

1983

Communication Research: One Paradigm, or Four?

by Karl Erik Rosengren

Those who ask the most provocative questions often cannot provide sound empirical answers; those who can often fail to ask the right questions.

There is ferment in the field, no doubt about that. Intellectual ferment: critical scholars and hard-nosed empiricists vehemently fight each other, disdainfully ignore each other, or cautiously maneuver to find a precarious *modus vivendi*. International ferment: scholars and social scientists from the old and the new world meet and marvel at each other's strange ways of thinking; data and theories from and about the First, Second, and Third Worlds add cultural diversity to the conflicting intellectual perspectives. Political ferment: radical critics, liberal reformists, and conservative defenders of the status quo use communication research to buttress their political arguments in the debates of the day. The risk cannot be ignored that, in the process, the community of scholars and scientists will dissolve and be replaced by a number of fighting sects and sectarians (cf. 69).

Communication scholars who have seen the activity as potentially explosive or disruptive to the field have tried to do something about it by describing the situation—the several communication perspectives, their main proponents and adherents, and from where they have come; some have included prescriptions about what to do and where to go next (10, 16, 22, 27, 63, 73, 90). This symposium and a European-American reader edited by Everett Rogers and Francis Balle (74) are two of the more recent attempts to facilitate comparative study of a number of such descriptions and prescriptions.

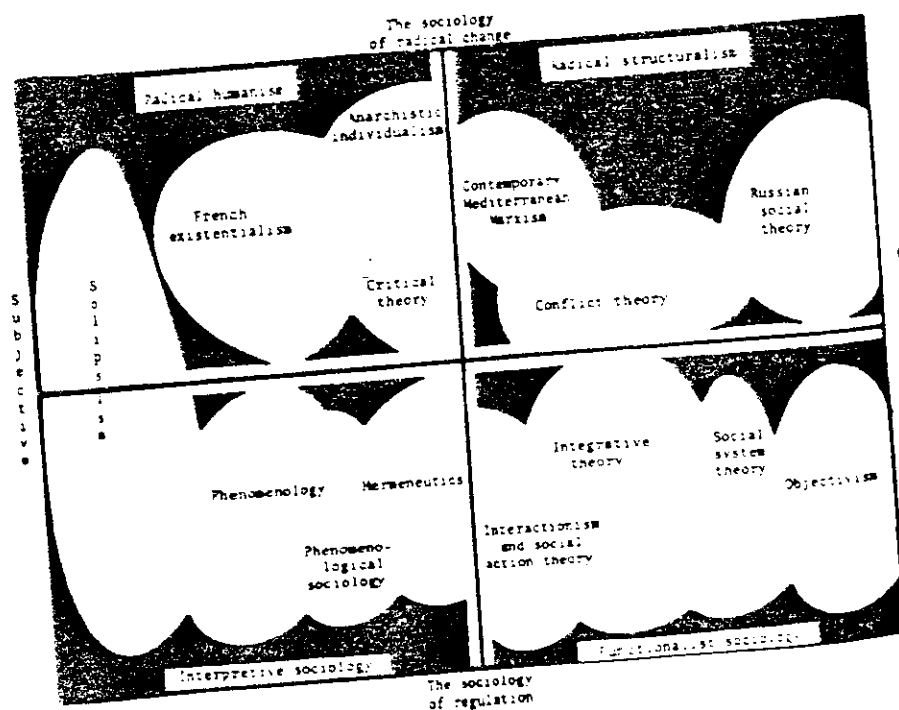
More fields than ours are experiencing ferment, however, and they too are making similar efforts to describe it. Lists of various schools and

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perspectives have been drawn up, conferences have been convened, anthologies have been published. Such efforts seem to have been particularly numerous in sociology (cf., for instance, 15, 70, 92). In the sociology of organizations, the Anglo-American team of Gibson Burrell and Gareth Morgan (12) has made an ambitious attempt to characterize research, which is useful to consider at length with regard to its implications for communication research.

Attempting to move beyond the rather simplistic dualism of criticism vs. empiricism, Burrell and Morgan developed two dimensions of assumptions about the nature of social science and the nature of society.

The two dimensions, derived from a multidimensional property space for schools of thought and research in sociology, were "objective/subjective orientation" and the "sociologies of regulation/radical change." The objective/subjective dimension covers four levels of dual assumptions about the nature of social science: in ontology, realism/



Source: Burrell and Morgan (12)

Figure 1: Burrell and Morgan's typology for schools of sociology

nominalism; in epistemology, positivism/antipositivism; about human nature, determinism/voluntarism; about methodology, nomothetic/ideographic. The regulation/change dimension covers seven levels of dual assumptions about the nature of society, including status quo/radical change, consensus/domination, solidarity/emancipation, and actuality/potentiality. (As will be seen, these levels are less neatly ordered into a clear-cut system than are the levels of the objective/subjective dimension.)

