

POTHoles IN THE INFORMATION SUPERHIGHWAY

And All of Its Technological Underpasses, Overpasses, and Side Roads:

Research to Find Fill

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For some time now, like most, if not all, of you, I have been caught up in the excitement of speculation about the "information superhighway" and all of the other technological developments being described in similarly glowing, metaphoric terms. Recently, though, spurred by my memories of the fate of many other communication developments that were heralded as saviors of mankind—educational television for example, I have started to think about some of the issues raised by these new technologies, including their downside and potential downside, and to speculate about the implications of these issues and problems for communication scholars and teachers. Although my speculations are still in a rather embryonic state, I want to share them with you in the hope that they might give you some ideas for important research that you might do; and also in the hope that you can help stimulate or advance my thinking.

So that you understand my biases in all of this, I should point out at the outset that they are the same biases that guide almost all of my thinking about communication scholarship. I lean toward scholarship that might help individual human beings gain maximum control over their lives. Thus, with the information superhighway and the related technological byways, I hope that we can discover ways in which society can shape them to be of maximum benefit to people. Where such shaping is impossible or insufficient, my fallback hope is that we can, at the minimum, help all of us understand these phenomena so that we can control their impact on us as individuals, control it in order to maximize gain or, at worst, minimize loss.

One other prefatory note. I mentioned before that my ideas on this topic are in a very embryonic state, some even more so than others. I need to add also that these ideas are quite disorganized at this point. So bear with me as I jump about from issue to issue, in no special order and, often, with no transition.

A New Metaphor

In order to frame in a useful way the possible problems and assets created by all of our available communication technologies, I would suggest that we need a better metaphor than the "information superhighway." Among other functions, we need a metaphor that serves to remind us constantly that, in addition to the new parts of the superhighway for information that is being constructed, there are a lot of old parts that are being integrated into it. There are also large and small side roads going off in all directions, criss-crossing each other and the superhighway, moving apart, coming back together, and then moving apart again. Some of these are toll roads; others are free, at least to members of some communities (including our academic communities). Some are more-or-less reserved for particular kinds of traffic; others welcome almost any sort of traffic. Some of these roads have different traffic rules and require different styles of driving. Almost all, though, welcome two-way traffic.

I have not yet been smart enough or inspired enough to come up with a metaphor for all of this that I find satisfying. I thought about a "spider web" of networks, but that conjures up greater regularity than we want and does not suggest the constant movement of information in all directions, although it does suggest the way some of us are attracted by all of these new gadgets and then find ourselves trapped in their webs. G. J. Mulgan (1991, p. 1) uses the metaphor "lattice of networks" to refer to these phenomena. The complex of neural networks in the brain may be a more heuristic analogy of this complex of channels on our horizon. Information certainly moves in all directions in the brain, we have networks there with specialized functions, and some of us are less skillful than others at utilizing those functions. Just as we are often unable to make the proper connections to solve mental problems,

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we are often unable to make the proper connections to make full use of the new technologies. In fact, some of us are still having problems with the old technologies. (I am constantly reminded by my wife, for example, that I do not yet know how to navigate our VCR so it will record programs we want while we are not home.)

Perhaps, rather than insisting on one best metaphor, we ought to adopt an array of metaphors because each one stimulates us to think of different research problems and different theoretical ideas, as well as different things we ought to teach. This notion of multiple metaphors is certainly consistent with the currently popular notion of multiple perspectives.

Even the "information superhighway" metaphor is useful in this way to some degree. It reminds us that traffic is heavier at some times than others and that an accident at one spot can bring traffic to a halt over great distances and for substantial spans of time. That suggests a need to study ways to spread the traffic out fairly evenly over all hours of the day and night to reduce the need for more roads or for widening existing roads. The possibility of traffic tie-ups suggests the need to develop alternative routes between every pair of interactive points.

