Parallel Content Analysis: Old Paradigms and New Proposals

W. Russell Neuman
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139


II. The Strategy of Parallel Content Analysis

III. Rethinking the Communications Effects Paradigm

A. The Limits of Experimental Research

B. The Limits of Survey Research

IV. Emerging Models for Communications Research

A. Beyond Attitudes

B. Beyond Direct Effects

V. Parallel Content Analysis

A. Common Elements in the New Research Perspectives

B. Parallel Content Analysis as a Strategy for Research

C. Some Exemplary Studies

D. Conclusion

References

280

I. INTRODUCTION: WEBER, LASWELL, LAZARSFELD, AND HOVLAND

At the peak of his powers in 1910, Max Weber addressed the first congress of the German Society of Sociology in Frankfurt. Weber, like many of the other seminal scholars in the emerging disciplines of sociology and political science, was centrally concerned with the evolution of social and cultural institutions. He had published studies of the interaction of religious culture

261
and social institutions and the evolution of bureaucratic authority, which became models of how such research ought to be conducted for generations of social scientists to come.

As he stood before the first organized gathering of this young field, he proposed a bold new cooperative research effort. This would be a critically important enterprise to draw together scholarship in the field and to demonstrate its relevance for current social and political issues. What did Weber propose? He called for a systematic study of the press and public opinion.

Gentlemen, the first subject deemed suitable by the Society for a poetry scientific treat- ment is a sociology of the press. . . . A committee will be formed which soon will try to gain its cooperation of press experts, numerous theoreticians of the press—as you know, we have already some brilliant theoretical publications in this field . . . and the practitioners of the press . . .

We must examine the press first to this end: What does it contribute to the making of modern man? And second: how are the objective, supra-individual cultural values, what does happen, what is destroyed and what is newly created of the beliefs and hopes of the masses?

You will ask now: Where is the material to begin such studies? Material consists of the newspapers themselves, and we will now, to be specific, start with sciences and companions to measure the quantitative changes of newspaper content of the last generation. . . . From these quantitative analyses we will proceed to qualitative ones. We will have to pursue the kind of stylistic approach to the newspaper, the way in which the same problems are discussed in newspapers and outside of them. (Weber, cited in H. Hauck, pp. 174, 181–182 in Social Theories of the Press Copyright © 1979. Reprinted by permission of Sage Publications, Inc.)

Weber's speech was based on a research proposal,1 Preliminary Report of a Suggested Survey of the Sociology of Newspapers, which outlined a coordinated parallel content analysis of press coverage of political issues over time and the content of the public response, mixing quantitative and qualitative research approaches. Neither content analysis nor survey research had been developed as formal methodologies by 1910, and it is interesting to speculate on how the emergence of those methodologies might have been influenced by the research Weber proposed.

But the project was never to be completed. Weber had won some cooperation from the German Press Association and had worked diligently on the project for a year and a half, but he ultimately abandoned it. Hanno (1979), who has studied the emergence of German social science during this period, concludes that it was not a loss of interest but an unfortunate coincidence of outside circumstances that forced Weber to abandon his original plans. "The circumstances included a bitter battle between Weber and a colleague at his university, and a bitter suit involving Weber's wife, Marianne."

1 The proposal is summarized in Hauck (1979) on pages 171–173.
Mass Communication by Hovland, Lumsdaine, and Sheffield (1949), and Communication, Influence, and Persuasion (1953). Hovland and colleagues focused their attention on experimentally manipulated change of opinion derived primarily in laboratory studies with soldiers and students, and he and his graduate students were prolific and tremendously influential. (McCuire's, 1968, 1986) literature reviews, for example, cite literally thousands of studies closely following in this research tradition.

Another mentor and model in the study of communications research effects was the social psychologist Paul Lazarsfeld. Using Klapper's (1960) characterization of minimal communications effects as the central symbol of the old orthodoxy, a new generation of communications researchers in the 1960s, 1970s, and 1980s has grown increasingly uncomfortable with the domi-

nating paradigm and has been pushing and posing around with new methods and theories in an attempt to revitalize and reformulate the practice of research. Thomas Kuhn's historical work (1962) has produced a seductively simple and attractive model of how scientific paradigms evolve. It evokes a wonder-

ful imagery of a "palace revolution" as a new generation of scholars discover a new set of variables and appropriate new methodologies, and dramatically outstrip their orthodoxy elders to rewrite the textbooks. Perhaps it works that way sometimes in the physical sciences. The dynamic history of communica-

tions research, however, suggests that we are witnessing a much more com-

plicated process, involving multiple take starts, profound confusion, a great deal of sympathy and encouragement from older scholars, and an old para-

digm that dies very hard. As it is said, we live in interesting times.

The following pages attempt to characterize and formalize some elements of the evolving paradigm of communications research. There is increasing agreement that more of what Weber and Lasswell had originally proposed ought to be explored. The "new paradigm," of course, will not replace but rather complement existing models of appropriate research design. In fact, a key development is a self-consciously multimethod model of research.

II. THE STRATEGY OF PARALLEL CONTENT ANALYSIS

In 1977, Steven Chaffee wrote a memo to the Social Science Research Council's Committee on Television and Social Behavior. The committee had been struggling with the narrowly defined model of communications effects, especially the increasingly routine research concerning the effects of violent programming on children. Chaffee's memo attempted to explain why communica-

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sustaining research tradition. The character of modern communications research could be dominated by the study of long-term social and political trends—a rigorous, institutionalized scientific effort in monitoring the content of the ongoing media flow with parallel efforts to monitor the public’s response.

This chapter has a single thesis that draws explicitly on this historical pro-

logue. Growing frustration with the limits of orthodox experimental and survey methods in the study of short-term communications effects may yet lead to the resurgence of the Weber-Lasswell paradigm. The conceptual

problematic model of communications effects as the central symbol of the old orthodoxy, a new generation of communications researchers in the 1960s, 1970s, and 1980s has grown increasingly uncomfortable with the domi-

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II. THE STRATEGY OF PARALLEL CONTENT ANALYSIS

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tions research had gotten into a rut. His basic argument was that commu-

nications researchers could be divided into two groups, the media-centric and the effects-centric researchers.
Media-centric research is conducted by those who are primarily interested in the structure of the communications industries and media content. Media-centric research seeks to study the complex patterns of media content in rich detail, but it also tends to take the issue of effects as a given. A small sampling of recent books and this tradition might include Curran, Gurevitch, and Woollacott (1977), Mass Communication and Society: Adams and Schreiber (1978), Television Network News; Gans (1979), Deciding What's News; Newcomb (1979), TV: The Most Popular Art; Gitlin (1980), The Whole World Is Watching; Greenglass (1980), Life on Television; Cantor (1980), Prime-Time Television; Paletz and Entman (1981), Media Power Politics; Bagdikian (1981), The Media Monopoly; M. Robinson and Sheehan (1983), Over the Wires; TV and Lichter, Rothman, and Lichter (1984), The Media Elite. This group includes both humanists and social scientists who conduct literary or quantitative content analyses of the media (such as Newcomb, Greenglass, Gans, Cantor, Robinson and Sheehan, and Adams and Schreiber). The other prominent cluster includes sociologists and radical critics of the organizational structures of American mass media, and especially the news media (notably, Curran, Gurevitch, Woollacott, Bagdikian, Gans, Paletz and Entman, and Gitlin).

Effect-centric researchers, however, focus on audience effects and take the complexity of media content and structural organization as a given. Recent research in this tradition includes Comstock et al. (1978), Television and Human Behavior; Kraus and Davis (1976), The Effects of Mass Communication on Political Behavior; Adair et al. (1960), The Effects of Television Advertising on Children; Bishop, Meadow, and Jackson-Steck (1978), The Presidential Debates; Patterson (1980), The Mass Media Election; Himmelweit, Humphreys, Jaegers, and Katz (1981), How Voters Decide; MacKuen and Coombs (1981), More Than News; Rice and Paisley (1981), Public Communication campaigns; Weaver, Graber, McCombs, and Eydal (1981), Media Agenda-Setting in a Presidential Election: Issues, Images, and Interest; Milavsky, Kessler, Stipp, and Ruben (1983), Television and Opposition: Results of a Panel Study; B. K. Rokeach, K. Rokeach, and Grube (1984), The Great American Values Test; and Bryant and Zillmann (1986), Perspectives on Media Effects. Here, experimental and survey research methodologies dominate; the rigor of scientific design keeps the attention of researchers on other matters, and as a result, most researchers treat the issue of complex media messages as an inconvenience. Researchers are likely to make use of whatever media content is handy or to design artificial, simplistic persuasive messages.

This gap between media-centric and effects-centric research has been noted by a number of reviewers in the field (Comstock, 1980; Katz, 1980; McLeod & Reeves, 1980). McLeod and Reeves, in particular, develop the argument further and suggest that what is missing is an "isomorphism" between the measurement of content and the measurement of effects. Although they do not develop one, they suggest that a new theoretical perspective and informing new measurement model ought to be devised to bridge the gap. It is precisely that gap that the strategy of Parallel Content Analysis attempts to address.

The accumulated reviews of the field of mass communication research reveal a number of consistent themes about the status of the field, what is known, and why research designs used to be improved (see, Becker, McCombs, & McLeod, 1975; Chattef, 1977; Clarke & Kline, 1974; Comstock et al., 1978; Davis & Wu, 1974; De Fleur & Ball-Rokeach, 1982; Katz, 1977, 1980; Kraus & Davis, 1976; G. E. Lang & Lang, 1981; Lmert, 1981; Lowery & De Fleur, 1983; McLeod & Reeves, 1980; McQuail, 1977, 1983; Pearl, 1984; Presentation of mass media and culture; Rosenthal, Bouthillet, & Lazar, 1982; Petttis, 1977; Reeves & Wartella, 1982; Roberts & Bachen, 1881; Zukin, 1983). These essays have titles such as "On the Nature of Mass Media Effects," "Media Effects Reconsidered: Some New Strategies for Communications Research," "On Conceptualizing Media Effects," "Does Mass Communications Change Public Opinion After All?" Each essay reviews the prominent research studies numbering in the hundreds—sometimes in the thousands—and on the basis of its assessment of weaknesses and strengths, each puts forward recommendations for future work. Almost unanimously, these reviews call for more natural settings of measurement, longer-term measurement, a better appreciation of the complexity of the "message-as-stimulus," and a better appreciation of the salience and meaning of particular messages for different audience members.

Some of these new directions of research have emerged already as schools of research complete with a unique vocabulary, several widely cited seminal studies, and articulate defenders of the new faith. A list of emergent schools of communications effects research might include uses and gratifications, agenda setting, information diffusion, and cultivation analysis.

The term Parallel Content Analysis is used here to identify an evolving paradigm for research. It is perhaps an awkward choice of labels for several reasons, one of which is that content analysis occupies a rather modest position in the pantheon of social science methodologies. The term content analysis has an unfortunate association with atheoretical "number-crunching" research. It conjures up imagery of counting for counting's sake—perhaps typified by the awkwardly written and unenthusiastic master's thesis that is more scholarly in appearance than in substance. In other words, its bad reputation is too often soundly justified. The term is used, however, because although content analytic research has tended to be atheoretical, it need not be. Indeed, the research design outlined in the following pages attempts explicitly to link content analytic data through causal analysis to other measures of social behavior.
Parallel content analysis is defined as the systematic and simultaneous measurement of media content and audience response. Media content and audience response are monitored and recorded as fully as possible and archived for later parallel content analysis by communities of interested researchers. The character of parallel content analysis lends itself to large-scale, cooperative data collection and data analysis. The first part, archiving media content, is easy. In fact, many of the broadcast and print media have been carefully maintaining archives of their own work, as have independent organizations such as the V赦ndiges and the Museum of Broadcasting. The more difficult task is trying to derive a systematic sample of the mix of print and broadcast news and entertainment content representative of what an average American might have seen in a given year.

Audience response is assessed using a mixture of closed- and open-ended survey interviews, depth interviews, and perhaps focus-group techniques to generate a parallel archive of natural language responses of a representative sample of the citizenry. This is the unique, and also frustratingly difficult, aspect of the proposed research strategy. There would seem to be almost infinite variability of current events, values, and beliefs that individuals could talk about. Most communications effects research, of course, focuses very narrowly on a specific content stimulus and a corresponding before-after attitude measure. But the pioneering depth interview work by Lane (1962) and more recent work by Graber (1994) and Gans (1968) does demonstrate the viability of amassing and systematically analyzing hours of depth interview transcripts.

What follows will draw attention to a number of taken-for-granted methodological traditions and illustrate how the choice of methodology influences the development of theory. It is a traditional review of research, but it is self-consciously selective in reviewing and exaggerating the shortcomings of previous research in order to make a point. Parallel content analysis is not a new method. It is a systematic extension and integration of existing methods along the lines proposed by George Comstock at the conclusion of the massive review he and his colleagues completed on television effects (Comstock et al., 1978). Though methodology is emphasized, it is hoped that this is not done in such a way as to neglect the underlying theoretical concerns that motivate content analysis in the first place. Theory and method interact. The search for an abstract and freestanding "theology of human communications" is unlikely to be a promising strategy. The process of mass communications is, for example, in the maintenance of modern industrial democracies, in the economic development of the Third World, and in the transmission of values and beliefs across generations. It is appropriately seen as an independent and unique field of social scientific scholarship. Such a position resonates with the early writings of Weber and Laswell—mass communications in modern times is an integral part of social, cultural, and political change.

III. RECOMMENDING THE COMMUNICATIONS EFFECTS PARADIGM

Experimental research, survey research, content analysis, and field research each have their widely celebrated shortcomings. It is not that the data produced by each method is without value, but rather that each is, in itself, incomplete. The experimental tradition, for example, is helpful in understanding certain types of communications effects. Take as an illustration an individual who has been puzzling for several days over what gift to buy for a close friend's birthday. A television ad provides information on an ideally appropriate gift. The "persuasive" information provided in the advertisement fits neatly with the expectations and needs of the individual. It represents a short-term process that is subject to meaningful manipulation through experimental designs. But such methods are less appropriate to the study of persuasive political communications in a national election. The accumulation of bits of political information from months of half-attentive monitoring of the news media, the evaluation of several years of an incumbent's performance, the interpretation of complex political symbolism linked to party identifications passed on from parents and grandparents, for example, does not lend itself to realistic laboratory simulation.

Because most researchers are trained in only one methodological tradition, they tend to apply it to each substantive issue they confront. The advantages and disadvantages of a given method are well known and acknowledged by its practitioners, but they tend, over time, to develop a taken-for-granted quality. As a result, it may be appropriate to give special emphasis to the complementary nature of the different approaches.

Figure 1 uses the traditional notions of internal and external validity as organizing concepts to illustrate the complementary character of four dominant methodological traditions (Babbie, 1986; Ball-Rokeach, Grube, & Rokeach, 1994; Wimmer & Dominick, 1983).

Experimental research, by limiting the variation to manipulated variables, is in a position to conclude that any differential effects are the unambiguous result of the manipulated variables. Thus, the inference of effect is high on internal validity. But such manipulations are obtrusive and artificial, least like social phenomena in natural settings, and thus low on external validity. In contrast, content analysis unobtrusively monitors social phenomena as they take place (higher external validity) but is much less able to infer causal structure (internal validity). Survey and field research fall somewhere in between.
Experimental Designs
Survey Research
Field Studies
Content Analysis

Increasing Internal Validity

Increasing External Validity

Fig. 1. Research methods in communications effects research.

Most reviews of methodology and of accumulated research studies conclude, appropriately, that scientific consensus emerges out of convergent findings across methodological designs. This is explicitly incorporated in Campbell and Fiske's (1959) widely cited notion of convergent validity. Parallel content analysis attempts to draw on these complementarities by combining elements of survey research, field research, and content analysis. Experimental research is not included and, as a result, there are potential problems of causal inference and internal validity. Time-series measurement is emphasized in an effort to compensate for that weakness.

A. The Limits of Experimental Research

Picture, if you will, a platoon of soldiers in garrison during World War II rising as usual before dawn. The noncommissioned officers direct the platoon to a classroom. The soldiers are given what looks like an examination asking about their personal opinions on military strategy. The soldiers are shown a film entitled "The Battle of the Britain" and are asked to fill out a follow-up questionnaire while sergeants stand with crossed arms at the rear of the room.

Was the film persuasive? Did it change opinions? Perhaps. Unfortunately, the psychological dynamics of the experimental situation are close to those of routine military training films and examinations, a familiar script by which soldiers as students try to figure out the right answers as they complete the questionnaire. We may be able to learn something about the highly structured and institutionalized communications processes from such research but relatively little about the long-term accumulation of information and the process of social attitude change among citizens.

