

The sociological systems theory of Niklas Luhmann is of compelling interest for media studies because it offers a capacious yet precise notion of media equipped with multiple conceptual linkages. Indeed, one feature that distinguishes Luhmann's theory from those of such classical social theorists as Durkheim, Simmel, Weber, Mead, and Parsons is the centrality it accords to media-theoretical considerations. This is not surprising, since Luhmann holds events of communication (and not, for example, individuals, groups, or actions) to constitute the elements of which social systems consist. His inflection of the concept of media is, however, sufficiently original and complex to warrant explication.

The obvious place to start is with the concept of "system" itself. Yet already here we must pause for a moment to note that Luhmann's theory does not operate with insular concepts that purport to refer to real-world entities. Rather, all his leading terms are formulated within and as distinctions. Of course, every concept rests on distinctions (otherwise it would lack definition, hence content), but in Luhmann's work this semantic fact is not submerged; it is brought to the foreground and made methodical. "Draw a distinction!" This initial imperative of George Spencer Brown's *Laws of Form*, a crucial reference text for Luhmann, is executed again and again across his work. Nowhere is this more evident than in the case of the theory's titular concept, which we encounter not as a freely standing notion, but as one side of a distinction: system/environment. Whereas most uses of the concept of system are merely reminders to think holistically and (beyond this rhetorical function) to remain theoretically anodyne, Luhmann's differential employment of the term bears far-reaching conceptual ramifications. The locus of its generative capacity is the border that separates and relates system and environment from/to one another. No system can exist in (conceptual or real) independence from its environment. Systems, in fact, arise when they draw

a boundary between themselves and their environment: when their operations establish a limit that distinguishes what is proper to the system itself from the milieu within which the system operates. Systems emerge as autonomous operative concatenations that extend themselves by continuously redrawing the distinction between internal operations and external events. Moreover, just as systems are relative to a particular environment, so environments are relative to systems. There is no single, all-inclusive environment, and no single, all-embracing viewpoint from which such a total environment might be described. The environment is a different one according to the system-reference with respect to which it is observed.

It is useful to parse this in terms of an example. Take a university class on media studies. If we say that this class, as it unfolds in time, constitutes a social system, that is typically interpreted to mean that the individual human beings in the room are somehow “unified” to make a larger whole, as in the famous frontispiece to Hobbes’s *Leviathan*. The social system is conceived in terms of the distinction part/whole, an observational ploy that quickly leads to familiar discussions on tired themes such as “the individual and society.” From the point of view of Luhmanian systems theory, however, the social system we are dealing with here is not made up of people at all; it is, rather, the ongoing, recursively self-validating, self-correcting, and in every case, self-referring series of communicative events. Such social systems, anchored in face-to-face situations and therefore relatively ephemeral, are called “interactions,” and they are well known to that branch of media studies devoted to research on oral communication. But the point we are interested in here is the thrust of the system/environment distinction generally. What is the environment of the social system constituted in the class meeting? Well, it’s just everything else, including the physical-natural environment and the conscious life of the active and passive participants in the class. The people in the room are not components (parts) of the social system, but factors within its environment. Here it becomes abundantly clear that the boundary separating system from environment involves a drop-off in complexity. The social system of the “class” cannot account for (much less contain) everything in its environment: not the minor fluctuations of room temperature, not the fluctuating personal feelings of each student. Only if it can reduce the complexity of the environment can the system establish itself as a linked set of operations. Thus, not everything that enters into Jack’s mind (say, the soreness of his ankle) or Jill’s (say, her overdue cell phone bill) will find its way into the communicative interaction, and if it did, if everyone attempted to say everything on his or her mind at every moment (an absurd, but telling surmise), then the so-

cial system of the class would disintegrate, collapsing into the blather of consciousnesses that constitutes (a factor of) its environment.