Policy research is needed on each of these issues. Someone needs to work out a logic for determining the point at which redundant or wider paths cost more than the potential inconvenience of a traffic tie-up can justify. There is a variety of methods by which one can spread the traffic more evenly on this cobweb of networks. One can simply allot different times for different uses. One can also impose differential charges, with the cheapest being the "off hours" when there is relatively little demand. Many campus computer systems already have this sort of pricing structure.

Control Systems

What I am referring to with these last few comments are some new control systems. One of the many contributions that communication scholars can make to the good workings of the latticework of communication networks is to develop fresh ideas for such control systems. This is important because the types of control systems will, in large part, determine who benefits most and who benefits least from these new technologies, as well as the kinds of benefits that are likely.

There are many dimensions of the control issue. The ones most people caught up in the neural network are concerned about are systems for controlling access to users, for controlling what information is available through these networks and what information is not, who the information is available to, under what conditions it is available, the form in which it is available, and so forth. All of these dimensions are related, in one way or another, to controlling or shaping the network of networks to make it do what we want—or what someone wants. The ideal here is

to develop that lattice-work of networks in such a way that every user can shape it to his or her needs.

Quite a different dimension of control is the control that this lattice-work exerts on us. Clearly, the kind of information we get and the form in which we get it potentially shape our social institutions, our behaviors, our views of the world.

We communication scholars ought to be equipped to study and develop policy recommendations on the former dimensions of control. That is, we should be able to examine the effects of such systems of control as censorship, copyright, editing rules, privacy laws, access rules, government vs commercial control, and other forms of controlling content and use of the networks and then we should be able to develop policy recommendations on each of these systems that will optimize communication.

Some of us, as well as scholars from other fields, also need to study and theorize that second dimension of control—the control or effect of these new technologies on people and on institutions. This is obviously an extremely important line of research that needs attention.

One aspect of our new communication environment that is both wonderful and terrible at the same time is the almost infinite set of choices that it gives us. An unbelievable and wonderful array and amount of information is available on the internet alone, to say nothing of all of our other media. The "terrible" part comes in finding what you want when you want or need it and avoiding the time-wasting drudgery of sifting through everything you have no use for or interest in. Because, until recent years, we had a limited number of communication channels available, it was necessary to have traffic cops—individuals who made decisions about what information and entertainment was made available to us—what got into television, into our journals and newspapers, on our movie screens. Everything else was edited out. Most of us never fully appreciated the service that newspaper, journal, broadcasting, and book editors provided all of these years, weeding out the bad, the irrelevant, the excesses, so that our task of gaining familiarity with some of the important news events and better entertainments was made doable. To a great extent, that editing function is being eliminated on the neural-like network of information channels being developed. Since there is room for everything, nothing needs to be edited out. If something is overly redundant, too wordy, or just worthless, what's the difference? Let it get on the line because it is not going to keep anything else off.

Needless to say, this lack of editorial services is a serious problem that is only going to become worse. Even if we would like to return to the old days of the trusty editor, it is not possible to go back. This is a major communication problem. Do we who presume to be experts in communication matters have an answer? I suspect we do not. At this point, I am not even sure we can agree on what the

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question is. So I would suggest that we give serious thought to this matter and try to conceptualize the key questions and the means by which to seek their answers so we can navigate that information superhighway and all of its byways safely and get to where we want to go in a reasonable span of time. This, again, means some type of control system.