Crossing the two dimensions yields a fourfold typology consisting of four main paradigms: the radical humanist, the radical structuralist, the interpretive, and the functionalist. By means of this typology, the fairly large number of research traditions and schools of thought constituting present-day sociology can be classified in a meaningful way. Figure 1 presents the two dimensions, the four main paradigms, and a number of schools of thought and research traditions classified in terms of the typology. The location of each single school or tradition, of course, is not exact; at best, it is valid at the level of an ordinal scale—hence the cloudlike contours. Also, the terms used to characterize the various paradigms, schools, and dimensions of the typology could be opened to discussion. Nevertheless, the typology is an ingenious heuristic device, providing a neat overview of an otherwise bewildering array of schools, traditions, and perspectives.¹

Burrell and Morgan use their typology in two ways. First, they characterize a number of different schools of sociology, drawing upon the four plus seven levels constituting the two dimensions of the typology. Second, against this background, they characterize a number of schools of organizational analysis.

The dimensions are a crucial aspect of the typology. Obviously, they are continua, within limits. Schools of thought can be ordered within each cell as being located above or below, to the left or right of each other. There is less flexibility in assigning each school to a given cell, however. Indeed, according to Burrell and Morgan, the lines drawn between the cells represent absolute, qualitatively definite boundaries. In thinking about social science, one is either a "subjectivist" or an "objectivist": one cannot be a little of both. Similarly, in thinking about society, one is either a "radicalist" or a "reformist," not something in-

¹ Comparing Figure 1 with the field of communication studies, the similarity is striking. The reasons for this similarity are not difficult to find. Sociology, psychology, economics, and political science, different as they may be, form the principal mother disciplines of communication studies, and each has passed through rather similar phases of development. It would be interesting to replicate the Burrell and Morgan study for the field of communication research and compare the results with empirically founded maps of the field derived from questionnaires or citation analysis (93, cf. 78, 85). Such maps already exist for the field of scientific communication (104) and for Swedish mass communication research (35).

between. If these "levels" actually are logically independent, then one would need either to choose one level as the touchstone for each dimension or to stipulate the minimum number of criteria to be satisfied in order to locate a given school in a given cell.²

The typology is most useful as a springboard for reflections about the type of research questions that can and cannot be answered within different paradigms.

The vast majority of communication studies are carried out within the intellectual framework of the lower-right-hand cell of "functionalist sociology," a framework that is continuously criticized and questioned from the vantage points of the other three cells—the "dissident" paradigms. The strategic situation of the debates has been paradoxical, however. On the one hand, the questions raised from the vantage points of the three dissident cells as a rule have rarely been raised in the fourth cell, although they could be. On the other hand, these questions could be given answers in that cell, but not, by and large, in the other three cells. This is especially true in the two left-hand cells, which have a different ontology, a different anthropology, a different methodology, and a different epistemology than those to the right in the typology.

The exact extent to which the paradox holds true could form the subject of detailed research within the history, sociology, and philosophy of science. Assuming that it holds true as an overall description raises two questions. The first question concerns the genesis of the situation: why and how did it come about? The second question, which is more interesting, concerns the remedies for the awkward situation: what can we do about it?

In the rest of this article I will show how questions raised in one or more of the three "dissident" cells of the typology can be given answers within the dominant paradigm of the lower-right-hand cell—or, in fact, have already been given some answers, albeit not definitive ones. I will discuss three substantive problematics: mass media news, culture, and mass media use. I will show that methodological distinctions and instruments, varying widely in degree of generality but all developed within the dominant paradigm, are helpful—indeed, necessary—when trying to answer some vital questions raised within the dissident paradigms (as well as, partly, within the dominant paradigm). The fact that questions raised in one paradigm may be given satisfactory answers

² Burrell and Morgan are not absolutely clear on this point (perhaps because they do not make any clear distinction between what have been called monothetic and polythetic typologies, cf. 4, p. 21).

by means of methodologies developed in another paradigm casts some doubt on the alleged incomparability of the four paradigms. Indeed, it may be questioned whether what we have are really paradigms at all.

Within the dominant paradigm, the production, distribution, and reception of news have been described in great detail in innumerable studies, usually grouped into a small number of research traditions.

