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### Disciplines

Communication | Social and Behavioral Sciences

### Comments

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## **Society as self-referential**

*Ecological Communication* by Niklas Luhmann. Translated by John Bednarz, Jr. Chicago: University of Chicago Press, 1989. xviii + 187 pages. \$34.95 (hard).

A review by Klaus Krippendorff University of Pennsylvania

*Ecological Communication* is important, especially for sociologically oriented communication scholars. The book, published in German in 1986, is one of Niklas Luhmann's later works, most of which are not available in English. It incorporates many of the more recent developments along the author's intellectual path and therefore can serve as an introduction to his current thinking.

The book is short-187 pages, including an index, 33 pages of interesting footnotes, a very useful glossary of key concepts, and 21 chapters. Luhmann's prose is not always easy and translations usually do not make things more readable; but, after the first few chapters, one can find oneself at home.

Luhmann draws on, integrates, and often goes far beyond four theoretical positions. The first is sociological systems theory as found in the writings of Talcott Parsons. The second is a phenomenological approach to the relations between the components of social systems that makes the concept of meaning a sociological key for understanding how individuals act within society. The third is a cybernetic interpretation of the relationship between a system and its environment, differences in complexity being an important concern. The last is the second-order cybernetic idea of autopoiesis, which puts, as Luhmann remarked elsewhere, "a turbocharger on the already powerful self-referential engine" of social theory construction.

Overtly, *Ecological Communication* is Luhmann's attempt to understand why it is so difficult for society to perceive environmental dangers as such and to manage the environment appropriately. One may rightly ask why communication scholars should be interested in this problem. A simple answer is that this is a problem of communication across the boundary of a system, between its inside and outside-whether the system be a society and its environment or a brain and other brains. The more complicated answer lies in how Luhmann defines the basic unit for analyzing society in terms not of roles, actions, values, or means of production but of processes of communication, as essential constituents of society. It is therefore not surprising that Luhmann locates ecological problems not in nature but in communications about this nature: greenhouse effects, chemical dumps, ozone holes, etc. Talking about, conceiving, and addressing such dangers indicates awareness of them *within* society and how that society sees itself organized to cope with them. For Luhmann, society is a fundamentally self-understanding system (or self-referential, for short) and communication is the medium through which this self-referentiality is perpetuated.

The ontogenesis of environmental problems becomes Luhmann's vehicle for exploring, through a series of carefully ordered essays, a new way of understanding society as a self-referential system, how what is being said about these problems contributes to the maintenance of that society's identity. His explorations lead the reader to refreshingly new theoretical insights. Let me focus on some of them.

Arguably, much of social research seeks causal explanations, which presume that deterministic systems underlie the data to be explained and holds those who influence these systems socially responsible. But extending causal explanations to actors can only render them slaves of their own reasons. Indeed, causal explanations always seem to drive responsibility outside its reign. Luhmann

points out that the covert reason for attributing responsibility cannot be causal but must be based on the perception by actors (or communicators, for that matter) of a *difference* between alternative courses of actions, some pursuable only at the expense of others. The observation of differences among behaviors is on a logical level higher than the observations of actual behaviors (one is reminded here of Gregory Bateson's "difference that makes a difference"), which no longer constitute actors as deterministic systems but as self-observing ones. For Luhmann, the appropriate starting point of social theory therefore cannot be the assumed ontology of causality but the *observation of systems that observe themselves*. This theoretical starting point lies far outside contemporary social theory constructions and carries in its womb a radically different notion of communication.

The notion that social systems constitute themselves by observing themselves renders problematic the received notion of communication as the transmission of messages. Indeed, it is difficult to imagine information being sent *from* an environment when that environment always exists beyond the horizon of what a society is able to see itself doing. Luhmann calls the ability of a social system to be open to certain kinds of disturbances its *resonance* and shows that what is being talked about inside the system defines both its boundary and its permeability at this boundary. Resonance is, I believe, the only concept capable of founding a theory of communication between society and its (as such unknowable) environment or between the subsystems of society that regard all others as their respective (and incommensurate) environments. Avoiding traditional metaphors of communication, Luhmann's conceptual system, including resonance, leads to several remarkable consequences. For example, information can no longer be regarded as entering as such from the outside; it becomes a system-internal quantity that presupposes alternative ways of seeing. It is the property of an observing system and not of the observed. If anything, information does not substitute for exogenous objects but represents, to a significant degree, the unity of the system within itself.

Probably the most important concept in Luhmann's work is the second-order cybernetic concept of autopoiesis. An autopoietic system is a network of processes that produces all the components necessary to embody the very process that produces it. An autopoietic system creates its own boundary, defines its own identity through the processes contained therein, and is structurally restless or variable in the face of perturbations (except for maintaining its autopoiesis). In social systems, according to Luhmann, these processes are processes of communication. In an interesting reworking of the traditional semiotic triangle (of sign, referent, and interpreter), Luhmann considers communication to combine three different choices-utterance, information, and understanding. All three presuppose conceived alternatives or perceived differences (or what I would call the drawing of appropriate distinctions). To constitute a social system as an autopoietic one, communication must above all serve as a basis for further communication. This surely is a significant departure from traditional definitions of communication's functions in society.

