

Pragmatism, Existentialism, and Media Theory As Approaches

with Larry J. Crockett, "The Serpent's Trail: William James, Object-Oriented Programming, and Critical Realism"; George Karuvelil, "Science of Religion and Theology: An Existentialism Approach"; and Young Bin Moon, "The Mediatized Co-Mediatizer: Anthropology in Niklas Luhmann's Universe"

THE MEDIATIZED CO-MEDIATIZER: ANTHROPOLOGY IN NIKLAS LUHMANN'S WORLD

by Young Bin Moon

Abstract. This essay explores what it means to be human in an age of infomedia. Appropriating Niklas Luhmann's systems theory/media theory in dialogue with other resources, I propose a post-Luhmannian paradigm of (1) extended media/meaning that conceives the world as world multimedia systems processing variegated meanings, and (2) an embodied, contextualized soft posthumanist anthropology that conceives the human as emergent collective phenomena of distinct meaning making by body-mind-society-technology media couplings. I argue: (1) *Homo sapiens* is *Homo medialis* distinct with mediatic communication that emerged to cope with contingencies. (2) Evolution is the mediatization/codification of the world that culminated with the outcome of *Homo medialis* uniquely equipped to process transcendent meanings and to mediatize the world via diverse media—Mediatized Co-Mediatizer or Codified Co-Codifier. (3) This anthropic universe is possibly the most "meaningful" (full of meaning possibilities) of all possible worlds. (4) Social fragmentation could be an optimization; science-and-religion is an infomedium optimizing religion's manifest and science' latent observation of divine manifestations.

Keywords: anthropic; anthropology; Codified Co-Codifier; evolution; extended media paradigm; Philip Hefner; *Homo medialis*; information; Niklas Luhmann; meaning; media; mediatization; media theory; posthuman; systems theory; theology; world multimedia

This essay is about naming us humans aptly in the context of information media (*infomedia* hereafter) that is assailing us. But don't we already have a vast array of names for ourselves, for example *Homo sapiens*, *Homo faber*,

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Homo ludens, to name only a few? Why do we need more names? My answer is this: A new situation calls for a new name; a new name creates a new meaning; a new meaning generates a new power. Naming empowers us to cope with a new situation. We cannot help seeking and creating meaning whenever a new situation arises, because we are meaning-making or naming animals; this is what the “image of God” in Genesis would possibly mean—a main point I will propose in this essay.

Moreover theology is a re/naming enterprise as it tries with its rich symbolic resources to rename everything, even the unnamable. This essay is ultimately in the business of theology while engaging in a wide range of inquiries that are also in the business of renaming. What I have in mind in the background of this essay is to rename everything in terms of media; such an enterprise I name *media theology* and its underlying framework *an extended media paradigm*. Considering the powerful impact of media and the fundamental significance of mediation in science (Latour and Woolgar [1979] 1986; Galison 1997; Latour 1998; Daston and Galison 2007), religion (Hoover and Lunby 1997; de Vries and Weber 2001), and theology (Balthasar [1967] 1982; Ward 2005), there is a dire need for a full-blown, rigorous assimilation of media theory in science-and-religion and theology (see Moon 2010). Focus on technological media as is usually carried out today is not enough; what is needed is to excavate the deep-seated connections between mediation/media, religion/theology, and science—this new way of seeing is media theology (and/or science-and-theology of media) and an extended media paradigm. With this goal in mind, this essay focuses on its anthropological basis and I wish to offer a new vision of ourselves immersed in the media world and the world media.

At the turn of a new millennium, we have entered a new phase of sociocultural evolution, prompted by the Media Big Bang. The proliferation of infomedia has been turning the globe into the network society in which the power of flows overpowers the flows of power (Castells 2000, 500). The advent of an age of infomedia confronts us with this urgent question: *What is the meaning of being human vis-à-vis infomedia?* Given the powerful, ubiquitous presence of infomedia on the globe, this issue deserves serious attention. But, oddly enough, it has not been the case in current theological anthropology and science-and-religion; considerable attention has been placed on technology or information (e.g., Hefner 1993; Scott 2000; Herzfeld 2002; Jackelén 2002), but little on infomedia or media theory—a German anthology *Homo Medialis* (Pirner and Rath 2003) being a notable exception. To meet this pressing need by addressing squarely the infomedia challenge is the ultimate motive behind this essay.

Another challenge that also has not received due attention in theological anthropology is social fragmentation manifest in terms of differentiated social systems—“two cultures” (science/religion) being a prime example—as a result of sociocultural evolution named post/modernization;

J. Wentzel van Huyssteen's *Alone in the World?* (2006) is among outstanding exceptions. This post/modern challenge poses this question: What is the meaning of being human vis-à-vis fragmented social reality?