Yet another dimension of control is the control of what comes into our homes, our communities, even our countries. One of the results of such relatively new communication technologies as satellites, videotape, and electronic bulletin boards, is that countries, cultures, communities, even families are having greater difficulty controlling the flow of images, information, and ideas coming into their domain that are contrary to their values, their religions, their tastes, their preferences, or their cultures. Pornographers, for example, have recently been reaching children through electronic bulletin boards. Advertisers are reaching us through the fax machines that we thought were immune to such invasion. Advertisers are also horning in on some of the electronic bulletin boards that were set up for non-commercial purposes. And our privacy is being invaded more and more through our telephones as we are attacked by mass marketers and solicitors for our money, votes, and opinions—attacks that generally come just as we sit down to dinner. Whatever one's position on the "free marketplace," this ever-more-forceful thrusting of images and messages through our sensory systems demands policy studies. To what extent and in what areas, if any, are these breakdowns of our defenses against certain kinds of communication a problem? In light of the answers to that question, what useful policies might be adopted by countries, communities, families and individuals to minimize, if not alleviate, these problems? Are there implications here for education? If so, what are they and what should we do about them in our schools and families? The old controls designed to "protect" societies, cultures, communities, families, or individuals from certain kinds of information are decreasingly effective. So what are we going to put in their place? There must be ways to control at least part of these invasions, and we need to discover what those ways are before all of us are driven crazy.

The Old Order Amish in this country have probably come closer than any of the rest of us to blocking out information and entertainment that conflict with their beliefs: they simply ban such devices as television and radio receivers, computers, and even telephones from their homes. But even this extreme action is not totally effective in isolating the Amish from all potential outside influence. (The analogy is the set of parents who did not permit their child to watch television because they wanted to shield him from the effects of violent programs. But they could not shield him from the young television fan who brought a gun to school.)

When even the extreme tactic of the Amish is not completely successful at controlling information flow, it is clear that we who will not accept such a tactic will not be able to block out all that we would like to. Therefore, we need to find ways to turn those invasions to our advantage or, at least, to minimize their disadvantages. As just one example of what we might do, I would suggest that, since we are not going to be able to block what enters our children's heads—or the heads of others—we study methods of helping our children and others process that information in productive ways. I am thinking here, for example, of the good work that has been done in some schools on teaching children to analyze advertising. There are obviously many other kinds of communication they must be able to analyze also, including situation comedies and cop shows, Donohue and Geraldo, and even the news.

One of the new developments that has great potential for instruction, and especially instruction in the media, is the combination of computer and video technology that makes it practical and easy to put either still or moving visual images together with text on a CD-ROM that can be played back through a computer. e.g., we can combine critical commentary with bits of a television program—or more than one television program—to help students learn to do critical analyses. Students can even add their critical commentary to the disc that can later be reviewed and discussed by an instructor or class. (For examples of this technique, see Huntley, Easley, & Serderdahl, 1994). All of this is wonderful, but there is a substantial problem with this potentially revolutionary teaching aid though. It's the same problem we have when we build, for classroom use, a collection of television programs or motion pictures that we have taped off the air. I'm talking about copyright, of course. Our copyright law, as presently written and interpreted, poses serious enough problems when we tape and use complete films or programs for our classes with no manipulation. However, the problems are far greater when we use those films or programs as raw materials for the creation of totally new multi-media productions, even if we do not plan to sell or give copies of the productions to other teachers.

Some attempts have been made to develop some policies to which both academics and copyright owners can agree that will resolve this problem. So far, though, such agreement has eluded us. I suggest that the reason for that failure is that everyone has been thinking about the problem in terms of concepts such as "fair use" that were developed in copyright law when we were worrying solely about books and other printed materials that were published for profit. It is rather like scholars trying to explain visual communication in terms of concepts borrowed from languages—concepts such as grammar and syntax. That approach to explaining motion pictures and television has proved fruitless. I would suggest that attempting to build a solution to the conflicting needs of authors, publishers,

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and producers on one side and contemporary teachers and creators of multi-media materials on the other using the concept of "fair use" as a model is going to be equally futile. We are not going to get anywhere until we re-conceive the problem.