In comparison to its environment, every system is a simplification; there can be no point-for-point correspondence between system and environment. Precisely this reduction of complexity, achieved by contingent selection, enables the system to build up internal complexity (in the example at hand, a reticulated, semantically rich discussion). But let us return for a moment to the minds of Jack and Jill. They are not, as we noted, “parts” of the social system (which consists solely of the linked communications constituting the class discussion) but features of its environment. Each of these minds, however, is a system in itself (in Luhmann’s terminology, a “psychic system,” the elements of which are “thought-events”) and for each of these psychic systems (linkages of affect, mood, perception, recollection, etc.) the environment will be a different one. And of each environment it is true that, although it includes systems of various sorts (psychic, social, biological, mechanical), it is not itself systematic. The consciousnesses of Jack and Jill do not together form one system, although it is certainly possible, as the nursery rhyme intimates, that Jack and Jill participate in their own system of communicative intercourse. By the lights of the system/environment distinction, then, even so simple a context as a college classroom ramifies into a complex and shifting array of perspectives. One is reminded of Leibniz’s universe of monads, each of which is “windowless,” each of which represents, from its unique vantage, the entire world. In Luhmann’s pluriverse, however, there is no master monad—no god—to coordinate all the individual world-versions.

As our example shows, Luhmann’s systems theory makes room for various kinds of system. But two sorts—psychic systems and social systems—are at the core of his theoretical interest; he was, after all, a sociologist by trade (see chapter 9, “Communication”). What the two systems have in common is, first of all, that their respective elements—“thoughts” and “communications”—are “events” and, as such, evanescent, passing out of existence with their occasions. There is something here of the pragmatic emphasis on the “present as the locus of reality,” in George Herbert Mead’s phrase, and this emphasis sometimes betrays a sense of crisis. Both psychic and social systems confront, without respite, the problem of getting to the next moment, to the next event that will ratify their existence, even as it, in turn, evaporates, raising anew the problem of systemic reproduction or continuation. To grasp the audacity of Luhmann’s vision, one must have a feel for the airy insubstantiality of systems that consist only of events. In order to perdure, they must bind one moment to another, bridge the abyss of temporal transition

with threads of continuity. And this brings us to the second feature held in common by psychic and social systems, while distinguishing them, for example, from machines and organisms. They are able to achieve the work of temporal binding across a discontinuous series of events because their operations occur within the medium of meaning (*Sinn*). Delicate filaments of meaning tie the events of which psychic and social systems consist together, providing linkages forward and backward in time. Like organic systems (cells, immune systems, brains), psychic and social systems are *autopoietic*, themselves generating the elements of which they consist. But here the notion of autopoiesis, first formulated by Varela and Maturana in the context of biology, is generalized to include nonorganic systems, systems whose elements have no protoplasmic basis but are, as noted above, events within the medium of meaning.

We have arrived at the first, and perhaps most important, occurrence of the concept of “medium” within the framework of systems theory: the claim that the feature distinguishing psychic and social systems from all other autopoietic systems is the fact that they constitute themselves within the medium of meaning. Psychic and social systems represent evolutionary achievements, emergent realities, and the branching within the network of evolutionary pathways that marks the inauguration of their joint itinerary comes about at that point where meaning (as opposed, for instance, to electrical or chemical processes) becomes the “stuff” of which the constitutive elements are made. To unpack this claim, it is necessary to clarify what Luhmann means by “meaning.” His starting point is Husserl’s phenomenology of perception, in particular the doctrine that whatever is given to consciousness as a perceptual datum refers to a horizon of other, nonactualized perceptions. In Luhmann’s redaction, the datum/horizon structure is definitive of meaning in general. Meaning is the referential excess that carries (from the Latin *ferre*, to bear or carry) each presentation beyond itself to other presentations. In Luhmannian patois this is captured by the dictum, meaning is the unity of the difference of actuality and potentiality. We may gloss this as defining meaning not as a self-standing ideal entity, but as a dynamic relation: a relation, because any occurrent phenomenon within the space of meaning is what it is only by virtue of its relations to other possible phenomena; dynamic, because this very relationality has the effect of propelling the system’s operations from one meaning actualization to another, and so forth. Thus, every event of meaning bears (once again: *ferre!*) references to prior actualizations as well as to potential future actualizations. For readers of Derrida, this interlacing of trace and deferral is familiar as the very nature of semiosis. For Luhmann, however, the structure is not limited to sign-use, but permeates all of conscious