Another classic experiment in this field is the Bobo doll study (Bandura, Ross, & Ross, 1963). Children were randomly assigned to groups, one of which observed aggressive behavior performed by a live actor, and another of which saw films of aggressive behavior sometimes involving actors dressed up as cartoon characters. A control group saw neither. The children were put in a room that contained toys and a three-foot, inflated Bobo doll, the type designed to be punched and bounce back to an upright position because of the weighty base of the doll. Observers coded children's behavior and found that the aggressive acts performed by the live and filmed actors resulted in increased levels of aggressive play, including sitting on the Bobo doll's head and hitting it with a mallet.

The experiment has the advantage of relying on observed behavior rather than attitudes. But Bobo dolls are designed to be hit. Rather than "learned behavior," the children might in part have been stimulated to higher levels of activity and energy which, in the absence of Bobo dolls, might not have been defined as aggressive behavior. Further, it is not clear that aggressive play with toys translates to aggressive or antisocial behavior with real people such as hitting a playmate over the head with a mallet. To build on these examples and extend the argument, we will identify nine components to the problem of external validity in experimental design.

1. The Complexity of the Stimulus

A half-hour film on military strategy or even a short skit illustrating aggressive behavior represents an extremely complex social stimulus. Different aspects of the stimulus might be recalled or interpreted in very different ways by different audience members. Such experimental stimuli are designed to make a particular point, but they inevitably communicate other subtle and unintended messages as well. Traditionally, in experimental design, researchers treat the character of the stimulus as a given and treat the varying interpretation and misinterpretation of the stimulus as measurement noise.

Some experiments have addressed the complexity of the stimulus and in doing so dramatically illustrate its importance. Cooper and Jahoda (1947), for example, studied the reactions of individuals to cartoons designed to poke fun at bigotry. An intent was to use gentle humor to demonstrate to individuals the error of their prejudiced ways. But the researchers found that the creative ability of prejudiced subjects to restructure and reinterpret these cartoons in light of their own beliefs far exceeded the intended persuasive effects.

2. Artificihood of the Stimulus

A related problem, drawing from the effects-centric orientation of the experimental approach is a casual approach to selecting experimental stimuli. The accumulated "persuasive messages" on which the corpus of attitude
change theory is built is a somewhat bizarre mix of stimuli including comic book preferences (Kelman, 1953), attitudes toward toothaches (Hovland et al., 1953), and attitudes toward eating fried grasshoppers (Zimbardo, Weisenberg, Firestone, & Levy, 1965). Subject matter is selected most often as a matter of convenience. The impact of the character of the subject matter on the success of the persuasive messages is simply not defined as problematic (Hovland, 1959). This reinforces the next point.

3. Attitude Creation versus Attitude Change

Experimental researchers in search of attitude change tend to select topics in which firm attitudes and beliefs have not already been established. Thus, important beliefs about religion, politics, race relations, patriotism, or perhaps gender-role stereotypes are typically avoided. But such are topics on which true attitude change over time would be most relevant, both theoretically and politically. The early work by the Hovland team, for example, explored attitude change on steel industry industrial policy, the selling of antibiotics by pharmacists without a doctor's prescription, the future of atomic-powered submarines, and the effect of the growth of television on the number of movie theaters in the year 1955 (Hovland et al., 1953). Such matters were of marginal concern to the typical subject, and, as a result, the phenomenon at hand might be more accurately characterized as attitude creation rather than attitude change (McGuire, 1968).

4. The Artificiality of the Context

Perhaps the most widely acknowledged problem of experimental research is the artificiality of the laboratory context. The Hawthorne Effect, experiment effect, or "demand characteristics" of the experiment may significantly distort the conclusions. In the classic examples, of course, respondents falsely exhibit what they perceive as expected behavior in an attempt to please the observing researchers (Rosenthal, 1966).

5. Artificially High Levels of Attention

The attentiveness of students, soldiers, and experimental subjects generally tends to be at an unrealistically high level, compared with patterns of exposure to communicated messages in the real world. Typically, there is no competition for the experimental subject's attention by either distracting or competing messages. As a result, experimentally induced attitude change may be exaggerated (Hovland, 1959).

6. Short Time Frames

In the foregoing example of the television viewer pondering a gift selection, a behavioral effect follows closely upon exposure to a brief message. But such phenomena represent a relatively rare breed of communications effects. To fully understand advertising effects, for example, one needs to trace the long-term accumulation of impressions and purchase behaviors associated with competing brands (Comstock et al., 1978).

7. Limited Samples

Because the experimental perspective growing from the tradition of psychological research attempts to characterize human behavior in general, students and soldiers are simply seen as representative of the human species. But, to the extent that such demographic variables as age and educational level intervene, as they often do with regard to social and political attitudes, one hesitates to generalize from a subject universe of college sophomores (McGuire, 1968).

8. Attitudes versus Beliefs and Behavior

Although some experiments have attempted to assess knowledge and behavior, the great bulk of studies in this tradition focus on opinion and opinion change as measured by questionnaires. This is traditional but not inherent in experimental design. The repeated call (in many of the recent reviews of the communication effects literature) for a much broader definition of dependent variables, including beliefs, knowledge, more broadly defined cultural norms, and behavior, reflects a growing and appropriate concern (Fishbein, 1965; Schuman & Johnson, 1976).

9. Individual Level Analysis

The experimental paradigm by its nature focuses on individual differences and psychological processes. The study of organizational and group processes, as well as broader cultural and historical phenomena, is generally not amenable to experimental analysis (Comstock et al., 1978; Durkheim, 1964; Katz, 1977).

10. Summary

The failure of experimental research lies not with the methodology itself but with the failure of experimental researchers to move their theory-building beyond the bounds of the experimental paradigm, to address and integrate data collected by other methods, and to examine communications processes other than those amenable to laboratory research.

B. The Limits of Survey Research

The quintessential example of the survey research tradition would probably be an election study such as Berelson and associates' Fifling (1954). The strengths and weaknesses of the survey are quite similar to those of the experiment. In fact, most experimental work in communications uses a survey-style questionnaire for before-and-after attitude measures. In the survey tradition,
however, the interviewing takes place in the home and attempts to assess the accumulated impact of real-world communications. Berelson and his colleagues interviewed 1029 residents in Elmira, New York over the summer of 1948 and traced changes in knowledge about and attitudes toward the candidates and issues of the presidential election of that year. They concluded that the media coverage of the presidential campaign seemed to have surprisingly little impact on voters' knowledge of underlying political issues or on the voters' evaluation of the candidates. Berelson and his colleagues reported on what was to become in subsequent election studies a familiar pattern of low levels of political interest, limited familiarity with the issues, positions of the candidates, and a general reliance on inherited party identification in voting decisions. In a concluding chapter, Berelson suggested that perhaps the limited political involvement of the mass citizenry may prove to be a long-term benefit of systemic political stability.

Are such conclusions and speculations about the process of American political communications truly justified by data of this sort? Perhaps not. Berelson and his associates conducted their first interviews in June of the election year and found opinions of the candidates to be quite stable through the summer to the election in November. They concluded that the media did not sway many voters. What they did not study was the process by which those impressions of candidates Dewey and Truman had evolved through longer-term exposure to media coverage. Dewey, who had been governor of New York and had run a fairly close race against Roosevelt in 1944, was a well-known national political figure, and especially well known to the sample from Elmira, New York. Truman, of course, had been Vice President under Roosevelt and President since Roosevelt's death in 1945. Furthermore, the researchers selected a half dozen political issues from international relations to economic policy they thought might prove to be important in voting decisions. But evidence that those preselected issues were not critical in the voters' calculus does not mean that no issues were. For the most part in survey research, respondents can only agree or disagree with a predetermined and preformulated list of issues. There is scant opportunity for interviewers to reformulate an issue, to explain whether an issue is perceived as relevant, or to raise a new issue.

The authors of Being were careful and clearly competent researchers. The larger sample size and real-world environments of their data collection represent clear-cut advantages over experimental designs. But, in turn, they have a constrained ability to make unambiguous inferences about underlying causal structures. The data from any single-method design must be put in perspective.

1. Attitude Measurement

As a result of these questions of getting respondents to admit so do have a meaningful attitude on some issues, survey data is plagued with considerable measurement noise—a mixture of true attitudes, quasi attitudes, and artificially invented pseudo-opinions. Despite the fact that in aggregate, an apparently consistent 60% of the population support a particular issue in repeated polls, a closer analysis reveals that it is not the same 60% each time the question is asked. There is a consistent churn of opinion at the individual level. Thus, when survey researchers report the results to a decimal point or two, they convey a misleading and false sense of rigor and precision. Because the actual effect of a single exposure to a message in the mass media may only involve a small percentage of the audience (Naples, 1979), the assessment of such effects through survey research is likely to become completely overwhelmed by measurement noise. These problems are compounded by a general confusion among many casual users of survey research between traditional statistical sampling error, which is typically in the range of ±3% and the more subtle and more fundamental forms of attitude measurement error in the range of 20-30% (Schuman & Presser, 1981; Selvin, 1968). An interesting debate in the field continues over whether this substantial measurement error is primarily the fault of ambiguous question wording or the ambiguous thinking of the typical respondent (Achen, 1975; Pepkin, Gorman, Phillips, & Smith, 1976).
3. The Power of Prophecy

As with biblical quotations, most full-scale surveys will provide at least some support for almost any hypothesis one might care to test. The problem here is the ratio between reported and collected data.

The typical survey will include between 100 and 200 items. The typical research article based on survey data will report results on fewer than a dozen items. In selecting items, combining them into scales, and labeling indexes, there is considerable room for art amidst the science. This is distinctly different from experimental research in which the experimental design predetermines the number of variables and the form of statistical analysis.

Selvin (1968), in his discussion of data-dredging in survey research, raised an important question about the ultimate effect of selecting items from lists of available items on the interpretation of traditional sampling statistics. This problem compounds the measurement noise issue and may lead to a consistent pattern of Type II statistical error—that is, false positive conclusions.

There is another element to the power of prophecy in survey research. It is a corollary of always finding at least some evidence to support one's hypothesis. It might be described as the pattern of only finding what one is looking for. In survey research (as with experimental research) all of the variables of analysis are predetermined when the questionnaire is designed, so the analyst is unable to assess the effects of any unanticipated variables. The classic example here might be the extensive literature on television's possible effects on children's antisocial behavior. Over two decades, researchers concerned about the possible effects of violence in broadcasting looked for evidence that children's behavior might be affected, and indeed, from experimental and survey studies, found such evidence (Comstock et al., 1978; Pearl et al., 1982). But in the midst of the process, a new group of researchers raised a new question. Perhaps television has prosocial effects, teaching appropriate social behavior, cooperative behavior, and the like. When research was designed to assess prosocial effects, such effects were also found (Comstock et al., 1978).

Survey data, like experimental data, will continue to be an important element in the scientific assessment of communications processes. The thrust of the argument here is simply that to rely exclusively on either, as have the great majority of communications effects studies in the past, is ill advised.

C. The Limits of Content Analysis

Content analysis is a generic label for scientific attempts to assess the symbolic environment. P. J. Stone, Dunbar, Smith, and Ogilvie (1966, p. 6) define content analysis as "any research technique for making inferences by systematically and objectively identifying specified characteristics within text." The classic study of the content analysis tradition would have to be an analysis of propaganda. One might take, for example, "May Day Slogans in Soviet Russia" (Yakobson & Lasswell, 1949), which attempted to trace shifting political strategies of the Soviet elite through the 1930s. Throughout this period, the Soviet Communist Party published a list of political slogans as part of the annual May Day celebrations. These slogans were authoritative and rich in political symbolism. Amster & associates' analysis is strikingly contrasted with shifting Soviet political strategies decided to quantify and analyze trends in types of slogans propagated each year. Yakobson and Lasswell uncovered a clear trend away from calls for world revolution toward a more parochial concern with domestic policy and development of the Soviet economy (see Fig. 2).
It is an exemplary study in several respects. First of all, by carefully coding and quantifying the political slogans, the content analysis clarifies a pattern that might not have been evident to an observer simply reviewing the texts. Second, by tracking content over an extended period of time, a trend not necessarily evident comparing any 2 successive years is evident. The study of propaganda per se has receded from the forefront of social science. The tradition of content analysis proceeds, however, focusing on such matters as bias in news coverage and racial and gender stereotypes in entertainment content. One characteristic example of the new type of work would be the CASTLE study (children and social television learning) conducted at Michigan State University and sponsored by the United States Office of Child Development and the Department of Health, Education, and Welfare. Bradley Greenberg (1980) and associates analyzed the portrayal of antisocial and pro-social behaviors, black Americans, the American family, and traditional gender roles in prime-time entertainment television series in the mid-1970s. Greenberg reports on 13 studies resulting from the research. They found, for example, that blacks were represented on entertainment television programs in rough proportion to their presence in the population as a whole, but they were generally younger than whites, very unlikely to be portrayed as professionals, and very seldom cast as the role of villain. Hispanic Americans were found to be represented on television in proportions much lower than their presence in the population as a whole. And there were very few television roles for older Americans—less than 3% of characters were in the 65-and-over category.

M. Robinson and Sheehan's (1983) Over the Wire and On TV analyzed television and wire service coverage of the 1980 election campaign and typifies modern political content analysis. Their study of stories measured the salience, seriousness, comprehensiveness, and balance of coverage for different candidates, with special attention to the differences between television and print journalism. They found that on the whole the media were objective and fair, but the broad cast media dealt more with candidate personalities and devoted more time to interpreting than describing political events.

2. The Failure to Stimulate Scholarly Interest

Content analysis is surprisingly little known and little used. To the extent that it does have a reputation, it is not a terribly good one. So, while it may seem unfair to blame those intrepid scholars who continue to work in these fields for a failure to attract scholarly attention, the method seems to have fallen even further short of its promise than experimental and survey research. Such a conclusion may sound a little strange because in the overviews of the field (Berelson, 1952; Gerbner, Holsti, Krippendorff, Paisley, & Stone, 1969; Holsti, 1968; Peo; 1959; Rosengren, 1981), one finds a generally cheery enthusiasm about progress in the field. But the more candid analyses of Janowitz (1969) and Markoff, Shapiro, and Weiman (1974) tell a truer story. Janowitz, as noted previously, focused on Lasswell's ill-fated proposal for a world attention survey, based on an ongoing content analysis of the world's press, concluding that content analysis has failed to emerge as a common research tool. Markoff, Shapiro and Weiman describe content analysis as a methodological ghetto, isolated from developments in the philosophy of social science and social science methodology. Only a few scattered courses devote primary attention to the methodology of content analysis despite dramatic growth in the academic field of communication research. The General Inquirer, a general use content analysis program, is in use in only a few research universities around the country despite the fact that it has been available for 20 years. Social science methodology textbooks, if they mention content analysis at all, dismiss the topic in a few pages, usually as an illustration of unobtrusive measurement. Content analysis, it appears, simply remains outside the mainstream of social science.

2. The Problem of Inference

Holsti's (1968) review of the field and Krippendorff's (1980) book make the same argument. Content analytic data, they assert, has to be used in conjunction with other types of data. If the issue is communications effects, data on the content of communications and changing attitudes, knowledge, or behavior must be collected. Content analysis data by itself can only be descriptive. Such principles are clear and well-articulated but all too frequently lost in practice. Take, for example, Greenberg's (1980) Life on Television. The study was designed to measure not only content but also to involve field surveys of young people and their mothers and the relationship between viewing and behavior in different family contexts. The book, however, reports only on the content analysis and leaves the difficult matter of television effects and causal inference to a later, unspecified report.
heavy viewing and particular attitudes). A number of contradictory findings have also emerged recently. And the lack of coordinated measurement and the lack of time series measures have proven to be persisting problems (Gerber, Gross, Morgan, & Signorielli, 1980, 1981a, b; Hirsch, 1980, 1981a, b; Hughes, 1980; McDonald, 1983). 3. The Lack of Convergent Findings Unlike the collegial traditions of experimental and survey research, content analysis tends to be conducted by individual scholars working independently. There is little sense of a community of scholars or a scholarly organization that might be called upon to refine measurement and theory cooperatively. Each analyst tends to start anew, developing a unique coding scheme and a new sample of communications content. The conclusions are restricted to the particular content at hand, and the scientific tradition of replication is almost nonexistent in this field. 4. The Distraction of Adversarial Content Analysis One of the reasons the content analytic tradition has not settled on some standardized codes to measure fundamental political, social, and cultural variables is that for those who are trying to make an adversarial point, it is more convenient to shape the coding process to dramatize the findings one seeks to uncover.

