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Korzybski, Luhmann, and McLuhan

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This paper revisits an earlier study of the common ground shared by Alfred Korzybski, founder of general semantics, and Marshall McLuhan, the central figure in media ecology, and makes explicit the use of systems theory to bridge the gap between the two. Following a brief summary of the systems approach and its relationship to the media ecology intellectual tradition, sociologist Niklas Luhmann is identified as an appropriate mediator between Korzybski and McLuhan, for his application of the concept of autopoiesis to the study of society. Korzybski's key term of *abstracting* is compared to McLuhan's emphasis on *medium*, and suggests that McLuhan's true concern was with a process of *mediating* rather than a medium as a *thing*. Korzybski only discussed abstracting in quantitative terms, i.e., levels or orders of abstracting, but McLuhan's approach suggests the need to distinguish between qualitative differences as well, in the form of the *mode* of abstracting.

This paper revisits an earlier study in which I discussed some of the common ground shared by Alfred Korzybski and Marshall McLuhan, and how each scholar's perspective could be used to enhance the approach of the other (Strate, 2010). In doing so, I relied upon systems theory to bridge the gap between the two scholars, but did not make that third approach explicit, so that it instead served as a hidden ground while I highlighted the shared perspective of Korzybski and McLuhan. In returning to that discussion, I want to begin with a brief review of the basics of systems theory, noting how it relates to media ecology and general semantics.

The key concept of a *system* is a general one that can be applied to any phenomenon, be it physical, chemical, biological, social, psychological, or technological. A system is any entity that is composed of interdependent parts, so that the whole cannot be explained only by examining the different parts; rather, you have to look at how they work together. In this way, the whole is greater than the sum of its parts, that extra something being the structure, relationship, or interaction among the parts, what Buckminster Fuller termed their *synergy* (see, for example, Fuller & Applewhite, 1975). This something extra that the parts produce when they form a system is said to *emerge* out of the system, and this quality of *emergence* is held in contrast to linear cause-and-effect because the interaction of the parts of a system, especially one that is complex and dynamic, includes random, chaotic factors that make prediction impossible (although bifurcation points may generate an orderly pattern when repeated over time, just as flipping a coin once generates a random result, but when repeated over and over reveals a statistical order). Changes introduced to a system therefore tend to be difficult to analyze in terms of causal relationships. For example, in some instances a system can take great damage and still go on functioning, as the interdependence of its parts makes for a robust system capable of a high degree of compensation; and in other instances a very small change can bring down the entire system, as interdependence results a series of indirect effects that may snowball, growing geometrically, especially if the ef-

fect forms a feedback loop or is otherwise reiterated, leading to what is sometimes called the *butterfly effect*. Again, the more complex and dynamic a system is, and the more interdependent the parts, the harder it would be to predict the effects of any change that might be introduced into that system. This is particularly relevant for media ecology in regard to the impact of technological innovations.

Systems have boundaries that separate themselves from their environment, and the boundaries can be more or less closed or open to their environment, so that we can distinguish between closed systems and open systems. The universe is considered a closed system, insofar as there is supposedly nothing else outside of the universe (or if there are other universes, nothing outside of the collective multiverse). A biosphere, or a vehicle or suit used in underwater and outer space environments creates a relatively closed system, although it would be open enough to allow in sunlight and other forms of energy. Some social systems are relatively closed, such as a fraternity, military organization, and religious order, where elaborate initiation procedures are required for membership, while others are relatively open, such as a political party, or a social networking site like Facebook or MySpace. Some systems are created by outside forces—for example, when we create technological systems—but other systems form spontaneously, “pulling themselves up by their own bootstraps,” as the saying goes. Self-organizing systems are referred to as *autopoietic*, the process as *autopoiesis*, and this is associated with the phenomena of chaos and complexity. Such systems emerge out of their environment, which may be another system, so that systems themselves may be the product of *emergence*. Examples of autopoiesis include autocatalytic reactions in chemistry, the (presumed) origin of life as a form of self-organization among protein molecules, and situations where individuals get together to form an organization or society. To create itself, a system needs to construct a boundary to separate itself from its environment, to close itself off from the world in significant ways.