Although I have not yet been smart enough to develop an adequate re-conception, I think I can suggest some necessary criteria for this new conception. For one, it must take into account the requirement that those who create and distribute information and entertainment make a profit. (I realize this notion disturbs those of our colleagues who rail against our capitalist system. But it seems to me that poets, documentary makers, television and film producers, even textbook writers need to make a living, just as plumbers, electricians, and teachers do. Perhaps more to the point, our capitalist system is not going to be overthrown in our lifetimes, so we need to find a way to work in the world that exists, not just in some unachievable Utopia.)

A second criterion for a new conception to replace "fair use" is that it take into account the fact that those who use those television programs and films, poems and novels, newspapers and magazines, are also often motivated by the need to make a living.

A third criterion is that the conception take into account the fact that the notion of an "original" work is probably an illusion. Any work of art, entertainment, or information is, in one way or another, derivative of other works. (Lionel Trilling put this point somewhat more bluntly when he said that "immature artists imitate; mature artists steal.")

Given those criteria, rather than conceiving of works of art, entertainment, and information as static objects that are sources of income for their original creators or distributors, we might reconceive them as regularly, evolving objects, with everyone who is responsible for each evolution having the right to some of the income for that evolved work and, at the same time, making possible an additional source of income for those responsible for earlier forms of the work. The further the evolved work gets from an earlier stage of evolution, the less the rights of the person or persons responsible for that earlier stage.

I am not proposing this as the solution to our present copyright problems. I am, rather, simply suggesting this as an example of what I mean by a reconceptualization of copyright that might be better adapted to the contemporary and future worlds of communication.

I have noted here quite a range of control or regulatory issues, many of them involving government regulation. And these are just a small sample of those I hope some of you will think about because they could benefit from some of the ideas of communication scholars. I would be remiss here, though, if I did not take note of the fact that the race toward deregulation of all communication media in this and other countries may have so much momentum that it

cannot be stopped, or even re-directed a bit. There are two related claims that are propelling deregulation. One is that when no shortage of communication channels exists, regulation is unnecessary; the other is that the marketplace is a better regulator than the government if one's concern is the public interest. Both of those claims need addressing. In addition, we need to fully explore, to the extent that we can, the probable effects of the practices that are occurring as regulation dies. The merger of telephone, cable, and video production companies—what economists label "vertical integration"—may be one of the most important of those practices and, hence, one of those for which study is most urgent. Such mergers centralize the control of both production and distribution, so we ought to learn the probable consequences on the kinds of information and entertainment that centralization brings about.

Although I have touched on them in a variety of ways, it is important that we take specific cognizance of economic controls, and especially control by economic entities that have no national boundaries or allegiances. The international communication conglomerates seem to be steadily gaining power over the communication technologies that are available to us and the uses being made of those technologies. We need to understand, much better than we do at present, how that power is being exercised and the results of that exercise. We also need to discover means of counter-balancing that power. This is especially crucial because some of the counterbalances we have had in the past are being lost. It was not long ago that most governments exercised strong control over the development and use of public communication technologies. That is no longer the case. One of the more obvious examples here is the trend in non-commercial broadcasting. Throughout the world today, non-commercial broadcasting systems are slowly being silenced as governments reduce or eliminate their funding and leave it to advertising-dependent corporations to provide all broadcast services. (I do not need to remind this group that there are some political forces in this country that would love to eliminate our public broadcasting system.) We need to track these trends here, as well as in other countries, to note the changes in available broadcast services that accompany them.

For some decades we have argued the relative merits and demerits of control of communication technologies by government vs control by commercial interests vs control by a combination of government and commercial. We have assumed that those three choices exhaust the possibilities. Perhaps they do. On the other hand, perhaps they do not. I believe it might be valuable to devote at least some of our creative and other intellectual efforts to finding possible alternatives that have fewer drawbacks than either state or commercial control.

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Technology and Power

Related to these issues of control are a variety of researchable issues concerning power. As you are aware, if you have thought about the matter at all, technologies developed in the past that gave us some new and wider ranges of communication channels have reshaped power structures both intra- and inter- nationally. They have empowered some voices and classes of voices, while stilling other voices. This is a topic that we need to study prospectively as well as retrospectively.