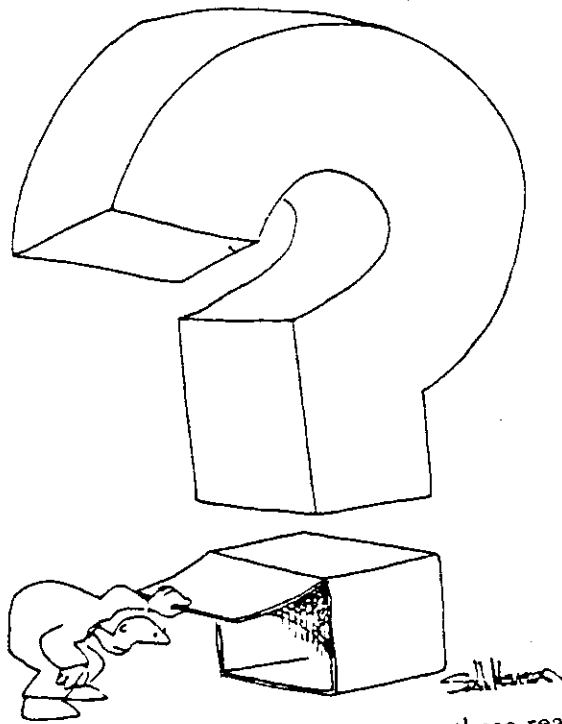
Underlying studies of gatekeeping, diffusion, international news, etc., are more or less implicit or explicit assumptions about society and social science. It is assumed that there is an objective reality on which the news media report more or less accurately. The relationships between that reality and the picture of it offered by the media and received by the public are assumed to be patterned in a stable way. The task of news research is to detect and explain these stable patterns in terms of individual psychology, institutional settings, macroeconomic restraints, and other social factors.

During the last two decades, criticism of this type of research has increasingly come from two main perspectives. First, those from what could be called a "subjectivistic perspective" have maintained that news as we know it should not primarily be regarded as more or less accurate reports of an objective reality, if indeed there is such a thing. Rather, news reports constitute or create a reality of their own, and the task of news research is to describe and understand that reality on its own terms. Second, those from a politically radical perspective criticize the dominant type of news research for ignoring the way in which news is biased on both the national and international scene according to political and economic structures which are in turn reinforced and maintained. The task of news research is to reveal the nature of the bias and unmask the powers supporting it, thus helping to bring about a radical change of the whole system.

In terms of the typology of Figure 1, the two types of criticism are based upon radically different assumptions about the nature of society and the potential of social science research. However, each has borrowed elements from the other, and elements from the three "dissident" paradigms might be found side by side in the same study.

Two points should be made here. The first concerns the subjectivistic perspective, which is, in my opinion, always precarious and especially misapplied in connection with news studies. Taken to its logical consequence, the subjectivistic perspective leads to solipsism, as has been pointed out many times. Even those who maintain that news reports constitute a reality of their own must at least admit that other realities are

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available and that news relates to these realities in one way or another. In fact, they admit this indirectly as soon as they use the term "bias," as they often do. Bias in news presupposes something that has been somehow misrepresented, and that something is usually called "reality." To demonstrate satisfactorily the existence of bias in news, we need (a) measurements of "reality," (b) measurements of news about the same reality, and (c) an idea about which relationships between (b) and (a) we are willing to accept as "unbiased."

Thus, the "news-as-a-reality-of-its-own" perspective is either misapplied or tends to negate itself if applied in a rational way. Nevertheless, some of the questions raised by researchers subscribing to that perspective are important. These questions meet with no principal difficulties within an objectivistic paradigm, in which it is quite natural to compare measurements of reality with measurements of reports on the same reality. For some reason, however, this comparison has not often been made.

A second important point concerns the radical perspective. According to the typology of Figure 1, this perspective has two variants—a subjectivistic and an objectivistic variant. In practice, the two are sometimes mixed, with confusion and lack of clarity as a result. To the extent, however, that the radical perspective on society is combined

with an objectivistic perspective on social science, the differences with the dominant paradigm seem to be manageable. In both paradigms, the existence of an objective social reality, in principle accessible by means of scientific research, is assumed.

The adherents of the two paradigms also agree about the relevance of values to social science and how to regard them. More specifically, they agree that (a) values and evaluations can influence the type of research carried out—even, perhaps, the way in which it is carried out; (b) the influence of values and evaluations on scientific research should be minimized (to the extent that it is possible to do so); and (c) values and evaluations should be made the object of scientific research.

Although the assumptions about and evaluations of objective social reality are the subject of disagreement between adherents of the two paradigms, these assumptions are in fact researchable. Hence, the difference between radical and traditional objectivists may be less absolute than Burrell and Morgan assume. For psychological reasons, perhaps, "one must always be committed to one side more than another" (12, p. 19), but it does not follow that one cannot decide under what circumstances one perspective is scientifically more fruitful than the other, for one perspective may offer a more parsimonious explanation of a greater part of the social reality under study. In areas in which empirical research is being carried out within both paradigms, therefore, a gradual confluence is likely to take place.³

News research conducted within both the subjectivistic and radical perspectives explicitly or implicitly assumes that objective social reality may be compared to the news media's portrayal of that reality.