and social life. Moreover, Luhmann is interested not in pointing out how meaning thus conceptualized provides the critical leverage necessary to “deconstruct” various traditionally held “metaphysical” views, but rather in showing how, within the airy and volatile medium of meaning, our psychic and social lives take shape. That involves a rather complicated story. For the moment, however, we can hold on to this point: because meaning refers beyond its present actualization to prior and posterior meanings, it provides a solution to the problem of temporal binding alluded to above. Systems that consist of events can, if those events take form within the medium of meaning, maintain basal self-reference—and hence maintain themselves—across the chasm of temporal discontinuity. Finally, the datum/horizon structure of meaning makes possible the reduction of complexity that is required if the psychic or social system is to distinguish itself from its environment. Dealing in meaning events, the system can, as it were, hold the world’s complexity in abeyance without, however, eliminating it altogether and thus rendering it inaccessible. Meaning events are postponements, they put off attention to other possible meanings while a particular meaning is in focus but, at the same time, hold open the possibility of treating other aspects of the virtualized world complexity later. For psychic and social systems, procrastination is the precondition of action.

If, as systems theory claims, meaning is a medium, then we shall need a general theory of media in order to give that claim some conceptual grip. Luhmann finds access to such a theory in an essay on the physical preconditions of perception by the psychologist Fritz Heider. Once again, we begin by drawing a distinction, this time between “form” and “medium”; and once again we shall endeavor to keep the interdependence of the two terms (no form without a medium and vice versa) in view. This distinction, as Luhmann employs it, yields what might be termed the Friday theory of media. For what distinguishes media from forms is that the former consist of loosely coupled elements, whereas the latter bring those elements into a rigid coupling. Consider a stretch of sand on an apparently uninhabited island. As such, it just is what it is: sand. However, if I, like Crusoe, happen to encounter a footprint in it, it becomes a medium bearing a form. The grains of sand—“loosely coupled” in the sense of having no fixed arrangement and being susceptible to rearrangement—are brought into a particular array that exhibits the form “human footprint.” Friday has left his trace and this trace is a datum that is itself distinguished from, but related to other data (“animal spoor,” “wind swirl”). The footprint is a “rigid coupling” of the loosely coupled elements (the grains of sand) in the sense that not just any indentation in the beach will do. The sand thus becomes a medium when it

is imprinted with, receives, or comes to bear the form; and the footprint becomes a form when the loosely coupled elements of the medium are brought into an alignment that makes a difference (“That’s Friday’s footprint, not the footprint of a turtle!”).

The form/medium distinction ramifies along several paths within the conceptual network of systems theory. At this juncture, however, it is useful to highlight a particular point that contrasts sharply with, indeed contradicts, a fundamental assumption of many varieties of media studies. Call this assumption the “materiality thesis.” To see how systems theory militates against the notion that to investigate media is, in some sense, to investigate bottom-line materialities, let us apply our Friday theory to the case of spoken language. We start with the range of possible sounds producible by the physiological apparatus of tongue, teeth, vocal cords, oral cavity, lungs, and so on. In his *Course on General Linguistics* Saussure pictured this tonal amalgam as a wavy sound-sea, a salient image of loose coupling. If from this reservoir of tonal possibilities we select certain rigid couplings of features such that just these combinations are taken as distinctive, then we can generate the phonemic system specific, say, to English. One combination yields the phoneme /p/, another the phoneme /t/. Since the tonal features must be combined in a certain way to yield a sound recognizable as /p/ and in another way in order successfully to proffer a token of /t/, phonemes are indeed “forms” in the sense of our Friday theory. Taken in isolation, phonemes obey no constraints as to their possible combinations, but we can, of course, “rigidify” certain concatenations (for example: /pat/ or /tap/), while leaving others to fall into insignificance (/pttttppap/). This means, of course, that the phonemes, when viewed in the context of the physiologically available tonal possibilities, are “forms,” but, when viewed with respect to a superior level of “forms” (the morphemes), are a “medium” (reservoir of loosely coupled elements). This situation, of course, continues to obtain as we move upward through the levels of lexeme, phrase, sentence, text, and discourse. From the perspective of systems theory, then, the terms *form* and *medium* are relative; what counts as a medium will depend entirely on the plane of analysis selected. On this model, media studies is free to investigate meanings while nonetheless remaining true to itself, and the theoretical alternatives of Platonism and materialism can both be consigned to the junk heap of outmoded thought.