This very brief summary does not do justice to systems theory, but hopefully is sufficient for anyone not familiar with the perspective to have a sense of what I am referring to. Alfred Korzybski (1993) actually anticipates some of systems theory in the 1933 work that introduced general semantics to the world, *Science and Sanity*, and one of the pioneers of systems theory, Ludwig von Bertalanffy (1969), used the phrase *general system theory* (also known as general systems theory), following the example of general semantics (which followed the example of Einstein’s general relativity theory). Korzybski himself died in 1950, just as systems theory was beginning to coalesce out of Norbert Wiener’s (1950, 1961) cybernetics, but his work influenced systems pioneers such as Buckminster Fuller (1971; Fuller, Agel, & Fiore, 1970; Fuller & Applewhite, 1975) and Gregory Bateson (1972, 2002), and cybernetics and systems theory was central to the work of the Palo Alto Group that formed around Bateson, and that includes the sociologist Erving Goffman (1959, 1961, 1963, 1967), anthropologists Edward T. Hall (1959, 1966) and Ray Birdwhistell (1970), and psychologist Paul Watzlawick and his colleagues (Watzlawick, 1976, 1983, 1988, 1990; Watzlawick, Bavelas, & Jackson, 1967; Watzlawick, Weakland, & Fisch, 1974); it also was very much at the heart of the work of physicist and philosopher Fritjoff Capra (1975, 1982, 1996, 2002).

McLuhan (2003) certainly interacted with many of these scholars, and brief mentions of systems concepts show up in *Understanding Media* via Kenneth Boulding’s book, *The Image* (1956), but McLuhan’s main body of scholarship, which was produced in the fifties and sixties, was completed by working in parallel to the development of systems theory in the sixties and beyond (but see McLuhan, 1966, for his take on cybernetics). So, McLuhan resonates with systems theory in his discussion of nonlinear processes, and the effects that occur when change is

introduced into a system, but suffers from a lack of recourse to systems terminology and perspective. Walter Ong experimented with systems theory in his 1977 collection, *Interfaces of the Word*, and the evidence of a systems approach can also be discerned in the work on orality and literacy published by anthropologist Jack Goody (1977, 1986, 1987). But these efforts were not aimed at anything like an integration of systems theory into the study of media, technology, and symbolic form. Neil Postman (1970), however, incorporated systems theory in his early work on media ecology, drawing on Wiener, Bateson, Hall, Goffman, Birdwhistell, Watzlawick, Fuller, Boulding, von Bertalanffy, and Ervin Lazlo (1972), as well as Korzybski and McLuhan. The systems view pervades the various addresses he gave on the topic of media ecology during the seventies, is very much a part of his first major single authored work, *Crazy Talk, Stupid Talk* (1976), and also comes into play in regard to the thermostatic view he introduces in *Teaching as a Conserving Activity* (1979). Christine Nystrom's doctoral dissertation, completed under Postman's direction in 1973, and entitled *Towards a Science of Media Ecology: The Formulation of Integrated Conceptual Paradigms for the Study of Human Communication Systems*, brought the systems view together with media ecology in an attempt to form an integrated theoretical framework. Joshua Meyrowitz (1985) followed Nystrom's lead, and developed what he referred to as medium theory, integrating McLuhan and Goffman by defining both technological mediation and face-to-face communication as information systems. Meyrowitz does not highlight the fact that systems theory is the common ground by which he brings together two aspects of the field of media ecology, so that it serves as a hidden ground in his work, and to some extent for Kenneth Gergen (1991), who draws on Meyrowitz in applying Watzlawick's relational approach to the recent fin de siècle media environment. Systems concepts and approaches do appear in the media ecology literature over the past two decades (see, for example, Logan, 2007; Rushkoff, 1994, 2006; Strate, 2006; Zingrone, 2001), but the early efforts of Postman and Nystrom to integrate systems theory into the field of media ecology was to a significant extent abandoned.