The data about objective reality and media news should, of course, ideally stem from sources independent of one another. That is, data about "reality" should be "extra media data," to be related to "intra media data" about the news of the media. The terms "intra" and "extra media data," introduced in 1970 (79), have been used in a number of studies (20, 33, 64, 71, 82, 94; cf. 91). Regardless of the particular terminology used, however, the idea of relating the two types of independent data to each other is intuitively appealing and has been reinvented spontaneously many times by communication scholars and

NB: avhandling!

³ International communication is such an area. The heated debates following publication of the MacBride Report demonstrate at least two things (see, e.g., 100, 105, part two): first, that such a confluence between two different research traditions is a very difficult process, and second, that it is nonetheless on its way (cf. also 97).

social scientists, drawing upon a rich variety of sources for extra media data: historical records (50, 51), people appearing in the news (13, 89), planted observers (31, 48), white books (94), surveys originally undertaken for other purposes (67) or especially for the purpose (88), or official statistics (80). As a rule, the media reports, when compared to the extra media data, have been found to more or less lack accuracy, relevance, balance, etc.

A more interesting way to use extra media data, however, is in explanatory, causal studies. Radical critics often maintain, for instance, that the international news flow is determined to a large extent by economic and political structures—a causal hypothesis. For "proof," one is usually referred to more or less systematic intra media data showing or exemplifying that this or that part of the world is "underrepresented" in the news compared to other parts of the world. Such a "proof," however, is lacking in at least two respects, both of which can be taken care of by means of extra media data.

In the first place, the pseudo proof disregards the obvious fact that some parts of the world are economically and politically more powerful than other parts and consequently deserve and need to be more fully covered, in positive and negative terms (e.g., to continually give Sweden as much attention in the news media as the U.S.S.R. would be strange). In light of extra media data such as population, gross national product, or international trade data, a country seemingly given excessive attention in the news may actually be underrepresented with respect to one criterion and overrepresented according to another (cf. 81).

In the second place, the pseudo proof fails to make the necessary distinction between (a) a given country's ability to produce news events and (b) that country's ability to have these news events disseminated over the world. Intra media data alone cannot handle that distinction. However, extra media data about both the news events and the countries in which the event originated may be used to control each of these factors separately. When this was done (80; cf. also 81), the results showed that politico-economic factors such as size of population, gross national product, and international trade data can together explain between one- and two-thirds of the variation in international political news. (Distance between countries was less powerful as a predictor; cf., however, [14].) The consistency of this finding for news in countries as different as Sweden, England, and the German Democratic Republic should not make the results less relevant to a radical critic of the existing international order of communication.

Here is a case, then, in which a methodology developed within the dominant paradigm can answer important questions raised mainly within the "dissident" paradigms. New empirical data collected in light of

further refinements in theory and methodology should make possible a more thoroughgoing understanding of the processes determining the flow and structure of international news.

Another notion that has been central to all paradigms is that of culture, which is inextricably intertwined with the concept of communication.

Especially in the two radical paradigms of Figure 1, the concept of culture has been a main focus of interest. From a humanistic Marxist perspective, members of the Frankfurt critical school and their followers—Horkheimer, Marcuse, Adorno, Habermas, and others—have maintained that the liberating and emancipatory potential of high culture is continually being debased and neutralized in the mass culture offered by the mass media to the populace of the mass society. The end result is supposed to be a generally alienated (rather than emancipated and activated) audience.

From a more objectivistic Marxist perspective, members of what Burrell and Morgan call "contemporary Mediterranean Marxism"—Althusser, Poulantzas, Colletti, and others—have maintained that the mass media, together with schools and churches, form an "ideological apparatus, one of several apparatuses of control." The mass media create and disseminate the ideology, the set of ideas, values, and beliefs that legitimate the status quo and thus help to reproduce the existing social order and/or to gradually change it. The mass media, in a powerful way, represent the bourgeois hegemony in society.

The Frankfurt perspective is difficult to test scientifically, as it is often presented in an abstruse, all-too-Hegelian language. Its truth value rests to no small extent with the more or less convincing rhetoric of its proponents and with the credibility of their supporting examples. With the adherents of the radical structural perspective, however, it is otherwise. Their ontology and epistemology lead them to an objectivistic, almost neopositivistic set of assumptions about social science, which, in principle, should not prevent them from testing, rather than just illustrating, their theses or hypotheses. The fact that this is seldom done can probably be explained, at least partially, by the Marxist tradition of illustrating general arguments by means of specific instances.

A classic study of the ideological message of mass media that fits in very well with a radical structuralist perspective is the quantitative content analysis of heroes in popular literature carried out by Leo Lowenthal (54), who is usually considered an adherent of the radical humanism paradigm. This suggests that the lines between the cells of Figure 1 are less absolute than Burrell and Morgan themselves would

have it (cf. 30). It also shows that the two radical paradigms contain a reservoir of theory on culture that could be made the subject of rigorous empirical study and testing. A number of methodological advances within the dominant paradigm of communication research may facilitate the empirical study of the important questions about culture and ideology that have been raised not only within the radical paradigms, but within the dominant paradigm as well.