One well-known example of adversarial content analysis is Edith Efron's (1971) The News Tasters. Ms. Efron is a free-lance journalist, and was a frequent contributor to TV Guide while writing the book. She monitored the 1968 presidential campaign and recorded her impressions of when reporters were particularly snide or critical in their coverage of Nixon and Humphrey. She was convinced that the networks were biased and that they had favored Humphrey over Nixon. When she translated her impressions into quantitative form, the results struck her as damming empirical evidence, but her measures were never clearly defined and the whole process only vaguely approximated a systematic content analysis. More recently, unions have asked members to watch TV and record evidence of antilabor content in the mass media and publish the results in their union publications. Also, business-sponsored, private research groups such as the Media Institute, "a tax-exempt research organization supported by a wide range of foundations, corporations, associations, and individuals (with the objective of improving the effectiveness and quality of media coverage of business and economic affairs)" have sought and found evidence through content analysis that businesses are not treated as positively as they might be in the media (see, e.g., Theberge, 1983). As long as adversarial content analysis remains strong, its existence weakens the prospect that rigorous, systematic, and scientific content analysis will be taken seriously. 5. Lack of a Central Archive Expanding on the point made previously about the failure of convergence, Janowitz (1969) argues that small-scale content analyses conducted by individual scholars tend to focus only on short-term trends over a few months or a few years. He argues that important social, economic, and cultural phenomena involve more gradual change that requires the analysis of data over years or decades. Such analyses require the coordinated efforts of numerous scholars and the existence of central archives. The Vanderbilt Television News Archives represents one positive development in this direction, but other efforts of longer-term measurement, such as the work of Naish and cited in Janowitz (1976) and the work of Gerber and colleagues at the University of Pennsylvania (Gerber, 1969, 1973; Gerber & Gross, 1976; Gerber et al., 1980), have not been made generally available for analysis by other scholars. 6. The Unfulfilled Promise of Computerized Content Analysis In 1966, Philip Stone and his associates published The General Inquirer, which described a new approach—computerized content analysis. Sponsored by the National Science Foundation and working with an enthusiastic young crew of sociologists, psychologists, and linguists at Harvard, Stone developed a general-use computerized system for content analysis of text. Their book included a provocatively diverse collection of studies, but the computer program had significant limitations, was difficult to use, and, ultimately, was used only infrequently outside of the original circle of Harvard researchers. Markoff and colleagues (1974) use rather strong language to argue that its decline is as it should be. They describe computerized content analysis as "waiting for Golum." They argue that the complexities of language and meaning analysis require human coders in the content analysis process. Until linguistic and semantic theory and artificial intelligence advance computerized analysis significantly, they assert, rigorous content analysis using human judgment will continue to offer more promise. 7. Simplistic Coding Schemes Markoff et al. (1974) make a more general point: It is apparent to us that content-analytic methodology today more often impoverishes documentary work than it enriches it. Social scientists who come upon an interesting collection of documents which they would like to analyze discover that the procedures most often and most forcefully recommended by specialists enable them to translate the contents of their text only in such ways as to yield results reinterpretting at best and absurd at worst. (p. 2) They point out that this is not an inherent part of content analysis but an artifact of simplistic and ahistorical attempts to quantify text for analysis. It is a bit of a Catch-22. Theories about long-term social, political, and
cultural trends are widely acknowledged as central to social scientific research. Over the years, small-scale content analyses addressing limited issues in limited contexts over short time periods have resulted in a small and undistinguished literature. Content analysis is relevant to the study of broader social trends, but because the connection between the two has not been well articulated, progress on both sites has been slow. Content analysis, unlike survey research and experimental work, lends itself to the quick and dirty. It is too easy to do a bad content analysis. The promise of content analysis as a central social science method, as Berger (1952) puts it:

Content analysis, as a method, has no magical qualities—you really get out of it no more than you put in, and sometimes you get less. In the last analysis, there is no substitute for a good idea. (p. 718)

D. The Limits of Field Research

The goal of field research in communications is to accumulate reliable and generalizable data on communications processes and effects in real-world settings. This often involves the use of such techniques as participant observation, field observation, or content analysis (Babbie, 1986). Given the central problems of artificiality of setting and biases in research intervention in experimental and survey studies, systematic field data collection offers an important corrective.

One classic example of field research in communications is Star and Hughes (1930). They attempted to assess the effects of a public information campaign intended to educate the public in Cincinnati, Ohio on the purposes and goals of the newly founded United Nations. With the cooperation of the advertising community, the newspapers, and radio stations, a series of public service announcements and ads repeated the central themes of the campaign for several months. The research team carefully surveyed opinion and knowledge before, during, and after the campaign. They concluded that the campaign had little effect. Roughly one third of the population had a clear idea of the origins and purposes of the United Nations before the campaign, and the number was substantially the same at its conclusion. Those who were most familiar with the specific content of the public service announcements were those who already knew about the United Nations, and those uninterested in and uninformed about such matters appeared to be completely unaffected by the campaign.

Although there were literally hundreds of print and broadcast messages communicated, the researchers concluded that these messages represented only a small fraction of the flow of information to the citizenry of Cincinnati. It was an important and frequently cited lesson. Outside the laboratory, there is little motivation for audience members to pay attention to information, the relevance of which has not already been made clear. Thus, although the researchers used a survey technique in data collection, the public service campaign was a naturally occurring event characteristic of the field research tradition.

A more recent and much more elaborate communications campaign on health information provides another exemplary field study. It was conducted by a team of researchers from the Institute for Communications Research at Stanford and funded by the National Heart, Lung and Blood Institute. The researchers selected three matched communities in Northern California and developed an intense multimedia information campaign concerning the relationship of smoking and other health-related habits to heart disease. Group activities were also initiated to provide interpersonal reinforcement for the information in one community. The media campaign without group activities took place in the second community. The third community served as a control group. The health-related attitudes and behavior of residents were tracked at all three sites. The results revealed that the campaign was dramatically successful in influencing both behavior and attitudes when reinforced by interpersonal and group activities, and these effects persisted beyond the end of the campaign. In the community where the media campaign did not include interpersonal reinforcement, small positive changes in attitudes and behavior turned out not to be statistically or substantively significant (Comstock, 1983; Farquhar et al., 1977; Maccoby & Farquhar, 1975; Maccoby, Farquhar, Wood, & Alexander, 1977; Maccoby & Solomon, 1981).

Although field research provides an important complement to data and hypotheses generated by other methods, its own limitations are significant.

1. The Constraints of Convenience

Perhaps the central problem of field research is that of external validity: the difficulty of inferring from one or two field sites to a meaningful universe of social settings. One hesitates, for example, to generalize from the Cincinnati study (Star & Hughes, 1950). The quality and character of the origins and purposes of the United Nations before the campaign, and the number was substantially the same at its conclusion. Those who were most familiar with the specific content of the public service announcements were those who already knew about the United Nations, and those uninterested in and uninformed about such matters appeared to be completely unaffected by the campaign.

Indeed, much of what we know about the successful information campaigns is a result of the existence of interested sponsors willing to both conduct the
research and make it available to the broader scientific community. The recent volume published by Sage on public communication campaigns (Rice & Paisley, 1981), for example, resulted from a conference sponsored by the National Wildlife Coordinating Group of the U.S. Department of Agriculture, Department of the Interior, the U.S. Fish and Wildlife Service, and the National Association of State Foresters (among others). Not surprisingly, the two most frequently cited entries in the index are Everett Rogers and Smokey the Bear. Behavioral generalizations would benefit from a more systematic and theoretically grounded sampling of field research sites rather than an aggregation of available studies. We know something about seat belt campaigns and the attempts to market soy ice cream because the results have been published. However, few proprietary advertising or political advertising research reports generally ever work their way into the compendium of accumulated scientific findings.

2. Problematic Causal Inference from Field Studies

This is, of course, the classic complaint of the experimentalist who looks with concern, and frequently, some befuddlement at the attempt to figure out what is related to what from field data. Among the classic examples frequently used to engage the curiosity of communications students is the problem of whether an observed correlation between exposure to violent television and aggressive behavior among children is the result of the propensity of aggressive children to watch action-oriented television programming or whether the causal direction might run the other way (Chaffee, 1972). The ecological fallacy of causal inference from aggregated data is widely recognized (W. S. Robinson, 1959).

Even time-series data from field settings require great care in causal inference. The classic example of words of warning along these lines was put forth by statisticians Yule and Kendall (1950). They became intrigued by the apparent evidence that the growth of radio caused increased mental deficiency. (The historical data are illustrated in Fig. 3.) They concluded, of course, that those were simply cyclical trends. Other scholars, however, have noted that the growth of television parallels a distinct decline in the strength of the political party system and an equally dramatic decline in the average Scholastic Aptitude Test (SAT) scores of the high school population in the United States. Such relationships are plausible and generate an appropriate call for research, but such evidence is far from unassailable.

3. Small Effects Lost in Measurement Noise

McLendon and Reeves (1980) comment on a generic problem of nonexperimen-
tal designs—they depend on "natural variation":

Fig. 3. Inferences from historical correlations, r = .36. The number of radio receivers and number of mental defects in Great Britain, 1924–1937. From Tufte (1974). Reprinted with permission.

There is an old dictum in experimental research that urges the researcher to "heat strong" in manipulating the differences between conditions. The nonexperimental counterpart of this dictum is to find sufficient variance in natural conditions of the stimulus such that the significant relationships of the effects might be obtained. This is a potential problem for mass media research where the level of exposure is being measured...this would markedly lower the likelihood of finding any strong association with the effect variables (p. 31).

McLendon and Reeves are not alone in making such assertions. Such arguments are frequently found in reviews of the literature. But it is a troubling bit of advice, in that it seems to blame the methodology for the existence of small effects and to call for a systematic emphasis on atypical field settings. If, in the majority of real-world circumstances, there are only small differences in stimulus level, one might well expect communications effects to be relatively small, and that is generally going to be true for any single message or short-term information campaign. The purpose of well-designed research is not to demonstrate that effects are larger than they really are.
The true problem is that single-exposure communications effects tend to be so small that they are difficult to separate from measurement noise. The appropriate response is to try to improve the precision of measurement and study effects over longer periods of time where they might accumulate to sufficient size. In one of the few cases where large-scale field research on advertising effects using precise measures of consumer behavior has been made public, we find that, indeed, effects tend to be quite small (Naples, 1979). Figure 4 shows that among those who have regularly used a household product, the likelihood of purchase over a 4-week period moves up gradually 2 percentage points after seven exposures to the ad campaign, and among those who do not regularly use the product, probability of purchase increases 2 percentage points after one exposure and not at all thereafter. With random measurement error in the range of ±3% and systematic measurement several times that in most field studies, it is no wonder that the demonstration of single-exposure, short-term effects is fraught with frustration.

4. Narrowly Defined Dependent Variables

Most field research, especially when it is sponsored by agencies such as the Forestry Service or the Transportation Department, has a clear-cut interest in explicitly intended, narrowly defined effects of information campaigns. Thus, we have some data on how Smokey the Bear and his colleagues have influenced public knowledge and perception of forest fire dangers, but it is not known whether any of the dramatic public service announcements may have unintentionally inspired a few cases of pyromania or generated as increased fear of camping in national parks among other viewers.

The strong tradition in this research paradigm is to document the presence or absence of intended effects. Perhaps, in time, designs will be modified to explore a fuller mix of intended or unintended results of persuasive campaigns. Phillips (1986), for example, has made creative and productive use of what he calls the "found experiment," focusing thus far on the impact of widely publicized suicides, accidents, and executions on rates of violent behavior. Hopefully, his work will stimulate a broader array of field research.

E. The Nature of Communications Effects

In the late 1950s, Wilbur Schramm started to use the phrase "the bullet theory" to characterize simple-minded, stimulus-response notions of communications effects. Since then, no review of the field has been complete without a ritualized acknowledgment of how simplistic the early bullet theories were in thinking about communications effects and how much more sophisticated we have become since then.

1. The Bullet Theory

De Fleur and Hall-Rokeach's Theories of Mass Communication (1982), for example, bullet theory is explained as follows:

"Media Messages as Magic Bullets. In the aftermath of the war, there emerged a quite general belief in the great power of mass communication. The media were thought to be able to shape public opinion and to sway the masses toward almost any point of view desired by the communicator. . . . But in retrospect it has come to be called the "magic bullet theory." In more contemporary times it has also been called by other colorful names, such as the "hypodermic needle theory" and the "transmission belt theory." The basic idea behind
these names is that media messages are received in a uniform way by every member of the audience and that immediate and direct responses are triggered by such stimuli. (pp. 160-161)

It is a rich metaphor.2 Bullets are nasty, fast-moving, unavoidable, life-threatening little things. The metaphor draws on the mythology of war-time propaganda, the parallel notions of wars of bullets and wars of words. For propaganda to affect audience members, it need only hit them. There is no room for the individual to interpret or ignore the message. This perspective also resonates with the social problem orientation of students of mass communications—those who believe that mass media "cause" juvenile delinquency, passivity, lower grades, antisocial behavior, sexual promiscuity, and so forth.

Despite the numerous pronouncements about how far communications research has come, the bullet theory continues to dominate the communications effects paradigm. Researchers continue to study the effects of individual messages on audience members. We have come to understand that individuals may interpret or ignore a message, but for the most part, theories have advanced only to allow different types of audience members to be differentially affected since they are not.3 "Theorizing about advertising effects continues to count how many "bullets" it takes (as measured in exposures or gross ratings points) to increase brand share. Researchers rely as heavily as ever on before-and-after attitude change measures.

2. The Notion of Communications Flow

There is, however, an alternative metaphor—one based on the notion of communications flow.4 It conjures up the notion of a steady stream of information, ideas, and images that, over a long period of time, influence public thinking as the flow of a river etches clearly discernable patterns in the rock of the river bed.

Rather than focus on an individual message or a series of messages, researchers might analyze the shifting character of flows of information and ideas. Some types of people and institutions—like some types of soil and rock—may be more influenced by the complex chemistry of water. But to conduct experiments by watching droplets of water bounce off rocks in laboratory has limited value.

3. Five Principles

There are five principles concerning the complex accumulative character of communications effects that might inform measurement and theory building:

a. The Complexity of Communications Content. Understanding the effect of bullets is like eighteenth-century physics. The question is how much damage is caused by a given amount of mass accelerated by a given amount of kinetic energy. The understanding of communications processes might more fruitfully be based on twentieth-century analytic chemistry. Each message, even when taken singly, represents a complex compound with dominant elements and traces of other chemicals structured in complex ways. The job of the analytic chemist is to try to analyze the compound by watching the way it interacts with a series of other chemicals. The key, of course, is to discover a pattern of interaction effects. Too often in communications research, conclusions are drawn from a single interaction.

Furthermore, following the notion of communications flow, one wants to look beyond the effects of a single message to the effect of a large accumulated series of messages. An experimentalist is likely to be puzzled by such a suggestion. Could researchers possibly assess the effect of a whole library of messages rather than a single message? Only a tiny fraction of the library's content is actually read by any one individual. But it is true, nonetheless, that by content analyzing a sample of books from a typical library in the United States and one in the Soviet Union or the Third World, one would uncover profound differences in the character of the ideas emphasized and how they are structured. Further, one could take two identical libraries in different communities and find that what the public chose to read in each revealed consistent and meaningful patterns of public interest. From such a perspective, one moves away from individual attitude change toward a broader definition of accumulated effects.

b. The Complexity of the Interpretation of Communication. In the early 1950s, when Talcott Parsons and his colleagues at Harvard attempted to formalize a model of human behavior, the "theory of action," they gave a great deal of thought to how the modeling of social behavior differed from the modeling of physical phenomena (Parsons & Shih, 1951). One of the ideas they emphasized was that individuals do not simply respond to the pressures in their social environment; they interpret those pressures. The importance of human interaction in communications was widely incorporated into social science theory, including the notions of cognitive dissonance (Festinger, 1957), prejudice and racism (Adorno, Frankel-Brunowik, Levinson, & Sanford, 1950), political ideology (Lass, 1963), and symbolic communications (Goffman, 1975), to name a few.
But in communications effects modeling, the dominant formulation focuses on the notion of media uses and gratifications. This formulation draws attention to individual motivations in media exposure broadly defined, such as selecting television viewing over book reading. It is clearly a step in the right direction but moves research, so far at least, only a few steps toward understanding the critical importance of the interpretation of communications. We need to move further toward understanding the uses, gratifications, and interpretations of specific messages.

c. The Complexity of the Behavioral Response. The more recent reviews of the communications effects literature have begun to assert that researchers have begun not only to move beyond the bullet theory, but also to rely less often on attitudes as the dependent variable. Communications researchers, it is asserted, are looking now to more broadly defined “cognitive effects.” Again, it is clearly a step in the right direction, but attitudes as measured by traditional questionnaires are still so much more convenient to assess than complex patterns of cognitive structure or behavior that they constitute to dominate research reports in the literature.

d. The Complexity of the Communications Environment. A number of thoughtful observers have commented on the importance of understanding not only the communications process but also the environment in which it takes place (Freidson, 1955; Ribe & Riley, 1959). They have pointed out, for example, that the classic Lasswell model of “who says what to whom with what effect” omits the element “in what environment.” A given message is likely to have a differential impact if it is placed in an entertainment as opposed to a news program. It is likely to have a differential impact if it is said either by a teacher in a classroom or by a close friend. It is likely to have a different impact in the context of different national political systems. This is all painfully obvious and frequently acknowledged, but in the accumulation of scientific evidence on communications effects, the communications environment remains a source of concern but not an analytic variable. Laboratory and field experiments are designed to be exemplary and typical. It is not suggested to make any difference if you replicate the experiment in a different laboratory. It is prohibitively expensive to attempt to sample multiple field settings and systematically compare results across them. But if researchers are to take the widely recognized importance of the communications environment seriously, this problem must eventually move from the status of exogenous annoyance to analytic variable.

e. The Time Frame of Effects. Again, as noted in the notion of communications flow, the nature of communications effects is likely to be slow and cumulative over long periods of time. Bulletins move quickly. Ideas and information do not. The dominant methodologies of communications research allow researchers to assess effects over a few hours or perhaps a few weeks or months. The curious result is that 90% of methodological effort in this field is focused on 10% of the communications process.

