise, members of the staff must share the commitment if time and resources are to be made available. Related to this condition is the concept of critical mass. If only one person embarks on an innovative activity, no matter how committed, the likelihood of success is minimal; however, if one person is joined by one committed and knowledgeable colleague (preferably more), the likelihood of success is enhanced. In addition, if the library executive gives visible and tangible support, success is almost assured.

4. Resources must be provided. Support services vary depending upon the innovation, but there are generally two types of resources: human and material. Human resources include assistants, secretarial help and knowledgeable people — often external consultants who can help with the design, implementation and evaluation of the innovation. Material resources include such things as equipment, supplies and space.

5. Time must be made available. Perhaps time is a resource, and it does require a commitment, but several studies have shown this condition to be so important that it qualifies for separate citation. It is not realistic to expect a librarian to sacrifice personal time to develop innovations, but it is possible to allocate professional time to implement the new activity. Usually time has to come from reallocation of existing responsibilities.

6. There must be some reward for the effort. Rewards vary depending upon the value system of the librarian. It is sufficient for some to gain intrinsic satisfaction from perceptions of improvement of services resulting from planned change. For others, more tangible rewards are required. For example, the availability of time and/or resources previously unavailable might be a sufficient reward. Released time gives official recognition to the innovation and hence confers status on it. Extra help from additional staff, if necessary, might provide benefits. The resources and guidance of an empathetic consultant could help as well. The recognition, encouragement and visible acknowledgment of innovative effort by a board of trustees or administrative superiors is ego-building.

7. There must be leadership. Most successful innovations can be traced to a single person who has the vision, persistence, authority, and charisma to move people to action. Leadership is one of the essential conditions for change and must be exercised in an environment which possesses the other conditions. Strong leadership cannot transcend the need for resources, time and a reward system. No matter how kindly or inspired the
leader may be, a staff which possesses the necessary skills and commitment is necessary to carry through the innovation.

CONDITIONS WHICH HINDER CHANGE

In a comprehensive summary of the research literature, Mayhew outlines the characteristics which exemplify unsuccessful efforts to innovate in institutions of higher education. His ideas can be adapted for libraries:

1. Lack of relevant, persuasive evidence that innovations or changes produce results different from those obtained through more traditional ways is a significant deterrent.
2. The lack of a clearly expressed purpose or reason for an innovation or change may be a significant condition for failure.
3. If a given organizational system is overloaded with too many undertakings at one time, the chance for successful implementation and/or adoption of change decreases substantially.
4. Related to institutional hyperactivity is the problem of fatigue.
5. A possible condition for failure of many innovations is the lack of collective memory or actual history as to what has been tried before and to what effect.
6. Time and time again attempts to innovate appear to be affected seriously by personal relationships, personality peculiarities, or changes in personnel.
7. A major stimulus to innovation and change is the desire by institutions to satisfy their clientele. Libraries, if they are to survive as social institutions, must detect and respond to social needs, demands, pressures, and changes.

Knowledge of the conditions which facilitate and hinder change should be helpful in attempting to create an environment in which innovation and change can occur.

NEXT STEPS

"The rush of change brings a kind of instant antiquity." Gardner's observation is confirmed by the acceleration of all aspects of living. Life is not attuned to the old measurements: lifetimes, generations, years, seasons. It is geared to the speed of the jet aircraft and the computer. Every moment is filled with something that must be done. Futurists are not so concerned with the feasibility of invention, but with the rate of invention. The change of speed has taken us unaware. For hundreds of years before the beginning
of the nineteenth century, there had been no major acceleration of change; then came changes in the technology of distance that revolutionized travel and communication.

The speed of change has confronted the library with massive amounts of information. Coping with this change is the means to survival. The only alternative is flight from reality, which results in decay of all that has been gained over the past two centuries. We need to have not only eyes and ears to learn what is going on, but minds to understand what the consequences will be if we fail to act.

One simple answer is to understand the process of change, to help prepare the conditions for change to occur, and then to embrace those innovations which will help to provide information to those who need and seek it. To do less is to accept the dictation of uncontrolled events.

REFERENCES

5. Ibid., p. 3.
10. Ibid., p. 2-42.