Culture is a macro phenomenon, a phenomenon to be studied at a societal level. Marxist and other theories often relate culture to other macro phenomena: economy, politics, technology. Theories about the latter phenomena have developed to the extent that they have been able to draw on empirical research using natural units (such as dollars and ballots) and/or other good measures. However, despite the systematic study of culture that had been underway at least since the late eighteenth century and early nineteenth century, it was only in the 1930s that Sorokin (96) attempted a measurement of culture and cultural change that was comparable to the way other large societal systems were being measured.

It is clear that, from the middle of the 1930s, three types of societal indicators were being developed, at different paces and in different directions—economic, social, and cultural indicators.

The history of economic indicators cannot be reviewed here. The first crude economic indicators system must have been created millennia ago. Over the last few decades, economic indicators have been gradually refined and, by their very existence, because of the problems and possibilities they have offered, have decisively contributed to the development of the science of economy. One of their chief advantages is the clarity with which they have defined what is, and what is not, being measured.

Yet, although indispensable, economic indicators did not measure some important aspects of societal structure and development, a deficiency remedied by the development of social indicators. The study of social indicators had its breakthrough during the 1960s and has continually developed since then (5, 107).

Customarily, "objective" social indicators, which measure objective characteristics of a social structure, are distinguished from "subjective" social indicators, which measure perceptions and evaluations of that structure. A striking result in recent research within the "social indicators movement" is that the relationship between objective and subjective social indicators supposedly corresponding to each other has been found to be somewhat problematic, both within and between societies.

both cross-sectionally and over time. While some cases of relatively strong positive correlations between objective and subjective social indicators have been found (40), more often the old insight that welfare does not necessarily produce well-being has been corroborated and more precisely expressed by social indicators research (1, 2, 3, 18, 19, 98, 103).

One explanation for the low or absent relationship between objective and subjective social indicators is the fact that what has often been treated as a two-factor problem—objective conditions, and perceptions and evaluations of these conditions—is really a three-factor problem. Perceptions and evaluations of objective social conditions are made against a background of knowledge, opinion, and values—in short, against a background of individual expectations (6, 60) as shaped by a common culture. The implication of the above arguments is that attention should be directed toward the factor ultimately influencing the relationship between objective and subjective social indicators: culture.

The definitions of the concept of culture are legion. Three among them have been more influential than the rest: the definitions presented by Tylor (101), Kroeber and Kluckhohn (45), and Kroeber and Parsons (46). All three definitions are somewhat lengthy and are also enumerative rather than criterion-oriented, as Vermeersch (102) forcefully points out. Most important for our discussion, all the definitions refer to culture as a class of abstract phenomena having material embodiments. Thus, while each single embodiment of culture can be observed and described in great detail, culture as such—a class of abstract phenomena—cannot be directly observed. It must be studied by means of indicators.

The term "cultural indicator" was introduced by Gerbner in 1969 (24). Since then, Gerbner and his associates have regularly monitored U.S. television, developing and applying a number of cultural indicators, the most widespread of which has become the "violence profile" (25). Gerbner's efforts have been widely discussed and criticized, sometimes acrimoniously so (34, 38; cf. 26). They have also been replicated, more or less successfully, in other parts of the world (see 59).

Regardless of the validity of the criticisms directed against Gerbner and his group, their approach represents a major step forward and has given an increased impetus to the study of culture. In 1980, a nondivisional session on "Cultural Indicators and the Future of Developed Societies" held at the International Communication Association's conference in Acapulco represented the first time those doing various types of cultural indicators research met to discuss general problems of common interest. Two years later, the Vienna Symposium on "Cultural Indicators for the Comparative Study of Culture" (59) was convened. A field of cultural indicators research is emerging, drawing not only upon the results obtained by Gerbner and his associates but also upon earlier

and contemporary pioneers who have each grappled in different ways with the problem of measuring aspects of culture. Each has been creating a set of "cultural indicators," even if that term has not been specifically used. Among this group are Ogburn (68), Sorokin (96), Lasswell (49), McClelland (55, 56, 57), Rokeach (75, 76, 77), Inglehart (39), and Namenwirth (62).

One extensive research program using cultural indicators, carried on in Sweden, is systematically measuring the development of the Swedish cultural climate during the postwar period.

The program, called "Cultural Indicators: The Swedish Symbol System, 1945-1975" or CISSS, is organized in five independent but coordinated subprojects, run by social scientists and scholars from the Universities of Lund and Stockholm and representing such diverse disciplines as sociology, political science, economy, history, philosophy, and theology (cf. 83, 84). The interdisciplinary character of the program ensures a stimulating variety of theoretical perspectives, while the common thrust—the development and application of cultural indicators based on quantitative content analysis of postwar Swedish dailies and weeklies—ensures enough common ground to make interproject comparisons possible and fruitful.