IV. EMERGING MODELS FOR COMMUNICATIONS RESEARCH

Each “school” of communications research fits within the general communications effects paradigm but emphasizes a subset of variables and methods. These are variations, but the emergence of a new school usually follows a pattern. A seminal study incorporating a new catchphrase such as “agenda setting” or “uses and gratifications” and a new twist in research...
design is published. The original scholars, their students, and a few others generate a follow-on literature expanding and refining the original themes and measurement techniques. Within 4 or 5 years, the school becomes recognized and labeled in reviews of research and in textbooks as a new research perspective. The distinctive character of these research schools is that they respond explicitly to a perceived weakness in the existing research paradigm and draw attention to new variables and new methods. If the school is successful in promulgating its basic idea and methods, it begins to lose its distinctiveness and the urgency of its original mission. Thus, after time, the boundaries blur, and the research school is integrated into the general paradigm of communications effects research.

As the notion of research "schools" implies, each perspective has its devoted converts and equally devoted critics, both of whom emphasize the perspective's distinctive rather than common features with respect to the underlying paradigm of research. Thus, what is less often addressed is how the schools relate to one another and how the insights of each might eventually converge back into a central paradigm of communications research.

A. Beyond Attitudes

I. Cognition and Learning

One of the most frequently and approvingly noted observations about the development of communications research during the late 1970s and 1980s is the growing emphasis on the cognitive, learning, and knowledge effects of the media. This "cognitive" perspective emerged from America's heartland in the mid-1970s, emphasized by a number of scholars, including Peter Clarke and Jerry Kline (1974) at the University of Michigan, Steven Chaifetz (1975) and Jack McLeod at the University of Wisconsin, and Lee Becker and Maxwell McCombs at Syracuse (Becker et al., 1975). The cognitive perspective deviated from the typical school of research because there was no single empirical source. In this case, the seminal work was a review of research published by Clarke and Kline (1974) in the second edition of a new journal entitled Communication Research. They were straightforward in announcing their intentions:

Our purpose has been to stimulate integration about mass communication and effects variables that can help disclose ways that media contribute to learning. . . . Arguments are presented for looking at cognitive processes as dependent variables in communications research rather than placing emphasis only on affective realms. (p. 238)

These arguments were expanded in Becker and associates' (1975) "The Development of Political Cognitions." Becker and his associates felt that it was ironic that the literature of political communications had focused so heavily on attitude change and the persuasive function of the media while ignoring the transmission of information through the news media. They concluded that the emphasis on persuasive effects was an outgrowth of historical concern with propaganda during the wars and a special concern of political scientists and political sociologists with political campaigns. They reviewed the existing corpus of research and drew attention to an intriguing pattern in the findings. Because of the widely acknowledged phenomena of selectivity and cognitive dissonance, audiences were not exhibiting massive attitude change effects. This had led to the celebrated minimal effects hypothesis (Klapper, 1960). But, they observe, throughout the literature, there is abundant evidence of learning effects.

Clarke and Kline (1974) reinforce this argument, drawing on Patterson and McClure's study of the 1972 election (Patterson & McClure, 1976), which revealed that although political attitudes typically shifted only 1 or 2 percentage points, there were more dramatic increases in the range of 10-20% in voter knowledge about candidate positions over the course of the campaign, and that, importantly, increased media exposure was clearly linked to these knowledge increases.

Becker et al. (1975) cited emerging work on information gaps, political knowledge, and agenda setting, and concluded that by 1975:

These recent studies dealing with media effects on information holding, together with the increasing body of research on agenda setting, manifest a major shift in its field away from studies of attitude effects. (p. 57)

This view was also emphasized by Roberts and Bachman's (1981) review of the literature and extended to the field of television and social behavior in the 1982 report published by the National Institute of Mental Health (NIMH) (Pearl et al., 1982). In the NIMH report, Yale psychologist Jerome Singer (1982) characterized this as part of a major paradigm shift in psychology toward a broader-gauged cognitive orientation. By 1984, Chaifetz concluded, I wouldn't be surprised to see [the attitude change research tradition] die out completely once these researchers move on. Unidirectional and oblivious to the many theoretical innovations since have emerged from the research scene. (S. H. Chaifetz personal communication, 1984)

On the one hand, one is hard-pressed to disagree with the notion that it is appropriate to examine cognitive-knowledge-dependent variables as well as attitude-persuasion variables. On the other hand, the celebration of a paradigm shift as indicated by Singer and Chaifetz may be a bit premature. But researchers have not yet come very far in refining appropriate methods and theories for understanding cognitive and learning effects. The term "cognitive
effects" has become increasingly popular, but the research designs and theories are still very dependent on the old persuasion, attitude-change model. Take, for example, The Presidency of Richard M. Nixon, edited by Bishop, Meadow, and Jackson-Beech (1978), which presented studies of the 1976 Ford-Carter debates. The introduction of the book emphasizes new theoretical and empirical questions that evolved since the original studies of the Kennedy-Nixon debates (see, e.g., Ellsworth, 1965; Kraus 1962; Middleton, 1962); these new questions emphasize voters' need for information about candidates' issue positions rather than a journalistic concern with attitude change and the perception of winners and losers. The central section of the book is entitled "Cognitive and Behavioral Consequences of the Debates." Yet, the studies reported in the book rely heavily on traditional before-and-after attitude change measures (Becker, Sobel, Cabell, Cobb, & Eyal, 1978; Bishop, Oldendick, & Tuchfarber, 1978; Hagner & Rieselbach, 1978; G. E. Lang & Lang, 1978; Nimmo, Mansfield, & Curry, 1978; Steeper, 1978).

Two fundamental difficulties continue to plague this well-motivated and entirely appropriate impulse to refine the research paradigm. The first is a continuing reluctance of survey researchers to measure knowledge. The survey research tradition has continued to emphasize a need to maintain rapport with respondents and to maximize the expression of opinions by assuring respondents that there are no right or wrong answers and that each person's opinion is as important as the next person's. Accordingly, when it comes time to ask verbal questions of political knowledge, respondents are reluctant to have their ignorance clearly demonstrated, and interviewers are hesitant.

The second problem is that the information effects is question are, in a sense, tautological, and theoretically less interesting. If a television documentay or a newspaper article straight forwadly presents 10 matters of fact that are correctly perceived by only 50% of the audience, what is one to make of such a finding? Either the journalists are incompetent or clearly presenting the information or large segments of the audience are inattentive or cognitively deficient. The conclusion that journalists should write more clearly or that citizens should be more attentive are less than satisfying.

The way in which the cognitive perspective will be most influential is in broadening the definition of the dependent variable in communications effects research to move beyond textbook facts to deeper issues of political knowledge and sophistication and to the cognitive organization of beliefs (Neuman, 1986). Accordingly, research methods will have to move away from the educational model of teaching and testing toward a more open-ended approach, to understand how audiences come to interpret, understand, and organize information.

2. Cultivation Analysis

The most prominent model here is the cultivation analysis approach promulgated by George Gerbner and his associates at the Annenberg School of Communication at the University of Pennsylvania. The basic rationale for this approach was developed in papers by Gerbner in 1969 and 1973 and the report of the Violence Profile, a content analysis of entertainment television (Gerbner & Gross, 1976). Generally, this perspective sets itself apart from the experimental model and proposes to examine the long-term linkages between media content and the audience response rather than a narrowly focused, short-term, cause-and-effect process. Five distinctive aspects of this approach to communications effects research can be identified. a. A Broader Definition of the Dependent Variable. Gerbner and his colleagues defined the audience member's world view as the dependent variable. They seek to understand the

Cultivation of issues, conceptions, and perspectives that gives meaning to all ideas and actions... The "effects" of communications are not primarily what they make "do" but what they contribute to the meaning of all that is done—a more fundamental and ultimately more decisive process... All stimuli "behave" but only humans act in a symbiotic context. (Gerbner, 1973, p. 568)

This has been characterized by McQuail (1977, 1979), drawing on Lippmann (1922), as the "definition of social reality." As Lippmann might characterize it, it is studying how media represent a conduit between the complex world outside and the (corresponding) pictures in our heads.

b. Emphasis on Symbolic Communications. Gerbner and his associates, whose work focuses primarily on television, argue that it is as important to study entertainment as it is to study informational media content. They note that the television world of situation comedies and cops and robbers creates a synthetic world of human behavior that cannot help but influence the viewing audience. Gerbner refers to them as standardized images or cultural stereotypes. The process of transmission and adoption of these organizing stereotypes is labeled a "cultivation" process in order to distinguish it from persuasion-type processes.

c. The Notion of a Symbolic System. Cultivation analysis emphasizes the coherent structuring of images into a symbolic system. In a vein similar to the agenda-setting notion, Gerbner (1973) argues that by emphasizing and ignoring certain elements of the real world consistently in media portrayals, the media come to communicate not only what is, but also what is important.

d. The Accumulation of Effects over Time. The cultivation school explicitly distinguishes itself from short-term experimental research by emphasizing longer-term, cumulative effects of media content. It is argued that an
important effect of media patterns is reinforcement of existing beliefs and that evidence of effects need not require evidence of attitude change.

e. Unintentional Communications. This perspective emphasizes that numerous effects may involve phenomena neither intended by the communicator nor directly perceived by the receiver. The established institutions of mass communications are organized to maximize audience size and advertising revenue. Although such structural incentives may reinforce political and cultural orthodoxies, it is not necessarily self-consciously intended. In turn, the average audience member is seen as turning to the media for entertainment and information rather than out of a motivation to have cultural norms reinforced.

The perspective of the cultivation school resonates with the leftist critique of capitalism, the so-called "cultural marxism," which includes the work of Marcuse (1964), Mattelart (1980), Schiller (1973), Miliband (1969), and Curran et al. (1977), among others. Katz (1980) described this as the study of ideological effects of the media and traces the roots of this research to Horkheimer and Adorno (1944/1973) and the early speculations of Paul Lazarsfeld and Robert Merton (1948).

As with the general emphasis on cognitive effects, most observers applaud the incorporation of cultural effects into the communications research paradigm, and especially an explicit-linkage, general-exposure hypothesis and research oriented around exposure to specific messages. The central problem for this school of research arises from numerous shortcomings of its initial empirical outings. Gerbner and his colleagues have chosen to keep the data within the University of Pennsylvania's walls and have developed a somewhat stylized approach to data analysis that, as one might have predicted, has led to a small storm of criticism (Doob & McDonald, 1979; Gerbner et al., 1980, 1981a,b; Hirsch, 1980, 1981a,b; Hargis, 1980). It is hoped that these methodological problems and distracting debates will not exhaust the researchers but will energize new efforts to broaden and strengthen measurements of these important and long-term social phenomena.

* The bottom line of these methodological dialogues seems to be that Gerbner's conclusions that television reinforces fear about crime and social stereotypes are not supported by other work. Because there are a number of other social and demographic correlates of heavy television viewing, it is very difficult to demonstrate that television's "view of reality" has cultivated a distinctive social view among heavy television viewers or whether it is created by the other social factors. It turns out, according to Hirsch, that similar world views are also held by people who watch extremely little television, which suggests that it may be the other factors. Hirsch also criticized the concept of mainstreaming and insouciance developed recently by Gerbner and his colleagues as contradistancing the original thrust of the research perspective.

B. Beyond Direct Effects

1. Uses and Gratifications

The most prominent school of research based on the premise that communications effects depend on audience attitudes and expectations is referred to as the "uses and gratifications approach." It is somewhat an awkward label, but it seems to have stuck. Katz, Blumler, and Gurevitch (1974) characterize this perspective as follows:

Compared with the classical effects studies, the uses and gratifications approach takes the media consumer rather than the media message as its starting point, and explores his communications behavior in terms of his direct experience with the media. It views members of the audience as actively utilizing media contents, rather than being passively acted upon by the media. Thus, it does not assume a direct relationship between messages and effects, but postulates instead that members of the audience put messages to use, and that such usages act as intervening variables in the process of effect. (p. 12)

The two principal premises, then, are (1) the active audience—active participants in the communications process, selectively exposing themselves to the communications flow, filtering and interpreting the messages in accordance with their own needs and interests, and (2) differential effects—the impact of a flow of communications or of a particular message will not necessarily be uniform across the entire audience.

The origins of this school draw on functional theory in sociological analysis, particularly as developed by Paul Lazarsfeld, Robert Merton, and Elihu Katz at Columbia University in the 1940s and 1950s (Wright, 1975). There are a number of classic studies from the early years of communications research that are still frequently cited to clarify the relationship between the uses and gratifications perspective and the more linear, stimulus-response effects model from which it emerged. Herzog (1944), for example, studied the audiences for daytime radio soap operas. She combined in-depth interviews and survey research techniques to explore the interests and motivations of housewives in the Midwest. In addition to the expected patterns of escape, emotional release, and entertainment, Herzog discovered that many listeners felt that they extracted a lot of practical advice from these programs. Listeners noted a great variety of helpful information, including hints on raising children, strategies for avoiding divorce, manners, fashion, and as one put it, "how to conduct yourself in the presence of girls and influence people" (p. 5). Similar results have been demonstrated more recently for television soap operas (Katzman, 1972). However, Herzog's pioneering work is still cited as an example of the importance of taking the view of the audience member in understanding the
The complexities of communications processes, the mixture of intended and unintended consequences of communications, and the blurring of the boundaries between informational and entertainment content.

In another classic study conducted by Berelson (1949), a newspaper strike in New York City provided a natural field experiment to explore what "missing the newspaper" means. Like Herzog, Berelson found that the habit of newspaper reading exists in a complex social milieu that involves a great deal more than simply keeping informed about public affairs. Berelson noted that newspapers in many ways function as an informational tool for daily living. Such routine information as radio schedules, financial information, and even advertising content were perceived as important elements in people's daily lives. The psychological importance of feeling informed and the relevance of public affairs information for maintaining social prestige became evident in Berelson's open-ended interviewing.

In a more recent study in this tradition, Katz, Gurevitch, and Haas (1973) conducted an elaborate survey of motivations for media use on an Israeli sample and developed a model of characteristic uses of the major mass media, including television, radio, newspapers, books, and motion pictures. Through factor analysis and the use of individual-level data to characterize the central media institutions, Katz and his colleagues developed a heuristic map of similarities of use across the media (see Fig. 5). The map represents, in two-dimensional space, the correlations for eight uses for each of five media (the closer two points are, the higher the correlation). In turn, the diagram creates a circle of the five media, with each being perceived as most like its adjacent neighbors. The dashed lines in Fig. 5 separate the political and personal needs satisfied by each medium.

One of the most impressive results of the empirical literature is the consistency with which the same four central motivations for media exposure turn up again and again in different settings. Although the terminologies and definitions vary, these represent the core concepts: (1) diversion—emotional release and escape from burdens and problems; (2) surveillance of the environment—the need to feel and to be informed about current events, social trends, so forth; (3) personal identity—the reinforcement of personal values, putting one's life in perspective; and (4) personal relationships—media as substitutes for personal companionship.