We now have enough pieces of the puzzle in place to consider the relationship between “consciousness” (equivalent, in Luhmann’s terminology, to “psychic system”) and “communication” (the operation characteristic of “social systems”). There is an inherited, both commonsensical and philosophically dignified view that communication is grounded in con-

consciousness in the sense that to communicate is to externalize in speech or in writing something that is mental, say, a meaning, a thought, and to do this in such a way that another consciousness can wean the meaning from its external vehicle and reactualize it as thought. Luhmann's view, however, is that consciousness and communication are each autopoietic systems that reproduce themselves by reproducing the elements of which they consist, thought-events and communication-events respectively. If this is the case, it is wrong to imagine that conscious thoughts can enter into communication or, for that matter, that communications can enter consciousness. As autopoietic systems, both consciousness and communication are operationally closed to their environments; they operate solely with those elements they themselves produce. One cannot, therefore, consciously communicate. Only communication—the social system—can communicate; communication just is the operation social systems perform. (I note in passing that there is something akin here to the so-called private language argument made philosophically crucial by Wittgenstein. And I note further that, from a Luhmannian point of view, the consequence that some commentators have drawn from that argument—namely, that meaning must be defined socially rather than in terms of the purported mental fact of “having a meaning”—is vacuous, for the “social” itself is operation with meanings as articulated in communications.) If systems theory describes things this way, however, then it would still seem to owe us an account of the relation between mind and meaning or, in its own terms, consciousness and communication. For certainly communication is not possible apart from the participation of conscious systems (unless the term is expanded to include machine-to-machine “communication”), if only for the reason that communicational media, such as speech and writing, require perception to be effective. But if consciousness and communication are autonomous (autopoietic) systems, operationally closed to one another, then how do they interact?

This is where the notion of “structural coupling” enters, and it is a notion that must prove central in any attempt to develop a full-blown systems-theoretical version of media studies. Structural coupling occurs at the border between autonomous systems and enables them to affect one another without, as it were, entering into each other's (after all, autonomous) operations. This indirect affection occurs via an interface to which the operations of both systems are attached. Language is just such an interface, not the only one, but certainly the most important (see chapter 16, “Language”). As we noted above, language is to be conceived as a complex hierarchy of form/medium relations, and it may very well be true that, in every case, structural couplings occur via

such multileveled formations. If so, then an important upshot of systems theory would be a complication of the concept of “medium” itself. Be that as it may, it should be clear that, from the point of view of systems theory, language is not a system. There are no self-constituting operations that language as such performs. This way of describing things marks an important distinction between systems theory and all varieties of structuralism. In fact, given the emphasis in systems theory on such notions as “event,” “contingency,” and “improbability,” the concept of “structural determination,” so dear to the sociological tradition, falls into desuetude. But this is a subsidiary point. The thought that deserves emphasis in the present context is that language enables (is the medium of) a structural coupling between consciousness and communication in such a way that what is inaccessible to both, namely occurrent thought for communication and communicative exchange for consciousness, can take effect without violating either system’s autopoietic closure. In this sense, language (but prior to it gesture, facial expression, etc.) enables communication to emerge as a reality *sui generis* despite the radical heterogeneity of conscious systems; it enables consciousness, we might say, to support communication. But it also, and equally importantly, allows communication to discipline consciousness, to lend thematic continuity to its desultory meanderings. Here the theoretical salience of the concept of “media” (more specifically, form/medium hierarchies) as enabling structural coupling comes clearly into view: structural coupling is the condition of the coevolution of consciousness and communication. Nonetheless each remains operationally closed to the other: consciousness doesn’t communicate, nor is communication absorbed by thought.