Making the point of a society's communicational foundation in yet another way, Luhmann gives (binary) codes a prominent position in his sociological thinking. Through coding, reality becomes the subject of communication. Binary codes both specify and give social meanings to alternatives: a value and a counter value. Codes render some states of affairs different from others, regardless of what they "really" are. For example, Luhmann convincingly argues that there are no negative facts. The environment of a system always offers all there is, whatever this may be. Noting the absence of something is conceptual and derives from a code. Codes are embedded in language and hence internal to a society or any of its subsystems. Codes not only create internally relevant information by putting

what is seen in the context of what is conceivable, but-what I find to be a most fascinating idea-codes also prevent paradoxes from arising out of the self-referential nature of social systems (similar to what Bertrand Russell's Theory of Logical Types did for mathematics), thus preserving a system's consistency. The distinctions codes provide also serve as the operational foundation of the social construction of social institutions and organizations. When claiming universality and ontology, codes can be totalizing constructions of reality.

For example, the legal system as a subsystem in society maintains its autopoiesis through coding the difference between what is legal and what is illegal. It assures persons in the right that the law is behind them against persons in the wrong, thus drawing and maintaining a boundary by communicating this difference among participants within the thus constituted legal system. Numerous institutionalized communications, whose sources range from the legislature and the courts to law enforcement agencies, give life to networks of interaction that continually apply this code to everything deemed within its realm. Laws do change, of course, either by legislation or by drifts in understanding; but what does not change are the processes of drawing a boundary around what is legal and of (re)producing the institutional arrangements that maintain the very code on which they grew. In this sense the legal system can be said to be an autopoietic, self-producing, boundary-creating, identity-maintaining one. Luhmann shows that the economy, law, science, politics, religion, and education each has its own code, its own institutionalized operations, and its own autopoiesis. Each renders inapplicable within its boundaries the codes of the others, thus defending its identity as the (sub)system that it thereby is. Corruption in politics, unscientific conduct in academia, unethical journalistic practices, praying in schools, etc., are instances of how different subsystems of society protect their own form of autopoiesis against incommensurable communications from others.

Luhmann's effort to reframe communication from a new sociological perspective overcomes numerous serious epistemological problems. For example, in Parsons's functional differentiation of society into four subsystems and each of these into four sub-subsystems, etc., the substantive analytical categorizing always is theoretically motivated by an observer who remains external to the system being analyzed. Parsons's functionalism is unable to appreciate how a system could constitute itself through its own autopoietic processes. Luhmann's subsystems, which cannot be depicted in the neat quadrants of Parsons's social system theory, capture the eigendynamics that continually make them what they are at any one moment of their autopoietic existence.

Without detracting from the giant steps Luhmann's work takes in conceiving of society and its social subsystems as systems that continuously observe and (re)make themselves through processes of communication, I want to conclude this review by suggesting three shortcomings that I am sure future work or other contributors can overcome.

First is the omission of the role of the mass media in society. I am convinced that, to use Luhmann's language, the mass media have constituted themselves as a major subsystem in society, maintaining their identity based on a code that distinguishes between what is "fit to print" (or worthy to be put on the air) and what is not. The mass media maintain their autopoiesis through communication by programming their institutions such that further communication can take place. They draw boundaries around themselves, boundaries that may be shifting but that always maintain the mass media's identity through processes within this boundary. I suspect that the mass media operate on a

logical level different from such subsystems as the economy, law, etc., being able to provide communication channels for each while maintaining their own autopoiesis throughout.

Second, I miss references to the embodiments of the social systems Luhmann describes. It certainly is within the sociological tradition to generalize individuals out of social theory. But society can constitute itself only as long as the people who participate in its autopoiesis operate the now increasingly complex infrastructure that shapes its identity and their (individual) participations within it, and it can do so only within biological possibilities. I believe Luhmann's concept of resonance is sufficiently neutral to capture both a society's increasing responsiveness to environmental perturbations and the increasing complexification of the environment by a society's own (functionally latent) actions. But the contribution of knowledgeable individuals in this process is not yet clear.

Third, with all of Luhmann's unusual awareness of social processes of observation, of observation of observation, of observation of self-observation, etc., it is surprising that he does not reflect on his own social role as a sociological theorist of ecological communication or, more generally, on the epistemology in autopoietic social systems of which he certainly is a part. He writes as a scholar with fascinating insights about a social world that continuously (re)makes itself through communication but excludes his own theories from the process. We are all too easily attracted to doing this. As detached observer-theorists we certainly find it easier to track an object of study in our received language. But, in view of the awareness that our own communication theories also participate in constituting the very society we claim to describe--a society that we thereby increasingly enable to observe itself--we may have to abandon this rather comfortable position and reconsider our own role in a society that our own cognition ultimately constructs.