Most of the research thus far has focused on understanding the relationship of these fundamental motives to the use of a particular medium and such unexciting findings as the observation that newspapers are heavily used for surveillance. Little is known about whether motivations are consistent for individuals or vary with moods and circumstances or how motivations influence patterns of exposure to types of content within a medium. More importantly, little is known about how the different motivational sets influence the perception and retention of content (Becker, 1979; Elliott, 1974; Swanson, 1979; Weiss, 1976). A specialized methodological problem associated with this research is the difficulty of respondents to introspectively assess why they do what they do. Bem (1970), for example, warns that the imputation of personal motives involves a complex "psychologic" that may generate misleading results, frequently tainted by the individual's perception of what is socially desirable, as McQuilkin, Blumler, and Brown (1972) note.

The relationship between content categories and audience needs is far too tidy and more complex than most commentators have appreciated... One man's source of escape from
the real world is a place of archetypes for another man’s place in it. There is neither a one-to-one correspondence between communications context and audience orientation nor any such correspondence between the place on a presumed scale of cultural worth to which a program of material may be assigned...and the depth of meanings that may be drawn from them by many of their most keen observers. (p. 142-163)

But it should be noted that even among the critics of the uses and gratifications tradition, there is a consistent strain of sympathy for the approach. Critics support the attempt to study communications as a conditional, interactive process and criticize those who are not undertaking rigorous or theoretically complete enough. The premise of uses and gratifications resonates strongly within the research community. As a result, it appears again and again under a number of rubrics as a central theme in the literature.

Clarke and Kline’s (1974) notion of message differentiation represents an interesting example. They propose abandoning measures of media use, such as inventories of time spent with various media, and substituting a new measure they label “media discrimination.” The new measure is based on what symbols and information respondents can recall seeing or reading about in the media. Clarke and Kline propose an open-ended interview technique by which individuals nominate important problems and describe what of relevance to these problems they may have learned from the media, the nature of their interest, and motives for paying attention. Such an approach, of course, emphasizes the audience’s initiative and selective recall and interpretation. Given the current levels of media exposure and the size of the daily flow of information through the media, their proposal to start first with what audience members can interpret as salient would seem to be a promising strategy. Other similar efforts to derive new terminologies and approaches to measurement from the uses and gratifications notion have emerged recently.

2. Contingent Effects

Another terminology, more general than uses and gratifications, has come into use recently. The term is “contingent effects.” It simply draws attention to the fact that other variables intervene in the communications-effects process. One class of variables is, of course, the uses and gratifications orientation of the audience member. Other classes of variables include the context of communication, the reactions of other audience members, the age or

* In what appears to be independent efforts to introduce a new concept of communications effect, for example, both Kraus and Diers (1974) and McCombs (1968) adopted the term “transactional” to characterize the two-way process of communication flow and audience interpretation. In another case, Winstead (1981) introduced the term “contextual” as a combination of consequences and effects to emphasize the interactive process of media content and audience orientation.

3. Agenda Setting

When Maxwell McCombs and Donald Shaw, two young journalism professors at the University of North Carolina, Chapel Hill, set out to conduct a small study of local voters in 1968, they may have felt that they were onto some interesting new ideas, but they did not know that they were about to found a new research perspective. They drew on a phrase from an earlier study of the press and foreign policy (Cohen, 1963), which posited that, “the press may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about [emphasis in original].” (p. 13)

This new perspective offered an attractive alternative to the model of persuasive attitude change. McCombs and D. L. Shaw (1972) content analyzed the local and national media coverage of the 1968 political election, quantifying the relative attention to such issues as public welfare, civil rights, fiscal policy, foreign policy, and the war in Vietnam. They also measured the relative attention given to these issues in aggregate from a small sample of Chapel Hill voters. (The central findings are displayed in Table 1.) They concluded that these correlations represented reasonably strong evidence of an agenda-setting effect. They noted appropriately that because of the limits of the data, no causal relationship could yet be established, but it seemed to be enough evidence to sustain further inquiry. And further inquiry there was, involving several hundred papers and books, including D. L. Shaw and McCombs (1977), The Emergence of American Political Issues, Weaver et al. (1981), Media Agenda-Setting in a Presidential Election; and McCombs (1981a,b), “The Agenda-Setting Approach” and “Setting the Agenda for Agenda-Setting Research.”

One of the most prominent elements of this research tradition is its emphasis on the cognitive processes associated with media effects. The approach is characterized by Weaver et al. (1981):

Agenda-setting involves a learning process. People familiarize themselves with mass media images of the political world and internal through a variety of cues how important particular stories are deemed by the media. Learning story context and internalizing salience appear to be neither automatic nor uniform for different people or different subject matter or in different contexts. To fully understand agenda-setting, we need to know the scope of these variations. We also should know whether agenda-learning involves considerable thought and evaluation, or whether it is a comparatively mindless form of role learning whereby people memorize media priorities and emphasize without absorbing any of the information on which those priorities are based. (p. 20)
Like a number of the other emerging perspectives, agenda setting has its critics. Also, as with the other perspectives, the critics tend to support the basic impulse of the research and emphasize the need for more consistent and rigorous measurement and more clearly drawn lines between the findings and the underlying theoretical concerns. Perhaps the most troubling difficulty is the problem of what Miller, Goldengeld, and Erbring (1979) call "real-world cues." Some issues like high interest rates, inflation, gasoline shortages, and other phenomena have the character of impinging upon the daily life of citizens and being interpreted as serious national problems whether or not the media confirm such a perception with large-scale coverage. Although other events (such as the war in Vietnam), may not impinge directly upon the daily lives of many citizens, they are of clear national importance and are still likely to be perceived as significant national issues by the citizenry, even during a dull of battlefield news or blights in antitwar controversy. Thus, the real test of media agenda setting requires attention to specialized issues, the significance of which are relatively unclear and the existence of which are unaccessible except for the media. Accordingly, more recent research has addressed the interaction over time of media coverage, public attention, and independently derived "real world measures" to sort out causes and effects (Ehrlich, Goldengeld, & Miller, 1980; MacKuen, 1981; Miller et al., 1979; Neuman & Fryling, 1985). There is an interesting tension in the agenda-setting approach between the individual and the aggregate level of analysis. At its root, the perception of cues about the political salience of issues is a psychological, individual-level process. The research methods of the original McCombs and D. L. Shaw (1972) study and the great majority of those following it, however, have relied on aggregated survey interview data. Only Doris Graber's most recent book (1984), Processing the News: How People Take the Information Tide, relies heavily on depth interviews and a disaggregated approach to cognitive processes. But, this tension between the individual and the aggregate level may prove to be a productive one (Neuman & Fryling, 1985). Increasingly, the field is incorporating the ideas of Noelle-Neumann's (1984) spiral-of-silence notion, which emphasizes that each individual's opinions on public issues are perceived by individuals as either being consonant with or at some distance from the central tendencies of public opinion in general. Furthermore, McCombs himself in a recent article (1981b) has made the case that no single methodology is exclusively appropriate for agenda-setting research, but that a mixture of individual and aggregated approaches ought to be pursued. Although there is considerable interest in the underlying metaphor of agenda setting and the associated research methods, the accumulated empirical findings thus far have been ambiguous and conflicting. Even within the two major book-length studies—D. L. Shaw and McCombs (1977) and Weaver et al. (1981)—there remain unresolved conflicts and contradictions in the data including those that bear directly on the agenda-setting hypothesis itself. In the Weaver et al. study, for example, parallel surveys were conducted in Lebanon, New Hampshire; Indianapolis, Indiana; and Evanston, Illinois. There was such a complicated pattern of confirmation and disconfirmation of the agenda-setting hypothesis, using identical methodologies at the different sites, at different time periods in the campaign, and with various dependent variables, that the authors had to compile charts to report the complex pattern of positive and negative results. Reviewing the full corpus of research studies reveals further conflicting findings, but in this case, the problem is further complicated by the diversity of methodological approaches. As Winter (1983) puts it: "The drive for total innovation has overwhelmed the scientific prerequisite of at least partial replication" (p. 240). The general response of researchers in the field has been to try to sort out in which media, about which types of issues, and for which types of individuals the agenda-setting phenomenon is most clearly in evidence. It is not clear whether television or newspapers have stronger agenda-setting effects
McCombs & D. L. Shaw, 1972, vs. D. L. Shaw & McCombs, 1977; see also Weaver et al., 1981). There are conflicting findings on whether high-interest voters are more susceptible to agenda-setting effects or not. Mullins (1973) finds no difference; E. F. Shaw (1974) finds a positive relationship between interest level and agenda-setting effects; and McLeod, Becker, and Byrnes (1974) find a negative relationship. It is unclear whether intervening, interpersonal discussion lessens the agenda-setting effect of the media. McCombs and D. L. Shaw (1972) conclude that it does. Mullins (1973) concludes that it does not. Even McCombs' students working together at Syracuse were unable to converge on an optimal time frame and time lag to demonstrate agenda-setting effects (G. Stone, 1975 versus Winter, 1979).

With the publication of several overview assessments of the literature in 1981, including those by Weaver et al. and McCombs (1981a,b), there was a clear-cut call for coordinated collegial efforts to develop a consistent approach to measurement. There is strong agreement that rather than attempting to infer effects from single-time surveys, every effort should be made to collect continuous time series data. And finally, the field must address the question of overall issue agendas, as well as the unique patterns in the rise and fall of issues over time. As McCombs (1981a) puts it, the agenda-setting metaph is a powerful one, but we are early yet in the process of moving metaphor to theory.

4. The Spiral of Silence

Elisabeth Noelle-Neumann (1977, 1984) has been developing just such a theory for research on the dynamics of agenda setting. She uses the notion of a spiral of silence as her key concept. Her emphasis is on understanding public opinion as a public phenomenon, rather than a simple summary of private opinions. Most individuals, she argues, are inclined to weigh their own opinion against their perception of the climate of opinion before expressing their views publicly. If individuals believe they are in a small minority on a particular issue, they are less likely to express their view, or they will at least weaken their stand somewhat so as not to appear isolated or too cosmopolitan, as measured by the number of trips they have taken to Des Moines. They found that the role of communications channels shifted over time, with early adopters receiving most of their information from salespersons and later adopters learning about hybrid corn from neighbors. Rogers (1983), who has participated in and monitored this field, described their study as establishing the research paradigm and putting an indelible stamp on the studies to follow. A particularly interesting element of this research tradition is its emphasis on the failure, as well as the success, of innovation and communication campaigns. Rogers (1983), for example, traced the failure of an intensive 2-year campaign by public health workers in the remote Peruvian village of Los Molinos to promote the boiling of drinking water because of the impure water
system. After 2 years, only 5% of the families of Los Molinos adopted the regular practice of drinking only boiled water in response to the health workers' efforts. Research revealed that the boiling of water had strong symbolic meaning in local custom for reasons not at all related to sanitation. The villagers believe that only the sickly should drink boiled water and that it was unthinkable that a person not yet sick would do such a thing. The villagers, Rogers reports, were resistant to attempts to explain the existence of germs in the water. They insisted that if the germs were so small, how could they possibly harm humans.

The role of the mass media in the diffusion process is perhaps best characterized by the classic study conducted by Neurath (1960). He studied the patterns of agricultural innovation in India. In this study, villagers listened to an agricultural radio program describing basic and innovative farming techniques appropriate to their area. In one village, farmers simply listened to broadcasts. In another, they listened and discussed the relevance of the broadcasts among themselves. In a third control village, neither the radio programs nor the discussions were available. Neurath found that only with the reinforcement of local discussion were there significant innovation effects.

The underlying model of communications effects in the information diffusion perspective can be straightforwardly summarized: "Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 1983, p. 5). The emphasis is on the flow of new information or innovation and its accumulative effect over time. Figure 6 illustrates the now-classic S-shaped diffusion curve and the traditional typology of early and late adopters. There is an intriguing pre-innovation orientation of this research, which labeled those who adopt late as "laggards". Rogers explains that this research tradition results primarily from sponsored research of change agents and such an orientation is a natural outgrowth of that history. More recent research has attempted to take a more balanced view of the positive and negative impacts of various innovations (Rogers, 1983, pp. 92-103).

2. The Two-Step Flow Theory

This research tradition is, in effect, a subset of the information-diffusion school. It reflects another characteristic of new work on communications effects, in that it pays close attention to the social characteristics of those who are most receptive to new information rather than creating the audience as an undifferentiated mass. The two-step flow model emerged out of the Columbia voting studies of the 1940s and 1950s and focused on the flow of information from the media through opinion leaders to the mass audience. Despite extensive coverage in the mass media, voters appeared to be relatively uninformed about the issue positions of the candidates. The Columbia researchers emphasized the reassuring findings that better educated citizens spent significantly more time attending to the media, were better informed about issues, and played the role of opinion leader in interpreting, explaining, and passing on information from the media to friends, colleagues, and family members. More recent studies have expanded the original two-step formulation to a multistep flow and a more complex process, with different types of people playing leadership roles in different issue areas (Katz & Lazarsfeld, 1955; Rogers, 1973; Tylor; & Van Dam, 1965).

Figure 7 summarizes the convergent findings of research in this field. As one might expect, education, social participation, media exposure, and other similar variables associated with social status are positively correlated with receptivity to innovation and new information. Early innovators, however, although demographically upscale, tend to be self-reliant and independent, and accordingly are somewhat less likely to socialize and play the role of opinion leaders.

The more recent studies that re-examine one-way, two-step flow to a multistep, interactive process of discussion and interpretation among interested citizens converge with other emerging research models and blur the distinctive character of the original two-step model.

3. The Information Gap Theory

Another related model, which has emerged from the work of Tichenor and colleagues (Tichenor, Donohue, & Olien, 1970, 1980; Ettema & Kline, 1977), combines the idea of information diffusion and an educationally differentiated audience.
As the infusion of mass media information into the social system increases, segments of the population with higher socio-economic status tend to acquire this information at a faster rate than lower status segments, so that the gap in knowledge between these segments tends to increase. (From Tichenor et al., 1970, Public Opinion Quarterly, 34, p. 129. Reprinted by permission of University of Chicago Press.)

In their original study, they demonstrated that after several years of heavy media attention to space rocketry and satellites, the gap in knowledge about the space program across educational strata increased. Similar widening knowledge gaps were found for new information on the relationship between smoking and cancer. It is an important extension of the basic information diffusion model because of its emphasis on the possibility that widening gaps in political perceptions among different class strata could lead to increasingly polarized political confrontations.

In a thoughtful review of the information-gap model in 1977, Ettema and Kline expanded the research paradigm to include the corresponding and opposite ceiling-effect phenomenon—the prospect that over time, as a result of repeated coverage of an issue, the information is fully penetrated in the upper social strata and the lower social strata may, in effect, catch up. Ettema and Kline report a number of conflicting findings in their review of the relevant studies, and they appropriately turn their attention to the conditions and types of issues for which knowledge gaps or ceiling effects in the diffusion of information over time are likely to be in evidence.

Tichenor and colleagues (1970) had assumed that the knowledge gap would be primarily a result of less-developed cognitive skills and lower levels of media exposure among lower status groups. Ettema and Kline offer an intriguing alternative explanation, focusing on the motivations of different social groups to attend to such issues. They suggest that lower class individuals might well conclude that certain kinds of economic information is simply not relevant to them because they are effectively excluded from employment in certain roles. They suggest that the motivation-relevance variable is perceived by the different social strata be added into the theoretical model.

Rogers' (1983) overview notes that the information diffusion field has grown dramatically in the years following the seminal studies of agricultural innovation and now includes over 3000 studies across a range of social science disciplines. Three fundamental tenets of the research approach persist (1) a clear reliance on the element of time in communications; (2) an explicit recognition that communications take place in a social environment, with close attention to the structural characteristics and cultural values of that environment; and (3) a recognition that communications take place against a pattern of resistance. Perhaps one of the reasons that the interest in information diffusion is so strong is that innovation attempts so frequently fail.

V. PARALLEL CONTENT ANALYSIS

A. Common Elements in the New Research Perspectives

The inherent limitations of the experimental, survey, content analysis, and field research traditions have been outlined here. Communications scholars, for the most part, well aware of these limitations. They criticize them in the work of others and attempt to overcome them in refining their own research designs. A number of new schools of research have also been reviewed. In each case, the evolving methodologies of the research schools self-consciously and explicitly attempt to overcome methodological limitations of previous work. The common elements of these evolving research perspectives provide a basis for a convergent approach.