We know from prior studies of national political communication the way broadcasting, and especially television, has essentially stilled the voice of the opposition party in the United States at times of crisis, giving great voice to the administration and supplanting the voice of the opposition party with the voice of the professional journalist. (e.g., see Gronbeck, 1994; Becker, 1961.) What of the future? Which voices will be amplified and which stilled by the rapidly increasing forms of computerized communication, the rapidly expanding number of video choices, or the marriages of large telephone companies with large cable companies and video production companies? Not only do we need to learn which voices will be amplified and which ones stilled, we need to understand the reasons for the amplification and deadening that take place. What is the role of economic forces? Government regulation? Normal human behaviors or tendencies?

One small example here is the new policy of many newspapers, radio and television networks, and even the White House to encourage electronic communication from their constituents. Since e-mail is easier for them to process than snail-mail or telephone calls, I suspect letters received electronically will get more attention—for example, will more likely be published by newspapers.

Assuming this is so, and we already have evidence that it is, it will result in a change in the kinds of people whose letters to the editor the public sees and, hence, the kinds of issues that are discussed in the letters to the editor section. Citizens who can not afford computers and modems, or citizens who have difficulty learning to communicate in these new ways, will find their voices stilled and, thus, their power reduced.

Optimizing Uses Of New Technologies

There are possibilities for communication research on extremely large problems related to our lattice-work of networks; as well as extremely small ones. I want to just touch on one of these in order to suggest the variety of studies that need to be done.

An issue that is becoming increasingly familiar concerns videoconferences. No one that I am aware of has done the kind of systematic study of them that is needed to develop policy on when videoconferences ought to be

used in the place of face-to-face conferences. We need to understand how the processes of discussion and decision-making differ between the videoconference and the face to face conference, or between both of those and an audio conference, e-mail conference, or perhaps even a snail-mail conference.

Privacy

One of the better-publicized problems that is accompanying the development of our neural network of communication networks is the protection of privacy. Although widely talked about, it is far from resolved. Here, too, communication scholars may be able to make a contribution by examining the needs for information being claimed, the needs for privacy being claimed, and proposing policies that will balance those "needs." To some extent, this means testing the claims on various sides and then developing and arguing for a policy based on those tests that will balance in some way societal, corporate, group, and individual needs. Think about the debate currently going on about whether individuals should have the right to use the new technology that would permit them to see the phone number of a caller before answering the phone, or that would permit them to block others from seeing their phone number when they make a call. This is a small-scale model of the larger debate. What are the needs and rights of individuals here? What are the needs and rights of government agencies, such as the police? What are the needs and rights of commercial agencies, such as telemarketers? What is the most appropriate balance of these varied needs and rights in the kind of society we want?

Politics

I want to turn now, for just a few minutes, to issues of politics. Since the early days of radio, and to some extent even earlier, scholars have been studying the functions of communication technologies in political processes and the effects of those functions on politics and government. Some have examined these issues quite generally; others have focussed on quite specific aspects of politics, such as the balance of power between the Congress and the President or, more generally, the Congress and the administration. The bulk of recent researchers in this area have concentrated on television and, to a lesser extent, radio and newspapers. Given the dramatic and ongoing changes in our media environment, there is a great deal of new research and theorizing to be done on these problems. We also need to rethink some of the taken-for-granted in past research. For example, a number of scholars in the eighties and nineties examined the ways media are used politically and the consequences of those uses on democratic processes. There is an underlying assumption in most of this literature that we agree on what "contemporary democracy" is or ought to be. However, I do not believe

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that we agree at all. Moreover, I think it would be extremely useful to re-think and re-theorize "democracy" in the light of contemporary societies and, especially, in the light of contemporary means of communication.