We have thus far referred to the operation of communication as the mode of operation of social systems but have neglected to characterize it with respect to its internal constituents. The distinction in question here is a threefold one: the “utterance” or “conveying”; the information; and the understanding that distinguishes these two. Thus, a communication comes about when Ego understands that Alter has conveyed some information. Consider the man who at dinner pushes a boiled potato to the edge of his plate. His wife understands this as a communicative utterance (“he’s telling me something”) that is correlated with the information that the potato is cold. Of course, it’s possible that the wife has identified an utterance act that didn’t really occur; the husband, after all, is constantly shoving food about with his fork. And it’s likewise possible that the wife’s understanding construes a bit of false information (the potato is actually too hot), or attributes to the husband a motive in making the utterance (“he’s suggesting I’m a lousy cook”) that the husband didn’t actually have (he wanted to intimate a general sense of dissatis-

faction with his life). These possibilities highlight the improbability of communication, embedded as it is in what Luhmann, following Talcott Parsons, calls the “double contingency” of the social situation. Whoever has experienced the morass of misunderstanding into which scenarios kindred to our dinner-table example tend to sink will appreciate the force of this concept. Double contingency marks the improbability that something like sociality should come about at all. Since the triple selections (of utterances, of information, of understandings) are contingent on *both* sides and all of the components could therefore be otherwise, the least likely of outcomes would seem to be ongoing communication. Such improbability is the primary datum of systems theory.

Systems-theoretical accounts of social phenomena, then, cannot aspire to be deterministic. Instead, systems theory employs a mode of inquiry that Gregory Bateson termed cybernetic explanation. Given the contingency of the start-up situation (the fact that a large number of outcomes are possible), we ask, How is it that this one outcome, improbable as it is, comes about? The answer typically points to redundancies or constraints, both of which limit the improbability of a certain outcome. How is it that the wife knows her husband is telling her the potato is cold and that she’s a lousy cook? How is it, given everything else his gesture could mean, including nothing at all, that she makes the right selection and allows the couple’s nightly marital quarrel to commence on schedule? Perhaps because he’s said the same thing a thousand other ways already, starting with the gasp he expelled as he sat down at the table. Perhaps because in this household marital conversation, whether its theme is food, sex, or income, operates with the code values: adequate/inadequate. Redundancy and constraint achieved through binary codes are modes of ensuring the continuity of systemic operations despite the contingency of selections. They do not eliminate contingency and in fact are unintelligible apart from it. There will always be variations, unforeseeable outcomes, and surprises. Indeed, the very life of psychic and social systems depends on this, and increasingly so as internal complexity (hence redundancy and constraint) is enhanced. The intellectual comedy of cultural analyses that find a bit of social determinism here and a bit of individual agency there or link the two in some sort of circular causality can finally be abandoned. Systems theory provides a radically nondeterministic model of explanation consonant with such adjacent disciplines as decision theory or evolutionary theory. For this reason, media studies, which not infrequently succumbs to the false allure of technological determinism, might find an introductory course in the forms of cybernetic explanation salutary.