The last challenge, unlike the aforementioned challenges, is a seasoned one. Over one and half centuries have passed since Charles Darwin's *On the Origin of Species* (1859) once and for all traumatized the long-standing Western paradigm that had perceived the human as *sui generis* vis-à-vis other species; but still, theological anthropology has not fully recuperated from the trauma. Despite enormous attention placed on this issue, the evolutionary challenge still looms large, posing the question: What is the meaning of being human vis-à-vis other species in the baffling trajectories of evolution? This evolutionary challenge furnishes the backdrop of the aforementioned challenges, which are, in fact, two decisive turning points in sociocultural evolution.

In sum, what is demanded of theological anthropology (and science-and-religion) in this age of infomedia is a serious consideration of the infomedia challenge while at the same time taking into account the post/modern and evolutionary challenges.

To meet this demand, I constructively appropriate German sociologist Niklas Luhmann's systems theory (see Moeller 2006; Moon 2010). This metatheory rigorously assimilates a media theory at the core of a social theory (with an emphasis on social fragmentation) under the premise of the evolutionary paradigm, furnishing a novel framework best suited to tackle at once the three pressing challenges in remarkably coherent fashion. Moreover, this framework paves the path for an extended media paradigm that I will develop here. I also draw on a host of inquiries such as paleoanthropology, language evolution, systems biology, neuroscience, and theology to put forward a post-Luhmannian (theological) anthropology. At the outset, I want to make one thing clear: A detailed analysis or exposition is beyond the scope of this essay; its goal is rather an imaginative, yet informed construction of a metaparadigm (here paradigm simply means a way of seeing) in broad strokes.

A POST-LUHMANNIAN ANTHROPOLOGY: HOMO MEDIALIS

Luhmann's media theory not only constitutes the heart of the entire edifice of his social systems theory, but it also furnishes a basis of my proposal of a post-Luhmannian anthropology and extended media paradigm. My proposal is post-Luhmannian in the sense that Luhmann would not endorse the ascription of the term *anthropology* in association with his social theory as he famously repudiates anthropologically based social theories (Luhmann [1984] 1995, 210ff.; 1997, 24ff.; [1997] 2006). Luhmann exorcized the human from the social domain as he says, "We choose the term 'human being' to indicate that this concerns both the psychic and the

organic systems of human beings" ([1984] 1995, 210). In this regard, I go beyond or contra Luhmann by explicitly holding that the social is not only an indispensable but also the most definitive dimension characterizing the human, tending toward a sociological anthropology.

In *Luhmann Explained* (2006), Hans-Georg Moeller confirms, "The human being 'as such' has no theoretical place in systems theory" (10). Luhmann adopted this antihumanist strategy to break completely with humanist tradition, presenting it as an alternative a new sociological paradigm based on communication that he deems a social reality *sui generis*, not a human reality: "Humans cannot communicate. . . . Only communication can communicate" (Luhmann 2002, 169). This move also takes into account the fact that the term *human* is a social/semantic construct, thus historically contingent (Moeller 2006, 85): "Words such as 'human being,' 'soul,' 'person,' 'subject,' and 'individual' are nothing more than what they effect in communication" (Luhmann 2002, 183)—this point being relevant in current anthropological discourse that has drawn attention to sociocultural factors in determining what is human (Proctor 2003; van Huyssteen 2006, 49–60). But this move has been made at the cost of truncating (if not erasing) human reality—dispersed and complex but still concrete reality (or realities). This consequence is the cost Luhmann was willing to pay as a sociologist, but it is too grave a cost for anthropologists or theologians. In this sense Luhmannian anthropology is an oxymoron.

But could there be a way to save the human (both reality and term/concept) in a Luhmannian framework? Is there a way to "humanize" Luhmann's systems theory? My answer is in the affirmative: We cannot find the human within systems (organic, psychic, social), but we find the human emerging out of their boundaries or interpenetrating fields where meaning arises (cf. Brier 2002). Precisely because of the rigidity of system boundaries, Luhmann's systems theory is blind to the human—the human torn apart by the systems and disappearing. But once the systems' boundaries, narrow and rigid, turn into interpenetrating fields, much broader and more flexible, we find the human reemerging; in this flexible post-Luhmannian framework we can possibly say, pace Luhmann, "Humans produce communication." The human is not body, nor mind, nor society; but it is all of that and beyond that; the human is an emergent collective phenomenon arising from body-mind-society-technology interpenetrations. This is precisely what I have in mind with my proposal of a fully embodied, fully contextualized soft posthumanist anthropology (cf. Varela et al. 1991; Hoffmeyer [1993] 1996; Hayles 1999, chapter 11; Brier 2002), sharply distinct from radical antihumanist one such as Luhmann's version or disembodied Artificial Intelligence (AI) versions that consider humans as computers (see Hayles 1999). The proposal I will flesh out in this essay is thus:

The human signifies the interpenetrating codifying fields in which complex meaning-making activities take place across body, mind, society, and technology, incessantly

producing emergent collective meanings that interfuse organic, psychic, social, and technological meanings with unparalleled sophistication and creativity.