1. A Broader Definition of Communications Effects

There has been a steady pattern of movement away from the narrowly circumscribed attitude-change paradigm as characterized in the work of Carl Hovland and his associates. The new work moves toward an exploration of the effects of communication on cognitive structures, political and cultural assumptions, knowledge, images, stereotypes, political agendas and ideologies. For the most part, these new research approaches are intended to supplement rather than replace the original attitude change model. The impact of mass-communicated messages on attitude change remains a matter of considerable concern. But increasingly, researchers are attempting to explore the interaction of attitudes with cognitive styles, perceptual schemata, and cultural premises.
Researchers are moving beyond a narrow focus on the intended effects of persuasive and advertising messages to explore a variety of unintended effects. Perhaps an appropriate example here would be the study of advertising effects. Initial work, naturally enough, focused on the ability of advertisements to increase product sales. Increasingly, however, scholars have become concerned with cumulative effects, especially the commercialization of American culture (Schudson, 1984).

The cultivation model notes that television producers structure their programs to develop a narrative denouement, and, of course, to maximize commercial popularity. They and their sponsors may be a bit curious about the long-term, accumulative, cultural effects of situation comedies and action-adventure shows, but such matters lie outside of their day-to-day concerns and outside of the purview of the research the industry sponsors. Such effects are subtle and difficult to measure.

The agenda-setting model notes that the process of gathering, editing, and presenting the daily news involves a complex interaction of professional journalistic norms and commercial considerations. Journalists do not gather at editorial meetings with the conspiratorial intent to set anybody's political agenda. They see themselves as reporting the day's news, not filtering, structuring, and interpreting complex and ambiguous events. But, over time, the effect of professional norms about what is and is not newsworthy may well come to structure political debate and public opinion.

There is also a clear shift from a linear, one-directional notion of communications effects toward an interactional model. A notion of an active audience, of uses and gratifications, of the interpretation of communicated messages, and of patterns of selective recall all draw attention to the interactional nature of the communications process.

2. Multimethod Models

In tandem with a growing belief that it is necessary to define communications effects more broadly, there is increasing recognition that any single approach is by itself incomplete. The fable of the blind men and the elephant comes to mind. For a while, experimentalists and survey researchers, each relying on their own data, debated the true character of the communications process. It may be that the eyesight of no single researcher has improved a great deal over the past 20 years, but there is at least an increased recognition that a consensual assessment, including the participation of each method, is needed. The concluding note of Comstock et al.'s (1978) massive assessment of the field focuses on this issue:

In a single laboratory-type experiment, the role of statistical sets is to ensure that a particular finding is highly unlikely to be the result of sampling anomalies. That role cannot be filled by replication in order to make inferences about events outside study. Replication does increase confidence that within the limits of the method the finding is real, and it can expand the categories of persons for which a finding can be said to hold; but it does not ensure generalizability to real life events.

The unhappy fact is that no single method can provide unambiguous evidence of a real-life causal relationship. There is typically a trade-off between lack of ambiguity for causal inference and the certainty of real-life applicability. There is also typically a trade-off between flexibility, in terms of ability to study an issue and the diversity of issues that can be ended, and the certainty of real-life applicability. The laboratory-type experiment is strong for causal inference and in flexibility, but direct extrapolation to real life events is hazardous.

The difficulty is that finding may always lie in some way attributable to the artificality of the circumstances, so that what is "real" within an experiment may not be real in terms of actual events. (Reprinted from pages 491 and 492 of Television and Human Behavior by the RAND Corporation, New York: Columbia University Press, 1978. Copyright 1978 by the RAND Corporation. Used by permission.)

In resonance with that point of view, the agenda-setting model calls for a comparative analysis of media content data and survey data on public agendas. The work in the field has recently been expanded to include depth-interview methods (Graber, 1984; Weaver et al., 1981) and field data on so-called "real-world cues" (Ehrenreich et al., 1963; Zucker, 1978). The cultivation-analysis model integrates the use of content analysis, survey research, and, in some cases, field data. Other work on the structural characteristics of mass media institutions, such as that of Gans (1979), combines participant observation in the field with content analysis. All in all, these efforts appear to be a widely accepted and strongly encouraged development.

3. Research in Natural Environments

Another way of characterizing this trend is the movement from the laboratory to the field. It is not an abandonment of the laboratory but rather a growing recognition that laboratory data should be validated against field results. In addition to the growth of multimethod research designs, there is increasing use of field experiments. Ball-Rokeach, Grube, and Rokeach (1984), for example, have recently reviewed the increasing attention to naturalistic settings for media-effects research. The field is undergoing a renaissance.

The work by Iyengar and Kinder (1987) provides another important example.

4. Renewed Attention to Communications Content

This, too, grows out of the broader definition of communications effects and concerns about natural environments. In the experimental tradition, researchers commonly refer to communications content as the "stimulus." Such a technologism is revealing. It emphasizes the generic qualities of the message being studied. The message/stimulus is seen as a sample message taken to be reasonably representative of a general class of messages. Thus,
any convenient persuasive package or segment of violent television content might well make a suitable stimulus for research in much the same way that college sophomores were convenient representative humans of the species. This reflected the long-lasting effects-centric orientation of communications research. But researchers increasingly came to see the subtleties of meaning within the communications stimuli as worthy of closer attention. Comstock et al. (1978), for example, trace how research on children and television first used rather informal and approximate measures of overall television exposure and attempted to correlate them with behavior patterns. Increasingly, designs became more sophisticated, and measurement focused on the character of the television programming viewed rather than simple aggregated viewing time. These differences in measurement, they argue, lead to significant differences in the kind of conclusions reached.

5. The Importance of Time-Series Measurement

Katz's (1968) overview of the field gets right to the point:

"Discovery of the link between the mass media and interpersonal networks (the research on two-step flows) revealed that the process of change cannot be represented as a straight line between persuasive media analysis and individual action, but as the media do not act directly on decisions they do not act immediately. Influence takes time. Introduction of the notion of time into the conceptualization of the media effects international empirical research from media campaigns to the diffusion of innovations, i.e., the study of acceptance over time (emphasis in original) of some new idea or new thing as it makes its way through a social structure via media and interpersonal networks. (p. 122)"

James Coleman (1964, 1981) has been trying to convince his colleagues in the social sciences to include time explicitly in their models and theorizing. Kluehe (1977), MacKuen (1981), and Fan (1986) have already more recently developed this argument with particular attention to communications processes. It is not that the research community is unpersuaded. The relative sparsity of time-series measurement is primarily a function of administrative difficulty and expense. Measurement over time is integral to the models of agenda setting, information diffusion, information gap, and two-step flow. Time is also an explicit element in cultivation theory and, as Roberts and Bachen (1981, p. 328) point out, it is ironic that so much of the cultivation research conducted by the Annenberg group has relied on inference from cross-sectional analyses.

6. A Flexible Approach to Units of Analysis

The classic studies relied on either experimental or survey designs. In each case, the measurement was of individual attitudes or behavior. The individual-level data was aggregated and analyzed statistically to make inferences about the propensities of human behavior. Such aggregation averages out potentially differential interpretations of small contents by different individuals or different types of individuals. Multimehd approach, however, by their nature, are more flexible and allow the analyst to move back and forth between individual- and aggregate-level data. McLeod and Reeves (1980) dealt with this issue at some length. They characterize communications research as more like political science than psychology, in that it must deal with both institutions and behavior rather than with just behavior. They suggest that as a result, the development of theory in communications research comes more slowly and in smaller "islands" than the grand theories of such single-level fields as psychology or organizational behavior (pp. 38-40).

7. The Blurring of Boundaries

As a result of the common elements in these new research perspectives, each is becoming somewhat less distinct, perhaps even moving toward integration. Agenda-setting studies, for example, increasingly emphasize the analysis of time-series data in a manner quite akin to the diffusion tradition. Furthermore, the agenda-setting work has incorporated contingent variables such as the need orientation of audience members, highly linked to the uses and gratifications tradition (McCombs, 1984a,b). Cultivation analysis has also developed a uses and gratifications component, the notion of resonance—"the amplification of issues particularly salient to certain groups of viewers" (Gerbner et al., 1980)—and having collected time-series data, they will no doubt move in that direction as well. Ultimately, each perspective may increasingly cite the other literatures.

B. Parallel Content Analysis as a Strategy for Research

The idea of parallel content analysis is not new but rather represents a confluence of research ideas and a reformulation of the new communications-effect paradigm in progress. Table II presents a list of eight proposals for new paradigms in communications research. Each of them involves elements of parallel content analysis. The first two are those by Weber and Laswell, reviewed at the beginning of this chapter. The third proposal was put forward by Morris Janowitz. In his 1969 essay, Janowitz reviewed Laswell's proposal for quantitative research on political values in the world's major mass media and the circumstantial, administrative, and substantive reasons why Laswell's call to arms failed to inspire a significant following. In that article, Janowitz simply observed the failure with disappointment and left it at that.

In 1976, however, Janowitz was moved to present a proposal of his own. He published an article in the Journal of Communication entitled "Content Analysis and the Study of Socio-Political Change." He had become intrigued
| Table 2: A Time-Scale of Social Consequences of Mass Media Change

<table>
<thead>
<tr>
<th>Proponent</th>
<th>Year</th>
<th>Key Concepts</th>
<th>Social Indicator</th>
<th>Social Change</th>
<th>Cultural Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Weber (1914)</td>
<td>1914</td>
<td>Power élite theory</td>
<td>Social stratification</td>
<td>Social stratification</td>
<td>Social stratification</td>
</tr>
<tr>
<td>Harold Lasswell (1948)</td>
<td>1948</td>
<td>Propaganda model</td>
<td>Mass communication</td>
<td>Mass communication</td>
<td>Mass communication</td>
</tr>
<tr>
<td>Harold Lasswell (1948)</td>
<td>1948</td>
<td>Propaganda model</td>
<td>Mass communication</td>
<td>Mass communication</td>
<td>Mass communication</td>
</tr>
<tr>
<td>Robert Miège (1959)</td>
<td>1959</td>
<td>Propaganda model</td>
<td>Mass communication</td>
<td>Mass communication</td>
<td>Mass communication</td>
</tr>
<tr>
<td>Philip Stone (1972)</td>
<td>1972</td>
<td>Post-industrial society</td>
<td>Individualism</td>
<td>Individualism</td>
<td>Individualism</td>
</tr>
<tr>
<td>George Gerbner (1972)</td>
<td>1972</td>
<td>Cultural diffusion</td>
<td>Mass media</td>
<td>Mass media</td>
<td>Mass media</td>
</tr>
<tr>
<td>James Combs (1975)</td>
<td>1975</td>
<td>Cultural diffusion</td>
<td>Mass media</td>
<td>Mass media</td>
<td>Mass media</td>
</tr>
<tr>
<td>Philip Stone (1972)</td>
<td>1972</td>
<td>Post-industrial society</td>
<td>Individualism</td>
<td>Individualism</td>
<td>Individualism</td>
</tr>
</tbody>
</table>

The table above outlines the progression of social and cultural consequences of the mass media from the early 20th century to the late 20th century. Each proponent's work builds upon the previous, indicating a shift from microlevel social effects to macrolevel cultural transformations. The social indicators move from individual-level changes to global trends, reflecting the increasing reach and influence of the mass media.

by a relatively obscure commercial service called "The Trend Report," generated by the Center for Policy Process. The Center had accumulated trend analysis data over the preceding 5 years from a weighted representative sample of 200 American newspapers. The director of the center, John Naisbitt, later became quite well known with the publication of *Megatrends* (1982), a mass-audience book that drew on trend data. In his proposal, Janowitz called for a revitalization of time-series content analysis and coordinated efforts to utilize systematically coded media data in the study of long-range political, social, and cultural trends. Janowitz, however, has not been active in this area, and Naisbitt's status as a best-selling author has kept him busy with public speaking engagements. Shortly after Janowitz published his initial essay, Philip Stone published a paper that expanded on his own pioneering work on *The Inquirer* (P. J. Stone, 1972) and that proposed an ongoing computerized content analysis of both media content and a sampling of significant social documents. Stone's proposal was based on the idea of extending the notion of social indicators (Bau'd, 1966). Stone observed,

"Most social indicator surveys focus on statistics similar to economic indicators. A classic case is Durkheim's study of the analysis of suicide rates. Another kind of social indicators, which we will consider in this paper, is based on changes in the content of the mass media and other public distributions of information such as speeches, sermons, pamphlets, and textbooks (p. 210)."

He pointed out the potential relevance of such data to Karl Mannheim's (1936) work on cultural heterogeneity, Deutsch's (1963) work on political feedback patterns, and Johnson, Sears, and McConahay's (1971) study of "black invisibility" in media coverage and changing racial attitudes. He pointed out that automated optical text processors and growing computerized text processing by the media themselves increase the ease and lower the costs of computerized monitoring. His proposal has been expanded and developed by De Weese (1976), Firestone (1972), and R. P. Weber (1984) and has stimulated considerable interest in Europe (Melischek, Rosensgren, & Stappers, 1984; Moehlmann, 1940).

George Gerbner's 1973 paper on cultural indicators, published in the proceedings of an international conference on the future of content analysis, is one of the grandest and most expansive of this series of proposals. He also began drawing on the social-indicators tradition in noting that private and governmental commissions since the 1930s had called for systematic efforts at monitoring the media and media effects. Gerbner argues that few policy matters as significant as communications policy are determined with so little reliable systematic cumulative information about actual trends.

We know very little about trends in the composition and structure of the mass-produced system of messages that define life in urbanized societies. We know less about the
institutional processes that compose and structure those systems. Most of our research on how people respond and behave in specific situations lacks insight into the dynamics of the common control context in which and to which they respond…

How is this massive flow managed? How does it fit into or alter the existing cultural context? What perspectives on life and the world does it express and challenge? How does it vary across time, societies and cultures? Finally, how does the collection of collective assumptions relate to the conduct of public affairs, and vice versa? (From Gerbner (1979), in G. Gerbner, L. Gross, & W. Melody (Eds.), Communications Technology and Social Policy: Understanding the New "Cultural" Revolution (pp. 25, 538). Copyright © 1979. Reprinted by permission of John Wiley & Sons, Inc.)

Also in this essay, Gerbner developed the concept of cultivation analysis, which became integrated into his studies of television violence. Gerbner's strategy apparently was to follow up on the call for ongoing monitoring of television violence made in the 1972 Surgeon General's report on television and children (Surgeon General's Scientific Advisory Committee on Television and Social Behavior, 1972) and develop a seed project for a broader inquiry into cultural trends and media effects. These setbacks hindered this strategy. First, the funding available for monitoring television violence turned out to be very limited. Second, the research effort, as it turned out, became an exclusive enterprise of Gerbner and his colleagues at the University of Pennsylvania and did not develop into a cooperative effort of scholars in the field. Third, because of these first two constraints, the theoretical and methodological scope of the research as originally proposed was never fully executed.

Steven Chaffee, responsible for the next in this series of proposals, published a keystone theoretical chapter entitled "The Diffusion of Political Information" in his book, Political Communication (1975). Drawing on David Easton's general model for a political system (1953, 1965a,b), Chaffee assembled an inspiring agenda for research focusing on political communication. Like Gerbner's proposal, his proposal outlined a broad front of coordinated research and data collection over time. Chaffee particularly emphasized the relevance of the information-diffusion model for the maintenance of authority and support in political systems. He noted the importance of appropriate time-series data for refining current theories of political socialization and political mobilization. In the conclusion, he noted sagely,

The preceding discussion of methodology and pragmatic realities makes it clear that the kind of research outlined in this paper is not going to be conceptualized, proposed, funded, and executed at one fell swoop… Some provisos need to be set so that incremental approaches can be made toward realization of a program that is of essentially, in retrospect, be seen as aiming toward development and testing of a comprehensive and empirical theory of the diffusion of political information. (pp. 123-124)

Chaffee's incremental strategy and his attempt to bridge the gap between diffusion of information and communications effects research, however, did not stimulate much of a reaction in the literature.

James D. Binger's (1978) paper, "Media Content as Social Indicators," is the first in this series of calls for research to explicitly take its predecessors into account. Binger cites Laswell, Janowitz, and Stone and draws on both the traditions of social indicators and agenda-setting to propose the use of existing periodical indexes as a cost-efficient technique for monitoring media trends:

The idea that measures of mass media content might complement survey research in monitoring survey research is as old as public opinion polling itself… The limited success of past attempts to monitor social change using media content on a large scale, continuing biases would seem to be due to the prohibitive cost of the data collection efforts, rather than any shortcomings of the underlying idea. A better strategy might be to develop and test media indicators on a more modest scale. (pp. 450-451)

He proposed the general term "Greenfield Index," after journalist Meg Greenfield who first used it in the early 1960s to trace the trends in media attention to religious institutions and moral conditions. Binger noted approvingly that Greenfield did not naively equate media attention with cultural trends or public opinion but, as a practicing journalist, was very much aware of the fads and fashions of journalistic coverage. Binger's extension of Greenfield's technique was to compare the time-series media index data with national statistics and public opinion data.