Postman moved away from systems theory during the 1980s and 1990s, in part reflecting a more general trend in scholarship where the focus shifted away from the scientific and towards more humanistic, philosophical, and critical approaches, and in part due to his own changing goals and interests. But at least in part, Postman and many others turned away from explicit engagement with the systems approach due to the limitations of systems theory itself, at least in what Katherine Hayles calls its second wave, in her book *How We Became Posthuman* (1999). It was in the third wave of systems theory, however, that the biologists Humberto Maturana and Francisco Varela (1980, 1992) introduced the concept of autopoiesis, which in turn was applied to social systems by Niklas Luhmann (1982, 1989, 1995, 2000). An autopoietic system creates itself by closing itself off from its environment, only letting in what it needs to maintain its existence. It establishes its boundary against its environment, and then limits what it allows to enter within the system. In this sense, the boundary or membrane allows the system to abstract part of what is in the environment into the system, abstracting nutrients and abstracting information. Luhmann draws on Korzybski in noting that social systems use language as a membrane, one that abstracts only the information that is needed, that is encoded in the appropriate symbolic form, and keeps out all the rest. Luhmann also draws upon media ecology scholars Eric Havelock (1963, 1986), Walter Ong (1967, 1977, 1982), and Elizabeth Eisenstein (1979) in noting that the introduction of writing and printing technology increased the volume of information circulating within social systems, in turn allowing social systems to increase in complexity. Complexity is not simply a matter of a system growing larger; rather, it involves the development of specialized subsystems, each of which has its own boundary, maintained by a special-

ized language, and often involving a two-valued orientation. So for example, the legal system's boundary is based on guilt or innocence, the political system's boundary is based on winning or losing elections, and the educational system's boundary is based on having a degree or not having one. The mass media also function as a subsystem, and their main function is to provide the system with information about the outer environment, to create an inner map of the outer reality, but that picture of the world is obtained through the process of abstracting, which inevitably results in vast simplifications and distortions.

This brief introduction to Luhmann's perspective does not do his work justice, but should help to explain why I have situated him as the common ground for Korzybski and McLuhan, indeed, why he shows up in the middle, as the medium between Korzybski and McLuhan. I will now turn to a consideration of that common ground, and let the medium fade into the background as Korzybski and McLuhan's invisible environment.

In the preface to the third edition of *Science and Sanity*, Alfred Korzybski wrote:

The origin of this work was a new functional definition of 'man' . . . based on an analysis of uniquely human *potentialities*; namely, that each generation may begin where the former left off. This characteristic I called the 'time-binding' capacity. Here the reactions of humans are not split verbally and elementalistically into separate 'body', 'mind', 'emotions', 'intellect', 'intuitions', etc., but are treated from an organism-as-a-whole-in-an-environment . . . point of view. (Korzybski, 1993, p. xxxxi)

In the Introduction to the Second Edition of *Understanding Media*, Marshall McLuhan wrote:

The section on "the medium is the message" can, perhaps, be clarified by pointing out that any technology gradually creates a totally new human environment. Environments are not passive wrappings but active processes. (McLuhan, 2003, p.12)

Korzybski and McLuhan both were highly independent, interdisciplinary, original, and unorthodox thinkers, and my aim now is to draw on both of them, and on the approach that they hold in common. This approach, which they share with a number of other significant scholars and intellectuals, could be termed holistic, situational, contextual, relativistic or relational, cybernetic or a systems view, or ecological. Whatever the name that we give to it, the fundamental concern is with understanding what it means to be human; understanding ourselves as human beings, not in isolation, but in relation to our environments; understanding how we relate to our environments and how we *ought* to relate to our environments.

Ideally, we are concerned with how the organism-as-a-whole relates to the *total environment*, as McLuhan liked to put it. But in practice we may focus on a particular aspect of the environment, such as the cosmological or the geological, the physical or the chemical, the biological or the sociocultural. As an individual, the organism-as-a-whole exists in relationship to other individual human beings, in dyads and groups, in families and tribes, in organizations and associations, in cities and nations, in networks and in the global village. Every other organism-as-a-whole that the individual comes into contact with becomes part of the individual's environment. Of course, "organism" is a multiordinal term, referring to the individual, and also to the species-as-a-whole, the species as a social system. The human species, which is one of many so-

cial species, is distinguished by our unique capacity for symbolic communication, which grants us our potential for time-binding. And the environment for our species-as-a-whole is nothing less than what Buckminster Fuller (1971) called *spaceship earth*.