As we have seen, the most fundamental linkage between the concepts

“system” and “medium” resides in the fact that psychic and social systems autopoietically produce the elements of which each consists in the medium of meaning. Generally speaking, then, meaning is the medium in which individual thoughts (in the case of psychic systems) and communications (in the case of social systems) occur as forms. With the introduction of specific media, this universal form/medium relationship can exfoliate in different ways, achieving rather reticulate hierarchies. This was illustrated in terms of the “medium” of language. Systems-theoretical analysis, however, is also functional analysis, examining not merely the inner structure of media but also their contribution to the solution of problems that systems face. Recalling our dinner-table scenario, we note that, because the communication takes form in the medium of gesture (shoving the potato to the edge of the plate), it is so encumbered with ambiguities that it is not even clear whether communication is occurring at all. How different would the situation be if the husband had said, “This goddamn potato is cold as hell.” Then there would be no question as to the fact that a communication was intended, and its purport, too, would be difficult to misinterpret. The function of language for the ongoing autopoiesis of social systems, then, is that it provides a specialized medium that differentiates communication from all other activities (such as pushing food around one’s plate). Moreover, it is the internal structure of the linguistic medium that makes it so apt as a solution to the problem of securing understanding. As we have seen, language is hierarchically articulated. On the level of the form/medium relations that produce the phonemic system (one could, of course, add, intonation, meter, etc.), it provides a low-cost (producible without much energy expenditure) repertoire of differences that are easily discriminated perceptually and couples these in higher-order forms (morphemes, lexemes, sentences) capable of boundless semantic complexity. In this sense, language embodies the difference between “utterance” and “information” that must be “understood” if communication is to take place at all. Further, it is natural to assume that this medium will evolve and gain in complexity along with the coevolution of consciousness and communication it (qua structural coupling) makes possible. This is a large topic, but the methodological point I wish to illustrate should be clear enough. In systems theory, functional analysis and analysis in terms of form/medium relations are intricately intertwined, and this conceptual linkage provides the bridge to investigations of social and cultural evolution. Functions are not causal determinations, but correlations of problems and solutions. Needless to say, each solution brings with it new and unforeseen problems. From the perspective of systems theory, there is no respite, and certainly no utopia, no ideal state.

Thus far, we have oriented our discussion principally in terms of oral communication. What happens when writing is introduced? Here we do not mean “writing” in the sense of the “arche-writing” made current by Derrida, a sense that bears, as noted above, similarities to Luhmann’s notion of meaning (*Sinn*). We are concerned, rather, with writing in its straightforward empirical sense, as a notational system, and our theoretical points of reference are the pioneers of research on the orality/literacy divide: Goody and Watt, Havelock, and Ong (see chapter 21, “Writing”). Obviously, the systems-theoretically relevant point in this connection is the fact that writing extricates communication from its ensconcement in interaction. No longer tethered to the face-to-face situation, communication can operate at spatial and temporal distances; it can build up a capacious archive (memory); it can develop specialized vocabularies and genres; it can complexify its hierarchy of form/medium relations; it can expand the range of culturally available semantic alternatives. All this is perfectly evident. It is well known that the emergence of the ancient civilizations is tied to the invention of writing, much as the emergence of the modern era is unthinkable apart from the technologization of writing in print. The interesting question from the point of view of this essay is whether the conceptual tools of systems theory provide a means of perspicuously organizing and interpreting the ongoing empirical research in this area. And the same question can be raised with respect to the technological media and telecommunications. We might formulate the issue in terms of synthetic power. To what degree does systems theory provide a framework that allows for an integrative approach to media studies in both its theoretical and its historical dimensions? The contention advanced in the foregoing paragraphs is that, at least on the level of conceptual articulation, systems theory indeed has a great deal to offer. And on the historical side, several recent contributions have demonstrated the fecundity of the systems-theoretical paradigm. In Anglo-American and French discussions, however, systems theory is viewed, for the most part, as marginal and recondite. Only the gods of academic fashion know whether this situation will change.

This brings me to my final point, appropriately hypothetical. If systems theory is taken seriously as a viable paradigm for research in media studies, then something like a conceptual metamorphosis will occur. Media studies will emerge from its cocoon of specialization, free itself from its fixation on specific “materialities,” sensory channels, and coding procedures (analog/digital), and take flight as a general inquiry into the structure and evolution of communication. An adumbration of what such an expansion of its domain of study might mean can be glimpsed in connection with a further notion developed within systems theory, that