The most recent proposal in this tradition was advanced by Karl Eriq Rosengren, who heads up a Swedish research team studying cultural trends and agenda setting in post-World War II Sweden. Rosengren (1980) reestablished the roots of this research in the German tradition of sociology of knowledge, drawing on questions raised by Marx, Weber, and Mannheim: "Perhaps the first thing to question about media as agents of social change or the status quo is a special case of the old question of the relationship between culture and social structure" (p. 169).

Rosengren's model of the interrelationships between social structure and culture ties several strands of the European philosophical tradition to recent empirical work on social and cultural indicators. The final report of the Swedish cultural indicators research program is not yet published, but some of the scattered research reports published thus far will no doubt when the appetite of the research community (see Rosengren, 1981).

One might note, in the progression of proposals summarized in Table II, from Weber in 1910 to Rosengren in 1980, that up until the last two, each of the others emphasized itself as the beginning of a new tradition rather than the most recent manifestation of an ongoing movement in social science. Some of these scholars emphasized the analysis of media trends as an indicator of social trends, whereas others seemed to be more interested in the media as a causal agent in the agenda-setting sense. Some emphasized broad cultural
norms, whereas others centred on the rise and fall of more narrowly defined political issues. Some emphasized methodological precision and rigorous modelling, whereas others emphasized a less formal and more open-ended approach. But, there were strong common themes to each of these proposals. They all emphasized the empirical measurement of trends in media content over time and the systematic comparison of those trends to other forms of behavioral or public opinion data. Each shared a central theoretical concern with the role of the media in social and political change.

The present case for parallel content analysis draws on and extends this tradition of proposals in calling for a programmatic research effort on long-term trends in mass communication and public opinion. The term parallel content analysis emphasizes the need for flexible but isomorphic measures of trends in media and other indicators of public and political life. Elsewhere, it has been referred to as the "Input-Output Model" (Neuendorf, 1982) or simply as "agenda-setting" (Neuman, 1979).

A consistent and perhaps ultimate shortcoming of the content analysis tradition is its ad hoc character. A basic principle of the accumulation of scientific knowledge is the comparability of studies. Both the experimental and the survey research traditions have developed a reasonable tradition of accumulated findings and ultimately, on some issues, scientific consensus through the use of systematically comparable methods. Given that each new attempt at content analysis started with a unique content sample and almost always a unique coding scheme, an accumulation of convergent findings has been all but impossible. The two key requirements for content analysis to take its place among the other research traditions are (1) a programmatic effort of the research community to develop a general-use representative sampling of media content, and (2) the development of some standardized codes for central theoretical constructs.

Clearly, no sampling of media content or coding scheme, regardless of how expansive or flexible it might be, could be appropriate for all research issues. But a programmatic effort to establish a single archived set of raw content data and at least a standard set of common codes against which individual scholars could compare their findings and to which they could contribute, would be essential. It would take time, no doubt, for a reasonably refined set of codes for measuring social and cultural and political change to emerge, but a special advantage of archived content data is that newly refined codes could always be applied to archived raw data.

The six principles put forward in this call for research are as follows:

1. A programmatic effort for coordinated, archived data collection
2. A general-use representative sample of mass media content
3. A corresponding general-purpose audience sample of loosely structured depth interviews and standard survey items
4. The coordinated collection of extant data on aggregate social behavior from a variety of institutional sources (real-world data)
5. The development of a battery of standardized content codes that can be applied to both the media and the public interview samples
6. Continuous data collection over an extended period of time.

The primary mass media would be defined as television, radio, motion picture, newspapers, magazines, and books. A procedure would be designed to generate a sample of available content in each of these media, weighted by audience exposure, so that the content collected represented what American citizens are most likely to read and see. The raw materials would be permanently archived on audio- and videotape and microfilm, and the audio component of the broadcast and motion picture sample would be transcribed. The sampling interval would be monthly. Standardized codes would include broadly defined values, the depiction of violence, the ratio of information to entertainment, the proportion of foreign versus domestic news, the treatment of specific issues and events, and so on. As the theoretical relevance of new values or issues became clear later on, analysts could return to the earlier data and add new time series to the accumulated data base.

Public opinion would be tracked by a parallel system of open-ended monthly depth interviews with a representative sample of perhaps 200 individuals in a rolling panel design (whereby a subset are reinterviewed at regular intervals and others are freshly integrated into the sample). The interviews would last one hour or a bit longer and would involve a series of general probes, including current concerns facing the individuals and their families and the nation as a whole, what the individual had seen or read about in the media lately, and other probes about their perception of their social and political environment, as well as standardized indicators of trust in government, evaluation of the economy, evaluation of the president's handling of his or her job, and other such indicators that have proven valuable in polling research. The use of open-ended techniques leads to a smaller proportion of the population commenting on any given issue. In a 1-hour interview, even with appropriate probing, any number of prominent and important issues may not come up. Such an approach is, in that sense, inefficient, compared with standard closed-ended survey items. But given such trade-offs, interviewing techniques can be designed to include both formats, starting with very broad unstructured probes, leading to a list of standard probes, and then ending with closed-ended survey questions.

The kinds of theoretical concerns potentially addressed by a data resource of this type would include the rise and fall of political issues from public attention; changing political institutions such as political parties, unions, and other voluntary organizations; political mobilization; the role of the media in following, reinforcing, or initiating changing values and beliefs; strategies
of citizens for processing large amounts of complex information about public affairs, and so forth.

Perhaps the best argument for the promise of this approach is noting the achievements of individual attempts along these lines thus far.

C. Some Exemplary Studies

Despite their diversity, each of the following studies involves a significant subset of the six principles of parallel content analysis noted above. In an effort to overlay some structure on an unruly literature, the studies are organized along the seven research-tradition headings in Table III. The first four, taken together, represent the basic model of parallel content analysis. The fifth, refraction analysis, reflects the non-time-series approach, and the sixth and seventh represent examples of additional studies that apply these principles in a more narrowly focused theoretical domain.

1. Cultural Indicators

The emphasis here is on broadly defined, long-term cultural trends. Increasing or decreasing emphases on particular values or symbols over periods from several decades to several centuries long are contrasted with aggregate data on changing social behavior. Practitioners here trace their roots to Sorkin's class work on cultural dynamics (1927-1941) and George Gerbner's more recent theoretical work (1969, 1973). A symposium on cultural indicators was held in Vienna, Austria, in the winter of 1982, under the auspices of the Austrian Academy of Sciences, and it resulted in Cultural Indicators (Mellscheik et al., 1984). Plans are currently being discussed for another international symposium.

If there is a classic and seminal study, perhaps it is the analysis of popular magazine biographies conducted by Les Lowenthal (1944) and reprinted in his more recent book, Literature, Popular Culture, and Society (1961). Lowenthal noted that biographies had become increasingly prevalent in popular magazines in the first half of the twentieth century. He found that the classic American symbolism of the Horatio Alger myth was indeed heavily emphasized and that a systematic content analysis of these biographies over time might reveal some prevailing cultural trends. Indeed they did.

Lowenthal found a correspondence between the economic transition from the early smokestack, production-oriented stage to the mass-consumption stage that followed in mid-century and the trends in magazine heroes (see Fig. 8).

The early biographies included those of J. P. Morgan, railroad president; James J. Hill, pioneer in aviation and the inventor of the torpedo; and James C. Davis, the director general of the U.S. railroad administration. These biographies had such headings as "Unknown Captains of Industry" and "Wall Street Men." From a representative sketch of Theodore Roosevelt, Lowenthal quotes,
<table>
<thead>
<tr>
<th>Research tradition</th>
<th>Exemplary studies</th>
<th>Theoretical focus</th>
<th>Principal methodology</th>
<th>Limitations</th>
<th>Principal contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural trends</td>
<td>Vatz (1973); Lowenthal (1964); Swanson (1961); McChesney, Rawlens, &amp; Steppens (1964)</td>
<td>Long-term, cultural, social trends, nature of production &amp; consumption, society vs. religion, women in labor force, femaleness, equality, education, international relations</td>
<td>Time-series content analysis of periodicals, newspapers, public speeches, books, advertisements, editorial</td>
<td>Works with time-dependent neglect of measurement variables outside cultural-print sphere</td>
<td>Draws attention to long-term trends, broadly defined issues</td>
</tr>
<tr>
<td>Event-agenda setting</td>
<td>Frankle/ner (1978); Beniger (1979); Boyack (1979); Byrnes, Goldberg, &amp; Miller (1980); Smith (1980); MacKuen (1981); Neustad &amp; Frying (1988)</td>
<td>Media effects, interactions between real-world events, media interlink coverage, &amp; public opinion, Vietnam, social issues, pollution, inflation, international relations</td>
<td>Time-series content analysis of news media, content with time-series optima of data &amp; social commentary, social movements, etc.</td>
<td>Short time periods, media sampling problems, very insufficient public opinion &amp; national statistics, problems of non-constancy</td>
<td>Proposes practical model for causal content analysis, moves beyond description, data allow for some causal analyses &amp; sophisticated time-series techniques</td>
</tr>
<tr>
<td>Political cognition</td>
<td>Gaas (1979); Neustad (1980); O'Grier (1984); Crampton &amp; Motok (1985); Cappella (1985)</td>
<td>Political cognition, ideology, information processing, attention, political values, news institutions</td>
<td>Depth interviews with mass sample closely coupled with content analysis of news media</td>
<td>Not clear with non-linear content analysis of media &amp; political importance</td>
<td>Moves away from abstracted survey data to public opinion toward ethnographic interview reports</td>
</tr>
<tr>
<td>Communication flow</td>
<td>Neuman (1962); Duggan (1967); Post (1966); Takami &amp; Horwitz (1964); Neuman &amp; Post (1968)</td>
<td>Aggregate flow of information through mass media, media vs. behavior, information overload, media institutions, economy &amp; policy</td>
<td>Secondary analyses of content time-series data on media use, coupled with analyses of quantity &amp; content of information in various media</td>
<td>Dependent on industry data, which is incomplete, not frequently comparable across media, does not deal with media content or public response</td>
<td>Emphasizes long-term trends, aggregate data, trend analysis for large-scale content analysis</td>
</tr>
<tr>
<td>Refutation analysis</td>
<td>K. Lang &amp; Lang (1953); Bussel (1973); Cottey (1973); Nutman (1973), (1982)</td>
<td>Media effects, especially news, filtering, interpreting real-world events, credibility, gatekeeper effects</td>
<td>Method, very, comparing observations of real-world vs. media coverage, or different stages of media coverage or media coverage &amp; audience feedback</td>
<td>Non-linear analysis of media &amp; quality, of media &amp; audience reports</td>
<td>Complements time-series analysis through in-depth, nuanced study of successive stages of filtering, interpreting from source through media to audience</td>
</tr>
<tr>
<td>Short-term media effects</td>
<td>Boland &amp; Phillips (1981), (1982); Phillips (1983)</td>
<td>Media effects, behavioral modernism, media &amp; aggregate behavior</td>
<td>Time-series comparison of media coverage &amp; short-term changes in social realities or social trends</td>
<td>Difficulties of causal inference, limited available data on appropriate dependent variables, limited to short-term effects</td>
<td>Attention to laboratory-based studies of media &amp; aggregate behavior, pioneering efforts at using aggregate data</td>
</tr>
<tr>
<td>Presidential popularity</td>
<td>P. F. Stone &amp; Brady (1979); Boudy &amp; P. (1979); Haig &amp; Brady (1977)</td>
<td>Media effects, presidential political strategies, political support &amp; ability to govern</td>
<td>Time-series content analysis of balance between positive &amp; negative news coverage &amp; popular data on presidential job performance</td>
<td>Limited case frames &amp; stage-of-year assumed</td>
<td>Sophisticated modeling, causal analysis</td>
</tr>
</tbody>
</table>
constant in Sweden throughout this period. Block compared these findings with economic trends and Swedish voting patterns.

Robert Weber's (1983) study of cycles of political symbolism from 1795 to 1972 is particularly interesting and complements this research tradition. He uncovered a 52-year cycle of changing thematic emphases, which appears to be correlated with the Kondratieff economic cycle (Kondratieff, 1935). He analyzed the British speeches from the throne delivered at the opening of each British parliamentary session, corresponding to the American State of the Union address, and discovered a recurring cycle back and forth between progressive and conservative ideologies and also between cosmopolitan and parochial emphasis on national policy. Weber explicitly ties these patterns and political symbolism to business cycles as follows:

During each depression, there is debate within society on alternative courses of action. The Penchant theme represents this discussion. First, the realization occurs that the present situation differs from normal business cycles and thus requires strong action. Second, some action is chosen. Third, the decisions must be justified. The justification is reached in terms of the greatest good for the greatest number of people, even if some classes benefit more than others. As the economy begins to expand, a part of the additional profits and wealth is redistributed to workers. Some socialists are alarmed. This occurs in such a way that inequities in the distribution of power and wealth are not seriously jeopardized. These actions are discussed in the Progressive theme.

Following two decades of increasing output and real but limited gains for workers, the Cosmopolitan phase represents increased attention to the relations between the political center and periphery. This is a period of increasing concern with foreign affairs. There are calls for greater political and economic activity in the international area partly justified by the promise of additional benefits to workers and capitalists alike. However, as new contradictions build and profits decline, a conservative theme encompasses a discussion of the restoration of profits and capital accumulation. (p. 142)

Weber goes on to describe how further economic pressures lead to a return to parochial themes. He finds strikingly similar patterns in an analysis of American political speeches over the same period and ties these political cycles and economic correlates to Wallerstein's "world system" concept of the increasing interconnection of the world's nation states. Kondratieff's model has been challenged, and Weber's intriguing interpretation may too be subject to fundamental criticism. Nonetheless, such attempts as his and Block's to address long-term trends in fundamental values of equity and economic structure within societies offer an important link between the field of communications research and the fields of history, political economy, and comparative politics.

The weakness of this research tradition is its descriptive emphasis. With the exception of Weber's work and a few other studies, most analysts are content to systematically document long-term cultural trends and relate them in a loose and informal way to historical and economic phenomena. There
is, however wide recognition in the research literature (including Rosengren, 1981, and McQuail et al., 1964) that a systematic measurement of other domains of social behavior must be integrated with the cultural trend data if the field is ever to really blossom as an area of scientific inquiry.

2. Time-series Agenda-Setting Research

Time-series agenda-setting research represents a natural evolution from the original single-time correlation-aggregation methodology developed by McCombs and D. L. Shaw (1972). McCombs and his colleagues at Syracuse were acutely aware of the importance of the time element in the agenda-setting process and address the issue in a number of studies, most of which are reviewed and summarized in Eyew, Winter, and De George (1981).

The first time-series agenda-setting study, however, was conducted by another scholar working independently in California. Raymond Funkhouser published two articles in 1973, reviewing trends in the media coverage of political issues in the 1960s. His Journalism Quarterly article (1973a) is particularly interesting because he explicitly contrasts trends in media coverage with "real-world" statistics collected by federal agencies. He found a surprising independence between patterns of growth and decline in media coverage and the federal statistics covering such issues as Vietnam, crime, and racial unrest. Funkhouser reviewed a series of explanations for these disjunctions, emphasizing the regularized and structured demand for news by the commercial news media, in contrast to the random patterns of real-world events.

Zucker (1978), like Funkhouser, found a complex pattern of correlation and independence between media coverage and public opinion, and he developed a theory of variable news media influence based on the obtrusiveness of issues—that is, whether individuals have means other than the media to monitor these issues. Such matters as inflation and gas shortages would represent examples of obtrusive issues. Zucker also developed a theory of issue duration, positing that media influence would be strongest at the early stages of public attention to new issues.

Michael MacKuen's (1981) study is also convergent. MacKuen started from a simple time-series correlation model and extended it with appropriate mathematical adjustments to account for the inertial character of news coverage, which significantly improved the level of correlation between public concern and media coverage. But MacKuen's findings strongly support the other research in this tradition in demonstrating that the media-public opinion linkage is much more subtle and complex than originally posited by the agenda-setting model:

We move away from a canon that much of the public's awareness derive passively from the weight of contemporary news coverage and adopt the notion that citizens evaluate political events and respond to them selectively and differentially. That is not to say that

Parallel Content Analysis

Similar work has also been conducted by Beniger (1978), Ettinger et al. (1980), Neuman (1979), Neuman and Fryling (1983); and Smith (1986). A significant shortcoming of the time-series agenda-setting research thus far has been its reliance on available data, and especially archived Gallup data on the public perception of the most important problems facing the country.