Individually and collectively, the relationship between human beings as systems and their environments is one that is fundamentally indirect. Externally, stimuli excite and irritate our sense organs and nervous systems, which constitute our informational boundary with our environment. Internally, we construct a map of the environment out of the various excitations and irritations that we experience, a map that may be more or less structurally homologous with the outside world, but a map that is, simply stated, not the territory itself, as Korzybski (1993) famously put it. We therefore live in an inner environment, a perceptual environment, and a conceptual environment. And our relationship to the outer environment, being indirect, is therefore mediated, hence McLuhan's (2003) observation that the medium is the message.

This is not a solipsistic point of view, I hasten to add. Our concern is with the *relationship*, or if you like, the *interface* between the inner environment of the map, and the outer environment of the territory. It is along this interface that Korzybski (1993) made reference to *verbal environments* and *semantic environments*, and *neurolinguistic* and *neurosemantic environments*. It is along this interface that we can then speak of information environments, communication environments, symbolic environments, and technological environments. It is along this interface that McLuhan (2003) talked about media environments, and Neil Postman (1970) in turn defined media ecology as the study of media as environments.

In discussing the ways that we relate to our environments, Korzybski (1993) employed the key term of "abstracting." He used the verb form of "abstracting" instead of the noun form of "abstraction" because he did not want us to think about abstractions as things, but rather as processes and activities. As a verb, "abstract" can be defined variously as summarize, remove, separate, steal, and purloin. And what we as organisms do when we abstract is take into ourselves something from the outside environment. Unlike the processes of ingesting and inhaling, abstracting does not involve absorbing any material substance from the environment; what we abstract is information, which provides us with a necessarily incomplete and selective summary, or map of our environment.

All forms of life engage in some form of abstracting, in that all forms of life respond to stimuli. Organisms with nervous systems engage in the form of abstracting that we call sense perception. And the human organism, the time-binding species, also engages in the form of abstracting that we call symbolic communication, employing language and other symbol systems to generate and accumulate knowledge. Korzybski was not alone in this linking of perception and language. Susanne Langer (1957) argued that perception is a symbolic activity, a form of metonymy where the fraction of the environment that we take in stands for the environment as a whole. McLuhan (2003) argued that language is a form of perception, indeed, that languages are organs of perception. And for Luhmann (1982, 1989, 1995, 2000), perception and language both contribute to the maintenance and functioning of the boundaries of self-organizing social systems.

The process of abstracting, as it encompasses the processes of perception and symbolic communication, allows us to do more with less, and therefore represents enormous efficiencies, especially for organisms with complex nervous systems such as ourselves. And efficiency, as Jacques Ellul (1964) has made clear, is the basis of the technological imperative. Therefore abstracting, I would argue, is fundamentally associated with technological activity. And technological activity, I would suggest, can be traced back to the fact that all forms of life alter their environment, altering their environment to their own benefit, in theory if not always in practice,

and altering their environment simply by their presence in the environment, and by their metabolism.

McLuhan (2003) used the term “technology” interchangeably with the term “medium” because all of our inventions and innovations are means by which we relate to our environment, by which we mediate and interface with our environment. Our technologies and techniques help us to abstract information from our environment; help us to accumulate, share, and preserve knowledge; help us to communicate and commune with one another; and help us to act upon our environment and alter it for better or for worse. We can study an individual medium or technology, its unique characteristics, biases, and effects. And we can also study the media-environment-as-a-whole, recognizing that the individual medium does not exist in isolation, but in complex interaction with other media. But going beyond the media-as-environments point of view, I want to suggest that McLuhan’s approach can best be understood when we employ the verb form of mediating. Along these lines, the French media ecologist Régis Debray (1996, 2000), drawing on the field of *semiology*, which is concerned with the process of *signification*, calls his field of study *mediology*, which is concerned with the process of *mediation*. Admittedly, there is some potential for confusion with the ways in which the terms mediation and mediating are used in the legal sector, but there is also some benefit from associating media with activities such as negotiation.