Using references in the daily press to a supranatural reality of a religious nature as indicators of belief and or interest in such a reality, theologian Per Block (9) has been able to demonstrate an overall trend of secularization in the cultural climate of postwar Sweden. The trend is clearly differentiated by region, and one can discern a cyclical pattern as well as seemingly random variations superimposed on it. Obviously, the trend should be related to basic developments in the Swedish economy, while the cyclical pattern may have something to do with middle-range developments on the international and domestic political scenes. The seemingly random variations may be related, at least partly, to isolated events in the religious arena of Sweden.

Applying the perspective of Rokeach (75), historian Eva Block (8) used as cultural indicators references to the values of freedom and equality in Swedish newspaper editorials of the postwar period. For most of this period, she found a declining trend for the value of freedom and a rising trend for the value of equality. Toward the end of the 1960s and the early 1970s, these two trends culminated, stagnated, and possibly turned into a phase of opposite trends: a decline for the value of equality and a rise for the value of freedom. These results have a high degree of face validity, for 1968 was a year of upheaval in Sweden, as in many other countries, and 1976 saw a bourgeois government take over after 44 years of social-democratic government.

The results also raise the interesting questions of where such changes come from and what effects they have. Are they superstructural epiphenomena only, merely reflecting developments in the economic-technical base? Or are the values and the base in some degree independent? If so, which one has, so to speak, the upper hand? These questions have obvious relevance for the hegemony theories and for the theories about an ideological apparatus of control being developed—but, as a rule, not rigorously tested—within the radical structuralism paradigm. Relating Eva Block's cultural indicators to parallel social and economic indicators, it should be possible to find at least some tentative answers to the questions.

The relationships between a cultural and ideological superstructure and other, more "basic" societal systems have been debated for centuries.

Assuming a closed society, there are, in principle, four possible relationships between structure and superstructure, as shown in Figure 2. While the debates have raged along the ideologically inflamed materialism/idealism axis for a long time, during the last few years increasing attention has been given to the independence/interdependence axis. The increased use of cultural indicators in combination with economic and social indicators will shed further light on these intricate problems.

		Other societal structures influence culture	
		YES	NO
Culture influences other societal structures	YES	Interdependence	Idealism
	NO	Materialism	Autonomy

Source: Rosengren (84)

Figure 2: Four types of relationships between culture and other societal structures

Most societies, however, are not closed, even if some societies do build high walls around themselves (imperial China, for example). It is simplistic, therefore, when theorizing about base/superstructure relationships in a given society, not to include its economic, political, and cultural environments. Kjell Goldmann, for instance (28, 30), has measured the overall political tension in Europe during the postwar period, as well as the degree of polarization in the international political system. Comparison of his results with those of other subprojects within CISSS (29) suggests that arguments about the relationship between culture and other societal systems cannot be carried out in an international vacuum.

In another subproject within CISSS, communication researcher Kjell Nowak and philosopher Gunnar Andrén (65, 66) used content analysis of ads in weeklies as a basis for developing a number of cultural indicators, mainly within the economic sector of society. One of their interests concerned equality between the sexes, as manifested for instance in the proportions of the two sexes being economically active (gainfully employed). An outstanding characteristic of postwar Sweden (as of many other countries) has been a strong increase in the proportion of women being gainfully employed. In the "society" represented by the ads in the weeklies, however, the development has been precisely the opposite—a slow but steady downward trend. This finding should give pause to theoreticians of various schools speculating about the relationships between mass-mediated ideology and economic developments.

Several interpretations of this finding are possible, cultural independence being one ("autonomy," in terms of Figure 2). Another interpretation is that the message of the symbolic environment in this case may actually have delayed the increase in the proportion of economically active women ("idealism," in terms of Figure 2). However, this interpretation is difficult to validate empirically and hard to reconcile with existent theories. To be really convincing, therefore, the interpretation would require more data and further theoretical developments, quite a few steps beyond the rather simplistic hegemony hypothesis. This example illustrates well how the construction and application of cultural indicators—a methodological development undertaken within the dominant paradigm of communication research—can not only give empirical answers to questions raised within other paradigms, but may also be able to stimulate new theoretical developments within these paradigms—and within the dominant one.

A host of circumstances may interact in any communication process under study, and the various research approaches account for them in different ways.

The dominant paradigm uses three methods: experimental techniques (randomizing, various control designs), replication, and multivariate statistical analysis. In mass communication research, replication and multivariate analysis are more commonly used than experimental techniques. Partial correlations, multiple regression, and variable specification are used either to eliminate or to estimate the separate and interactional influence from one or more confounding variables.