3. Political Cognition

Political cognition represents a third research tradition that contributes to the concept of parallel content analysis. This literature is quite different from the first two. Cultural trends and time-series agenda-setting both emphasize aggregate long-term trends and a quantitative methodology. Work on political cognition, in contrast, tends to focus on small-scale, detailed content analysis or depth interviews. Gans's (1979) content analysis of thematic political values in American news media illustrates this approach. He found a number of persistent symbolic themes, including altruistic democracy, responsible capitalism, small-town pastoralism, and individualism. He also found a strong and persistent journalistic aversion to political extremes, which he labeled "moderation." Gans did not couple this analysis with a depth-interview study of audience responses, although he had conducted such work in other studies (Gans, 1962, 1968, 1974), but he focused on the structural constraints of modern American news organizations and emphasized persisting themes rather than recent trends.

William Gamson's ongoing work, although it does not involve a time-series design, perhaps comes closest to parallel content analysis (Gamson, 1988, Gamson & Modigliani, 1985). He and his associates thus far have focused their attention on four issues: affirmative action, troubled industry, nuclear power, and the Arab-Israeli conflict. They use a multiperson depth-interview procedure, called "peer group conversations," in which small groups respond to and discuss political cartoons and news stories. The discussions are recorded, transcribed, and content analyzed. Central to Gamson's work is a model of political schemata—cognitive structures that shape the processing, interpretation, and recall of political events and issues (Neisser, 1976; Abelson, 1981). He contrasts his approach with the agenda-setting model as follows:

In our model, it is not simply information that is trended, but packages that interpret information. People construct and modify their understanding in an environment that is
constantly offering them potential schemata, suggesting how an issue is to be understood and what should be done about it. One might better say that we adopt a schema rather than construct it, fleshing it out as we use it over time.

If this model is accurate, it gives the media an important and subtle role in shaping our thinking about public events. If a metaphor seems dramatic and compelling, one might adopt it without recognizing the taken-for-granted assumptions it contains. Once cannot quarrel with unexamined assumptions. The core of a package can be bootlegged into one's schema without the kind of awareness that allows for critical examination. (Galtung, 1989)

Such a perspective offers a fresh look at the issue of attitude change and the acquisition of political knowledge.

Doris Graber's *Processing the News* (1984) uses similar methods to develop models of citizens' strategies for, as she puts it, "rational the information tide." She conducted her study on 21 residents of Evanston, Illinois, organized into groups with varying levels of political interest and varying levels of media exposure. She developed a detailed model of the role of political schemata, with special attention to the relatively low level of political information exhibited by most citizens.

This line of research has been limited by short time frames of analysis, relatively small samples, and a loose fit between content analysis and depth-interview methodologies, but its potential contribution to parallel content analysis should be clear.

4. Communications Flow

As a result of some pioneering work by Ohlde de Sola Pool at the Massachusetts Institute of Technology and some of his colleagues at Tokyo University, another quite different approach has been put forward. The seminal publication was an article by Pool published in Science in 1963 and a booklength study by Pool and his associates, published by the University of Tokyo Press and North Holland Press in 1984 (Pool, Inose, Takasaki, & Hurwitz, 1984). Reviewing the importance of economic and industrial indicators, Pool argued that to understand the interaction of social communications and media technology, efforts should be undertaken to track the aggregate flow of information over time. Pool noted that the proportion of the work force working in the information sector has been rising from about 5% in 1870 to about 33% in 1915 to about 50% of all employees today.

Pool and his colleagues compiled statistics from a variety of industry and government sources and found that the flow of communications was increasing at a rate of twice that of a gross domestic product in constant dollars, but that the per capita consumption of words was growing at an equivalent rate, generating an increasing gap between the flow of mass media information and the amount of media consumed. One of his most intriguing findings was the discovery of a law-like correlation between price of communications and communications flow, as illustrated in Fig. 10. At the upper left of the figure are the mass media producing between 10^10 and 10^14 words per year in the United States, at cost of a fraction of 1 cent per 1000 words. In the lower right-hand corner are the point-to-point media, with prices in the range of 10 cents to 100 dollars per 1000 words, and, accordingly, much smaller levels of use.

The other conclusion clearly evident in this trend data from 1960 to 1980 is the decreasing price and increasing quantity of communications. Print media such as newspapers, magazines, mail, and books have changed relatively little in price and quantity, while facsimile, data communications, and cable television have moved several orders of magnitude in decreased price and increased quantity. In other related papers, the attempt was made to address the issue of communications overload and to extend the model with content analysis to track the growth and decline of broad categories of information rather than a simple aggregate level of words flowing through the media system (Neuman, 1982; Neuman & Pool, 1986).

5. Refraction Analysis

Refraction analysis is a term developed by G. E. Lang and Lang (1981). There has been surprisingly little empirical work along these lines, especially.

![Fig. 10. Pool's data on trends in media use and media costs in the United States, 1960-1980. From Pool, Inose, Takasaki, & Hurwitz (1984).](image-url)
considering the strong theoretical concerns with bias, filtering, and gatekeeping by the media. Refraction analysis refers to the systematic comparison of real-world events with their coverage in the mass media. We are adopting the term refraction analysis here to identify non-time-series parallel content analysis.

The classic study might well be the Lange's analysis of the MacArthur Day parade, published in 1953. Thirty-one participant observers were recruited to observe General MacArthur's triumphal airport arrival, motorcade, and parade in Chicago in April, 1951. The Lange compared the accumulated field notes with the television coverage of the event. They discovered that television coverage systematically distorted and exaggerated the character of the event. The coverage emphasized the cohesion and the size of the crowd, and through interviews and carefully selected camera angles, dramatized the ceremonial aspects of the General's visit. Given the straightforward research design of systematically comparing participant observation with media coverage, it is surprising that few scholars have followed in the Lange's footsteps.

Another approach to refraction analysis is exemplified by Breed's study (1955), in which he systematically analyzed the decision-making process of editors as they function as information gatekeepers, deciding to print some stories from the wire services and ignore others. Breed analyzed the patterns of selection and had the editors return to each of the rejected, as well as accepted, stories to explain their editorial reasoning.

Perhaps the most widely noted research tradition that falls under the refraction rubric is the work by George Gerbner and colleagues on cultivation analysis. The comparison of the demographics of television characters with the American population is important and provocative. The strongly critical judgment of the management and structure of American television that is associated with this research, however, may prove to be ill advised. The emphasis in television on certain character types may be primarily a result of the exigencies of drama and comedy rather than a reflection of systematic racial, gender-based, or age bias. One wonders, for example, whether the demographic of Elizabethan England closely paralleled the casts of Shakespeare's plays, and if not, whether the bard's work would deserve equivalent criticism. The close linkage of the analysis of communications flow to media reform at this early stage of research may actually inhibit both enterprises.

Other studies have conducted analysis on television news and entertainment programming and have conducted in-depth interviews with viewers following broadcast to systematically compare what elements of the programming were most easily recalled and how they were interpreted. Neuman (1976) revealed that although recall rates of network television news are rather low (reaching levels of 50% of the stories broadcast only after considerable prompting and cues of story "headline"), the rate of recall is quite similar for different educational groups. Recall of types of stories varies. As one might expect, human interest stories and visually explicit stories about unusual weather phenomena such as hurricanes are most easily remembered, whereas abstract discussions of the economy, ecology, or political commentaries are recalled at a lower rate.

Table IV reviews these stories and reports the proportions of stories presented compared to stories recalled. The content categorization is crude, and the viewer response is measured only in terms of recall, but the basic model of parallel data collection is demonstrated.

There seems to be a greater variation in responses to entertainment television. Table V reports the responses of viewers interviewed by telephone after watching 1 of 30 programs selected to be representative of the commercial and public television schedules (Neuman, 1982; Neuman & Kegans, 1989). Rather than measure simple recall of entertainment programs, the methodology in this case asked respondents what thoughts came to mind and made a distinction between analytic responses (responses regarding the program itself, focusing on plot, character development in the script, etc.) and interpretative responses (responses that related the content of the program to other ideas or events in the viewer's life).

Table V reports the relative rates of analytic and interpretative responses (indexed at 100, the overall average level of response for the 30 programs sampled) for different program types. Given that 30 programs represent only a tiny fraction of the full flow of broadcast content, one hesitates to draw

<table>
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<tr>
<th>TABLE IV</th>
<th>Short-Term Recall of Television News Stories*</th>
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<tbody>
<tr>
<td>Story content</td>
<td>Recall rate (%)</td>
</tr>
<tr>
<td>Weather</td>
<td>65.7</td>
</tr>
<tr>
<td>Human interest</td>
<td>58.7</td>
</tr>
<tr>
<td>U.S. politics</td>
<td>53.9</td>
</tr>
<tr>
<td>Race relations</td>
<td>53.0</td>
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<tr>
<td>Foreign affairs</td>
<td>53.0</td>
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<tr>
<td>Violence</td>
<td>52.3</td>
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<tr>
<td>Economy</td>
<td>50.5</td>
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<tr>
<td>Ecology</td>
<td>45.2</td>
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<tr>
<td>Commentaries</td>
<td>34.1</td>
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</tbody>
</table>

firm conclusions about these program types. Nevertheless, the results demonstrate an intriguing pattern across program types. As one might expect, commercial situation comedies and action-adventure programs generate an average or below-average level of response, but the rate commercial dramatic and public affairs programs do as well or better at stimulating the thinking of the audience, as do their public broadcasting counterparts. Such results are fragmentary and reflect the early stages of the development of research methodology in this field. Getzler has thus far come closest to developing systematic samples in analytic categories that would lend themselves to programmatic efforts at refraction analysis.

6. Short Term Media Effects

This is the sixth chapter of research. David Phillips is a prominent practitioner of research in this area. The approach calls for an examination of extant data for evidence of short-term effects of prominent news events. Bolen and Phillips (1981, 1982) studied rates of imitative suicide in response to prominent television news stories, and Phillips (1983) found evidence that nationally televised heavyweight championship prize fights trigger a brief but sharp increase in homicides in the United States. This work in natural settings offers an intriguing alternative to the tradition of laboratory research on television and aggressive behavior, but the limitations of extant data and the analysis of only short-term effects is constraining (Phillips, 1986).

7. Presidential Popularity

Presidential popularity represents a final chapter of research. Richard Brody and colleagues at Stanford (Brody & Page, 1975; Haight & Brody, 1977; P. F. Stone & Brody, 1970) have studied patterns of media coverage of American presidents and the interaction of that coverage with presidential popularity, as measured by opinion polls. They have studied both the amount of coverage and the relative balance of positive and negative statements about presidential performance. Brody and Page (1975), for example, analyzed the trends of popularity of the Johnson and Nixon administrations and found evidence of a great deal of inertia in public evaluations of presidents. They developed a news discrepancy theory of opinion change, which draws attention to disjunctions between developing news and the level of past evaluations. Haight and Brody (1977) demonstrated an interaction between the public response to presidential behavior, in this case in the Nixon administration, and the timing of presidential press conferences to try to shore up lagging support.

The work on presidential popularity represents a small subset of issues, but further demonstrates the potential of parallel content analysis.

D. Conclusion

The definition of a "communications effect" must be understood as a central problem in the field. Communications effects have taken on a quality of taken-for-granted self-evidence.

1. A Definition of Communications Effects

The communications research community has been rather cavalier about the definition of what is or is not a communications effect. Like the judiciary trying to struggle with a precise definition of pornography, researchers seem to take the position that they cannot define it in the abstract, but they know it when they see it. Whatever the viability of such definitions of pornography in legal circles, such a premise has clearly been detrimental to systematic communications research. Some researchers find that data on behavior induced from exposure to a stimulus in a laboratory is meaningful and generalizable evidence of communications effects. Other researchers find that differential media exposure of social groups exhibiting different patterns of behavior provides reliable evidence of effects. Other researchers consider the coincidence of certain values and ideas in the media and in the beliefs of the mass population to be further evidence of effects.

But consider the proposition that communications effects are a special case of the general social phenomena of power and influence effects. A number of distinguished scholars in the social sciences have wrestled mightily with the problem of the definition and systematic measurement of such phenomena. This tradition of research was developed by Max Weber (1925-1968) and includes Carl Friedrich (1937), Bertrand Russell (1938), Harold Laswell and Abraham Kaplan (1950), Robert Dahl (1963), and William Gamson (1968). The central questions are the following: How can you tell
if an attempt to influence an individual's behavior has been successful? What would the subject of the influence have attempted to have done otherwise? It is inherently difficult to tell. When professional lobbyists return to their sponsoring organizations and argue, whatever the outcome, that it would have been much worse had they not participated in the influence process, who could prove them wrong?

Experimental data, because of the control group, does speak to the issue of what targets of influence would otherwise have done, but it is not necessarily generalizable to real-world settings. The other forms of data, although from real-world settings, are plagued by the difficulty of causal inference.

Parallel content analysis attempts to respond to these problems. It involves time-series analysis. It suggests that the best way to sort out what is causing what is to study natural variations over long periods of time, with an eye to when changing patterns of behavior either precede or follow changing communications flow and when behaviors remain unchanged. Therein lies the naturalistic answer to the question of what audiences would have done otherwise. It also allows for the possibility that small but consistent effects over time will rise to levels reliably measured by our crude instruments.

2. The Communications Effects Pendulum

Many scholars in reviewing the communications field, have noted a cycle of emphasis moving back and forth between minimal and maximal communications effects (McQuail, 1977; Katz, 1977, 1980; Pietila, 1977; Comstock et al., 1978; McLeod & Reeves, 1980; Gerbner, 1983). Briefly, the early research dominated by the bullet theory posited strong communications effects followed by skepticism and qualifications (as summarized in Klapper's work, 1960), and followed, in turn, by a strong and energetic movement back toward the conclusion of significant effects. One is tempted to conclude that the culture of such pendulum swings represents an unproductive environment for addressing fundamental scientific questions. But, then again, if one appreciates that the energy of the debate might be fruitfully harnessed to motivate serious, systematic research, perhaps it is a blessing in disguise. One strategy is to use the polarized debate over minimal versus significant effects as a means to an end. It becomes a symbol and a heuristic device for engaging the curiosity of students and laypersons who might be puzzled by the need to conduct systematic research on what common sense reveals to be obviously true.

3. The Social-Problems Orientation of Communications Research

A very similar phenomenon in the history of communications research is its association with particular social problems. As noted, the advent of comic books and motion pictures was associated with juvenile delinquency, and the emergence of television drew forth strong voices of concern over its potential antisocial and anti-intellectual influences on an easily influenced youthful audience. Again, one is tempted to distance oneself from the types of short-term, narrowly focused, and adversarial research that such social-problem concerns seem to generate. But perhaps the appropriate response of the research community might be to take this national concern and attempt to translate it into a sustained research effort on long-term communications effects.

Henry Aaron's study, Politics and the Professors (1978), although it does not deal with communications issue per se, offers an interesting perspective on the interaction of politically salient social problems and the social science research community. Aaron studied the Great Society programs of the early 1960s, the social science research on which they were based, and the further research that they spawned. Reviewing this process from the perspective of the following decade, Aaron's conclusions are somewhat pessimistic. The time scale necessary to conduct research, the identification of key variables, and the definitions of effects in social sciences stand at some distance from the immediate and unqualified conclusions Washington policy makers would prefer.

Indeed, it is widely recognized that the input of social science to policy making represents a frustratingly loose linkage, but communications researchers need not throw up their hands in despair. Perhaps the research community could be strategically prepared when government authorities, foundations, and concerned citizens next crystallize their attention on a particular social problem related to communications effects. True, previous attempts to translate immediate policy concerns into programmatic long-term social science research have failed—one thinks first of the social indicators movement (Abram, 1984; Social Science Research Council, 1983)—but perhaps the communications field will prove more amenable to programmatic time-series research.

4. Measuring the Success or Failure of Communications Research

How can we tell if we are making progress? At several points in this review, it has been argued that the sense of progress—for example, the movement away from the simplistic bullet theory—has been illusory. The accumulation of additional incomplete, noncomparable, and conflicting findings is a weak form of progress. One is drawn to the hopeful promise of new coordinated efforts, new forms of data collection, and the evolution of a new paradigm of communications effects.

When Max Weber addressed his fellow social scientists in 1910, he put forward a rather grand plan for the coordinated measurement of media content and public response. He indicated that he had been in contact with the German Press Association and was confident that the data could be made available. Different members of the audience would suggest different approaches to...
analysis. Would the social science community be able to sustain a cooperative and coordinated effort at data collection and analysis? Weber concluded pre-
sciently, "You can see immediately, honored members of the audience, the road to the answers to such questions is extremely long." 

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