Related studies, or perhaps parts of that larger study, need to examine the uses being made of our newer forms of communication by political candidates and governments. For example, individuals can now e-mail either the President or Vice President and get a quick response. Many government reports are easily obtained via e-mail. During the last presidential campaign, key position papers from Mr. Clinton's camp were available to anyone by e-mail. After his election, you could even have applied for a job in his administration through e-mail.

But e-mail was not the only innovation we saw in 1992. What about the use of *Larry King Live*? That show, broadcast throughout the world on CNN, may have been the most important single communication medium in that campaign. If there is any truth in that at all, what are the implications for American politics and for the media? And what about Mr. Clinton's bypassing many of the traditional broadcast news conferences, turning instead to public forums in which purportedly "ordinary people" replace the professional journalists as the stand-ins for all the rest of us ordinary folks with questions about our candidates or our government? Our understanding of this form of campaigning and governing could benefit greatly from two kinds of investigation that communication scholars are particularly well prepared to do. For one, we need studies of the publics at whom those programs are aimed. How do different kinds of viewers construct those events? Do they "read" those public forums, for example, in different ways than they "read" press conferences? Even when the same questions are asked and the same answers given? Do they construct a different Bill Clinton from one than from the other? Do they construct different meanings for Clinton's ideas when they learn about them from a press conference than when they learn about them from a public forum or the *Larry King* show? We would assume so, given what we know about the effect of context on perception, but we do not know for certain. And we clearly do not know the kinds of influences those particular contextual differences have.

We also need scholars who can read those events—*Larry King Live*, the public television forums, the press conferences—as texts. Such readings should produce some levels of meaning that are not apparent to the casual followers of the campaign, levels of meaning that may be shaping our understandings in non-obvious ways.

Yet another kind of political study that needs doing is one I have mentioned before but, as yet, so far as I know, has not been tried. If there is one dominant characteristic of the contemporary political campaign—or almost any public activity or concern—it is its pervasiveness coupled with its discontinuity and incompleteness. That is, for the

vast majority of us, bits of the campaign are spread out in time and forms of communication. We in Iowa are already getting bits of the 1996 Republican campaign as presidential hopefuls like Bob Dole, Dan Quayle, and a great many others come steadily in to "test the waters." All of us, throughout the country, are getting the attacks on Bill Clinton the candidate. Over the next two years we are going to get a great many other bits of the campaign from our newspapers, television and radio stations, conversations with friends, mailings asking for money, e-mail, cable, magazines, billboards, political buttons and bumper stickers, and more.

The other aspect of what I have elsewhere labelled a "communication mosaic" is its incompleteness. There are always gaps in the story that each of us must fill in some way in order to make that story complete or coherent. Mason Williams, the musician and comedy writer, in a poem he wrote, came up with a different metaphor for this phenomenon. Speaking of television, he said, "it renders a pattern of ideas, full of holes, a doily for the mind." A doily for the mind. That is a good description of the patterns of ideas and information we find in our total communication environment, especially if we can conceive of a three-dimensional doily. One of the questions about this doily for which answers need to be sought is whether those holes in the doily are getting larger or smaller as we expand the number of communication channels. It seems logical that those holes should be decreasing as the number of channels of information is increasing. However, illogical as it may seem, there is some evidence that those holes are increasing, that, after a certain level or number of communication channels, the relationship between channels and holes turns negative for most individuals. That is, the more channels we get, the less complete the stories we get through that combination of channels we use. Empirical research is needed to test that claim; theoretical research is needed to explain it; and policy research is needed to tell us what to do about it.

Other Effects

I mentioned earlier the need for studies that might help us control the effects of the new communication technologies—or the combination of new and old technologies. There are some kinds of effects, though, that we may not want to control but that we still ought to try to understand. Let me mention just one or two.