The interpretative paradigm and the radical humanism paradigm turn, as a rule, to another basic strategy. Their ontology, anthropology, and epistemology lead them toward a *verstehen* approach. By means of empathy and subtle verbal analysis they recreate as faithfully as possible the individual or systemic communication situation under study. In the paradigm of radical structuralism, subject to direct and indirect influ-

ence from both radical humanism and the dominant paradigm, both strategies are applied.

If intelligently applied, the *verstehen* approach may result in brilliant verbal descriptions and analyses that strike the reader as having an inherent quality of obvious truth. However, it does not allow for precision, falsification, and replication. Any talented scholar can come up with a radically different interpretation, seemingly equally plausible, but the criteria for choosing between the different interpretations are usually vague. While falsification and replication are possible for multivariate analyses undertaken within the traditional paradigm, including more than just a few variables in the analysis has been difficult. The less formalized *verstehen* approach does not encounter this difficulty. Each of the two approaches, then, seems to have its own advantages and drawbacks, more or less balancing each other. During the last decade, however, this situation has changed. A dramatic breakthrough has increased the power of multivariate statistical analysis.

The two main traditions in multivariate analysis are the factor analysis of psychology and the path analysis of genetics, economics, and sociology. The factor analysis tradition is concerned with relationships between manifest and latent variables; the path analysis tradition is concerned with relationships between manifest variables. For decades, the two traditions grew independently of each other, until about 1960, when their confluence in sociology (61) speeded their development. At the Department of Statistics at the University of Uppsala in Sweden, two main approaches for advanced multivariate statistical analysis of large sets of manifest and latent variables by means of computer were developed. They are LISREL (Linear Structural Relations), developed by Jöreskog and his associates, and PLS (Partial Least Squares), developed somewhat later by Wold and his associates (42, 43, 52). Here a brief overview of the two approaches is presented.⁴

Both LISREL and PLS build upon the combination of a measurement or "outer" model (corresponding to the factor analysis tradition) relating manifest indicators to latent variables, and a structural or "inner" model (corresponding to the path analysis tradition) relating latent variables to each other. Both approaches build on large systems of equations representing the two types of models. In PLS, the equations are solved by iterations between the two models until the system converges into an optimal solution; LISREL solves the equations simultaneously. LISREL uses primarily the maximum likelihood approach; PLS, the least squares approach. LISREL demands more assumptions about the original data, but it also squeezes out more information from them. LISREL is parameter-oriented; PLS, prediction-

⁴ A detailed, critical exposition of the two approaches is beyond my competence (cf. 7, 36, and 44). Also, the development of the field is very rapid, and new advances may outdate my description.

oriented. Since at present PLS can handle a larger number of manifest and latent variables at a lower cost in computing time, while LISREL seems to have a greater capacity for precision in the analysis, a good strategy may be to start with PLS for an overview analysis ("soft modeling") and then to turn to LISREL for a more precise and detailed analysis (model testing and modification). LISREL, in particular, has been extensively used in sociology and is now entering adjacent disciplines such as psychology (36), political science (17), and communication studies (25, 32). Up until now, PLS has been less extensively used. In a few cases PLS and LISREL have been applied to the same original data set (44, p. 166 ff; 53). While the two approaches offer no panacea for the social sciences (37, 58), they do present new and powerful techniques of multivariate analysis.

I submit the hypothesis that these techniques will help bridge some of the gaps between the four paradigms. In a way acceptable to the neopositivists of the dominant paradigm, LISREL and PLS make it possible to heed many more of the variables involved in a communication situation—a complexity formerly only possible to handle in the loose and intuitive way preferred by adherents of the interpretative and radical humanism paradigms. Some highly interesting and provocative questions raised in the critical paradigms may thus be given answers that are falsifiable and replicable, rather than talented but loose speculations. Mass communication researchers have already successfully used PLS and LISREL models in this way (25, 32); more such studies will come.

The potential for the use of advanced multivariate analyses in mass communication research can be illustrated by means of the study of media uses and gratifications.

Partly in opposition to more deterministic effects research, uses and gratifications research (11, 106) stresses the individual's capacity to consciously seek, find, and use mass media content according to his or her needs, wants, and requirements—a voluntaristic perspective. Nevertheless, the need for a merger between deterministic effects research and voluntaristic uses and gratifications research has been stressed continually (86, 106).

From a radical perspective, uses and gratifications research has been criticized for neglecting the class perspective, the politico-economic framework that determines the individual's requirements and his or her way of satisfying them (21). It has also been criticized from a humanistic perspective, strangely enough for overestimating the individual's capacity to express his or her wants and requirements and ways of satisfying them—the capacity, that is, to answer "yes," "no," or "maybe" to a number of test items.⁵

⁵ For an overview of criticism directed against uses and gratifications research, see (99).