of “symbolically generalized media of communication.” This notion addresses problems akin to those mentioned above in connection with the double contingency of the social situation. If we consider the burgeoning complexity of communication achieved with the spread of writing, we can immediately see that the problem of the improbability of communication (double contingency) is immeasurably aggravated. With its detachment from the contextual supports inherent in the face-to-face situation (e.g., perceptually transparent deixis, gesture, shared and unshakable semantic presuppositions), communication sets sail on a sea of improbability that calls forth, if communication is to have any chance of succeeding, the establishment of innovative types of constraint. These constraints tie the selection of the communication with the motivation to take it up and continue the communicative process. This they accomplish by establishing situation-transcendent (hence “generalized”) frameworks that consign the communicative transaction to its own domain of application condensed in an overarching “symbol.” Examples of such symbolically generalized media include power (and law), love, art, money, and truth. These are media in the sense elaborated above. That is, they are tracts of “meaning” susceptible to analysis in terms of form/medium relations. Money, for example, is a reservoir of loosely coupled elements capable of accepting forms (prices). The crucial feature of symbolically generalized media is that they reduce the improbability of communication by allowing for its adjudication in terms of a binary code. To participate in economic exchange within the medium of money is to accept the alternative payment/nonpayment as the criterion for evaluating any particular communicational outcome. It is a commonplace of social theory that modern society—as opposed to tribal society, with its segmental differentiation, and feudal-aristocratic society, with its stratified differentiation—is functionally differentiated into specialized, task-defined spheres: science, law, economy, family, education, art, and so on. The systems-theoretical notion of symbolically generalized communication media brings out the additional point that such functional subsystems crystallize around specific media (e.g., money in the case of the economic system). But to say that money, love, and power are media is to expand that notion well beyond its present horizon of pertinence.

Systems theory offers compelling arguments in favor of accepting this extension of the media concept, as well as a repertoire of distinctions (consciousness/communication, form/medium, system/environment, operation/observation) that secure the precision of its employment. If, however, such a reconceptualization is undertaken, then media studies itself will be transformed. Under the new theoretical regime, it will amount to much more than a description of the materialities and

technologies involved in the reproduction, storage, and transmission of voice, writing, and image. Indeed, a systems-theoretically informed media studies will not establish itself as a “discipline” or “field” at all. One might think of its status as that of a transdisciplinary operator: a methodology for recasting and correlating a range of local inquiries. For the lesson of systems theory is that media are—in multiple and complexly imbricated ways—constitutive features of the operation of psychic and social systems generally. This lesson does not circumscribe a region of epistemological objects so much as it opens an analytical perspective on the entirety of our social and cultural lives and an account of their ongoing evolution.

References and Suggested Readings

- Bateson, Gregory. 1972. *Steps to an Ecology of Mind*. New York: Ballantine.
- Luhmann, Niklas. 1976. “Generalized Media and the Problem of Contingency.” In *Explorations in General Theory in Social Science: Essays in Honor of Talcott Parsons*, ed. Jan J. Loubser, Rainer C. Baum, Andrew Effrat and Victor M. Lidz, 2:507–52. New York: Basic Books.
- . 1982. *The Differentiation of Society*, trans. Stephen Holmes and Charles Larmore. New York: Columbia University Press.
- . 1989. *Ecological Communication*, trans. John Bednarz. Chicago: University of Chicago Press.
- . 1990. *Essays on Self-Reference*. New York: Columbia University Press.
- . 1994. “How Can the Mind Participate in Communication?” In *Materialities of Communication*, ed. Hans Ulrich Gumbrecht and K. Ludwig Pfeiffer, trans. William Whobrey, 370–87. Stanford, CA: Stanford University Press.
- . 1995. *Social Systems*, trans. John Bednarz with Dirk Baecker. Stanford, CA: Stanford University Press.
- . 1997. *Die Gesellschaft der Gesellschaft*. 2 vols. Frankfurt am Main: Suhrkamp.
- . 1998. *Observations on Modernity*, trans. William Whobrey. Stanford, CA: Stanford University Press.
- . 2002. *Theories of Distinction: Redefining the Descriptions of Modernity*, ed. William Rasch. Stanford, CA: Stanford University Press.
- Maturana, Humberto R. 1981. “Autopoiesis.” In *Autopoiesis: A Theory of Living Organization*, ed. Milan Zeleny, 21–33. New York: North Holland.
- Mead, George Herbert. 2002. “The Present as the Locus of Reality.” In *The Philosophy of the Present*, 35–60. Amherst, NY: Prometheus Books.
- Spencer Brown, George. 1979. *Laws of Form*. New York: Dutton.