I have been especially interested in the uses and effects of electronic mail. One of the reasons for my interest is that, for a long time, I was saddened by the decline in the art of letter-writing. In recent years, though, as I have seen the growing popularity of e-mail, I have been heartened because I see people beginning to communicate with each other once again with the written word. I hear from people through e-mail that I have not heard from in years—people who never would have written to me with

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an old-fashioned letter. Somehow, computer technology seems to have lowered their inhibitions—or perhaps it is the 32 cents they save. I also have a sense that it has changed the form of letters, made extremely short letters more acceptable, and speeded response time. All of these things are worth studying because of their effect on social structure. I think we also ought to look at what our increasing dependence on electronic correspondence is doing to the traces of our lives that get preserved for the historians of the next century or two. In the past, personal correspondence has been a rich source of data for historians; printed memoranda were often useful in many types of studies of organizational communication. Will there be comparable resources available by the next century, or will our electronic communications leave no trace? As the result of our new technologies, will there be new and different sources of historical information in the future? And what will be the impact of these losses and gains on the kinds of histories we construct and on future generations' understandings of the past?

Implications for Scholars/Teachers

Finally, for most, if not all, of us in this room today, perhaps the most important implication of the new technological developments in communication is the way they are changing the way we do our scholarly work. The revolution in our means of obtaining information, and especially the abstracting and indexing services, made possible by our electronic networks makes ours a new sort of occupation. I suspect it will change the kinds of problems on which many of us work, as well as the ways we go about attacking those problems, and how and what we teach about them. Our first task is to become thoroughly familiar with these new tools so we can gain maximum benefit from them. We should not stop there, though. We also ought to consider ways in which those tools ought to be redesigned to serve us better, as well as what additional useful tools ought to be developed that the new communication technologies make possible.

To put all that I have been saying, as well as the related points left unsaid, in a nutshell, this is an exciting time for communication scholars/teachers—at least for those communication scholars/teachers who are knowledgeable and sensitive to our changing communication environment. It is my hope for you and for our field that you are a part of that group.

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B. Aubrey Fisher served as a faculty member in the Department of Communication at the University of Utah from 1971 to 1986. He began his professional career as a high school teacher and radio announcer in South Dakota. After receiving his Masters and Ph.D. degrees from the University of Minnesota, he spent four years on the faculty at the University of Missouri. Professor Fisher was a prominent scholar in interpersonal communication and communication theory. His published work includes three books and more than 35 articles and book chapters. He was considered one of the most notable and influential

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The B. Aubrey Fisher Memorial Lecture was established by the Department of Communication in 1986 to recognize Professor Fisher's outstanding achievements and to provide a forum for presenting original research and theory in communication.

Samuel L. Becker

Samuel Becker is Distinguished Professor Emeritus of Communication Studies at the University of Iowa. He has also served as Chair of the Department of Communication Studies, Area Director for Broadcasting/Media Studies and Interim Director of Art and Art History since he began there in 1955.

Professor Becker holds three degrees from the University of Iowa; a B.A. in 1947, an M.A. in 1949, and a Ph.D. in 1953. Although his major field of study is communication theory, "catholic" best describes Sam Becker's philosophy of communication research. He once wrote, "The phenomena we want to study in this field are too diverse and the reasons for studying them too many and varied to make it possible — or even desirable — to have a single paradigm, problematic, or tradition." He has written eight books and over a hundred articles, monographs, and book chapters that reflect that philosophy. Professor Becker also has directed 58 Ph.D. dissertations, including professors Anderson

and Tiemens of the Department of Communication, University of Utah.

Professor Becker has received 10 Distinguished Professor and Service to Communication honors, including the Speech Communication Association Distinguished Service Award in 1989 and the B. Aubrey Fisher Distinguished Mentor Award from the International Communication Association in 1993.

As a member of virtually every major association in the communication field, Professor Becker has held a wide range of offices and chaired many interest divisions in each. He served as president of the Speech Communication Association and the American Association of University Professors, and was on the board of directors for the International Communication Association, the National Association of Educational Broadcasters and the Council of Communication Societies, to name just a few.



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