By means of their capacity to handle simultaneously a large number of manifest and latent variables, LISREL and PLS are capable of accounting for much of this criticism of the uses and gratifications approach. The influence of social class may be taken care of either by introducing variables such as income, job, and education as control variables in the models, or by comparing different models for different social classes (which LISREL can carry out in a formalized way). The humanist questioning of the individual's capacity for expressing wants and requirements as well as ways of satisfying them is taken care of by the measurement model. The weight or loading coefficients express the degree to which the manifest variables (test items, various questions about gratifications sought and obtained, etc.) express the variation in the latent variable (the attitude, the gratifications sought or obtained, etc.).

The capacities of these powerful techniques become especially intriguing when applied to panel data. The combined use of panel data and LISREL and/or PLS may throw new light on the discussions about effects and/or uses and gratifications research, and, more generally, on the basic opposition between a voluntaristic and a deterministic perspective.⁶

To counteract the risk that the field of communication studies will fragment into a number of rival sects, we must recognize the situation and consider the alternatives.

I have suggested that the fourfold typology for schools of sociology presented by Burrell and Morgan (12) could help clarify important aspects of the present situation in the field of communication research, as well as its history. This conceptualization of the four main paradigms of communication research presented a paradox: the three "dissident" paradigms have raised important questions but, by and large, have been unable to provide any answers, while the dominant paradigm could answer the questions but, by and large, has not raised them. Answers to such important questions, however, may very well be possible, given recent methodological developments in the dominant paradigm. In this article three such developments have been briefly discussed. They range in generality from a specific distinction in news research (intra/extra media data) to a general type of measurements in the study of culture (cultural indicators) to a major breakthrough in advanced multi-

⁶ One such model, concerning the relationship between parent/peer orientation and the use of popular music by 11-, 13-, and 15-year-old boys, is already being developed. It demonstrates the possibilities of the two techniques, when applied to panel data, to accommodate the "voluntaristic" and "deterministic" perspectives in one model, combining them into a process of reinforcement. The full model will be presented in a doctoral thesis by Keith Roe (72), to appear in a series of reports from the Media Panel Program covering the social origins and effects of the media use of children and adolescents from the ages of 6 to 15 (23, 32, 41, 87, 95).

variate analysis (represented by LISREL and PLS). Certainly, many other similar developments could be found.

The fact that questions raised within one "paradigm" can be given answers within another raises some doubts as to whether we really have four different paradigms in the strong sense of the word. More specifically, the demarcation lines between the four cells of the typology may not, according to this analysis, be as absolute as their authors—and many others—maintain (12, p. 19). Even so, the dimensions of the typology remain relevant and the typology represents a useful heuristic device for classifying much of today's social research. But to be used to their best advantage, the dimensions should be conceptualized as continua rather than as qualitative variables.

The regulation radical change dimension, in particular, does not build upon basically different ontological and/or epistemological assumptions. This dimension is more politically than scientifically valid, mistaking hopes, wishes, and fears for basic assumptions about existing traits of society. The subjectivist dimension, on the other hand, builds more directly upon basic differences in ontology and epistemology. A truly subjective perspective, however, is very difficult to combine with any serious scientific activity at all. The fact that the more extreme variations of existentialism and phenomenology have flourished mainly in literature and non-academic philosophy supports this view. There may be a qualitative gap somewhere on the objectivist/subjectivist continuum, but it should be located more "to the left" than is the case in the Burrell-Morgan typology.

If the dimensions of the Burrell-Morgan typology as applied to current social science are regarded as continua, the general situation in the field of communication research may be characterized as one of pseudo conflicts. From a somewhat different perspective, Kurt Lang (47) has arrived at much the same conclusion. Nevertheless, part of the conflicts do reflect scientifically valid and relevant questions. Contrary to what is often maintained, however, these conflicts should not always be regarded as basically insolvable. Several of the basic assumptions of the paradigms can be formulated as empirically answerable questions about conditions in existing societies, and the fact that some of these questions or hypotheses have their origin in one research tradition and their answer in another should not prevent the community of communication scholars from addressing them seriously and open-mindedly. As always, however, such a feat is more easily posed than done.

A main hindrance seems to be the interest that leading representatives of rival schools have vested in demonstrating to themselves, to their followers, and to their opponents that somehow they are radically different. In the long run, however, such claims cannot hold their own against empirical evidence. It is a positive sign, therefore, that there seems to be an increase in the tendency of those within the three

"dissident" paradigms to conduct empirical investigations, especially within radical structuralism. To the extent that the same problematics are empirically studied by members of various schools, the present sharp differences of opinion will gradually diminish and be replaced by a growing convergence of perspectives. This article has presented three examples of such problematics; many more may be found by those who think that provocative questions deserve sound empirical answers. If work continues in these directions, ferment in the field may be replaced by vigorous growth.

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