With this way of understanding media, we can say that we relate to our environments through a process of *mediating*, of *interfacing*, of *abstracting*. To return to Luhmann’s (1982, 1989, 1995, 2000) systems perspective, we can only take in part of our environment through abstracting because its totality would overwhelm us. All systems must maintain boundaries with their environments in order to establish and maintain their integrity as systems. Indeed, it is only by closing itself to its environment to a significant degree that a system can organize itself, that is, that an independent system can come together as a system in the first place in the process termed autopoiesis (Maturana & Varela, 1980, 1992). We create barriers for our own protection, biologically, psychologically, and sociologically. And we do so technologically as well; as Max Frisch observed in his cybernetics-inspired novel *Homo Faber* (1959), “technology is the art of never having to experience the world” (p. 178).

McLuhan (2003) regarded media and technology as extensions of the human organism, following a tradition that can be traced back to Edward T. Hall (1959), C. K. Ogden and I. A. Richards (1923), and Ralph Waldo Emerson (1883). But McLuhan insisted that every extension is also an amputation. The medium that extends our reach into the world does so by situating itself between ourselves and the world, so that it also becomes a barrier between ourselves and the world. And as a barrier, the medium becomes part of our world, part of our environment, the boundary that separates system from environment. In sum, as we relate to our environment, we reject as well as select. We filter. We mediate. Or as I like to say, the medium is the membrane (and the membrane is us). We dance along the edge of chaos and order, opening and closing, extension and amputation, the external and the internal.

Both Korzybski (1993) and McLuhan (2003) were concerned with *differences that make a difference*, as Gregory Bateson (1972) liked to put it. But their point of view on these differences were somewhat . . . *different*. Korzybski, being an engineer, and of a scientific and mathematical bent, looked at the process of abstracting along a vertical axis of higher and lower levels or orders. Sense perception constitutes the lowest level of abstraction, symbols a higher level. Images are less abstract than words. Names that are attached to an individual are less abstract than labels that refer to an entire category. Following Korzybski’s lead, we can say that

television is less abstract than a book. And we can say that the written word is more abstract than the spoken word because, as Walter Ong (1982) explains, writing is a secondary symbol system that represents speech, our primary symbol system, in a visual form.

McLuhan, being a scholar of English literature, focused on qualitative rather than quantitative differences. With this in mind, we can add to the vertical axis of *level of abstracting* a horizontal axis that I would call the *mode of abstracting*. For example, television and movies are different media, and therefore represent different methods of abstracting. One is not particularly more or less abstract than the other, they are just qualitatively different modes. The same could be said of sound recordings and radio, or a magazine and a newspaper, or a parchment manuscript and papyrus scroll, or hieroglyphics and cuneiform, or a dialogue and a public address. Following the insights of Edward Sapir (1921), Benjamin Lee Whorf (1956), and Dorothy Lee (1959), we can also understand that different languages (e.g., English, Spanish, French, Hindi, Mandarin, Hopi), represent different modes of abstracting and mediating. And the same can be said of different forms of sense perception. As McLuhan (2003) made clear, vision represents a different mode of abstracting than hearing, or touching, or smelling, or tasting; moreover, senses trained in different ways represent different modes of abstracting, so that literates, for example, use their eyes differently from nonliterates, and this in turn alters the way all of the other senses are used in concert.

Taking into account the mode of abstracting as well as the level of abstracting gives us a better handle on the process of abstracting, and the process of mediating. We mediate with our bodies, our sense organs and nervous systems. We mediate through our languages, art forms, and symbol systems. And we mediate through our technologies, techniques, and technical systems. We relate to our environment, not as separate entities, but as interdependent parts of an ecosystem. What that means is that the organism-as-a-whole is influenced and shaped by its environment, which is, as McLuhan (2003) noted, not a passive wrapping but an active process. And the environment-as-a-whole is influenced and shaped by the organisms that are a part of it. We have changed our environments radically through our inventions, through our ideas, and through our activities. But to change the world for the better, we must understand the world, understand how we relate to the world, how we can change the world and what the consequences of change might be.

What we need then is an ecology of mediating, an ecology of abstracting, an ecology of knowing. We need an ecology of knowledge, by which I mean both knowledge in the academic sense, and know-how in the everyday sense, knowledge that is both theoretical and practical, pure and applied, both theory and praxis. We need an ecology that incorporates both form and technology, the inner landscape and the outer environment, the map and the territory. We need an ecology that is built upon the dialectic between the system and its environment, as it is mediated by the boundary. In other words, we need an ecology of Korzybski, Luhmann, and McLuhan.

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