In brief:

The human signifies distinct emergent collective phenomena of complex meaning production via body-mind-society-technology medium couplings.

Or:

The human signifies the media sui generis—Homo medialis (cf. Pirner and Rath 2003).

The last conception uses the Luhmannian notion of media as the interpenetrating codifying fields of meaning making (to be explained). Humans are not passive but active meaning makers as creative media makers; they are meaning proliferators via diverse media they create; they are the media *sui generis* that generate other kinds of media; they are the media-making media—this is also what I mean by *Homo medialis*.

To begin with, let me articulate the basic outlook of my post-Luhmannian anthropology:

1. It is *holistic* as it perceives humans in terms of complex networks of organic, psychic, social, and technological systems, which are operative in terms of corresponding medium (Moeller 2006, 80); it perceives humans as *fully embodied* and *socioculturally contextualized*, rejecting the AI version antihumanist anthropology that erases the body (Hayles 1999).
2. It is *dynamic* with its thoroughgoing evolutionary perspective: Humans emerged in evolution by complex interpenetrations of the diverse systems, the emergence of the meaning (psychic/social) systems being the most definitive event.
3. It is *postmodern* sensitive with its serious consideration of social fragmentation.
4. It is *soft posthumanist* (not *antihumanist*) or *postsubstantialist/postsubjectivist*—in distinction with *humanist* anthropology—as it deems humans primarily in terms of their distinct meaning-production *operations* via media: The human is event, not entity or being; the human is phenomenon, not person or subject. So I prefer to use the term *human phenomena* in place of *human beings*. Nevertheless, contra antihumanist perspective like Luhmann's, my soft posthumanist one does not negate or devalue the humanist terms such as being, person, subject, self, human, or humanity, but it deems them valid as socially constructed emergent descriptions (Hoffmeyer [1993] 1996); complex phenomena like human phenomena require multiple layers of descriptions via coarse

graining (Murphy and Ellis 1996, chapter 2; Clayton 2004). My soft posthumanist perspective thus explores a viable conceptual terrain in-between humanist and antihumanist perspectives, as Katherine Hayles (1999) notes, “[T]he posthuman need not be recuperated back into liberal humanism, nor need it be construed as antihumanism” (287).

5. It is *scientifically grounded*—particularly in evolutionary theory, neuroscience, systems biology, and complex systems theory, among others (see Varela et al. 1991; Hoffmeyer [1993] 1996; Hayles 1999, chapter 11; Russell et al. 1999; Clayton 2004; Noble 2006; Barbieri 2008; Kauffman 2008; Favareau 2010).
6. It is *operational constructivist* (Luhmann [1988] 2006) in affirming that while there exists operational human reality, the term *human* is a social construct, historically contingent, and under ongoing negotiations, constantly posing this question, Whose observation? Who draws the distinction? Here the two dimensions (operational reality and conceptual construct) of the human are distinguished and both affirmed. For example, witness the current debate between anthropologists and primatologists/ethologists in regard to placing the human vis-à-vis other animals (see Peterson 1999): the former put more weight on discontinuity (Deacon 1997; van Huyssteen 2006, 2008) whereas the latter continuity (Bekoff 2006; King 2008).
7. It is *paradigmatic* as it presents a metaperspective (not a metaphysical system) as one plausible way of seeing, among others; thus it is postmetaphysical (but not antimetaphysical) clearly deviating from any totalizing system of thought. Flexibility, adaptability, or corrigibility is one of the chief merits of the Luhmannian framework, as Dirk Baecker (2001) perceptively observes, “[Luhmann] did not believe in systems. He used the notion of system as a methodological device to look at everything excluded by them” (71).

With this outlook in place, let me explicate the core elements of Luhmann’s media theory. The most peculiar feature of his social systems theory is the communicative turn (Luhmann 2002, chapter 7). The social system is radically distinguished from the psychic system in terms of its distinct form of operation, which is communication whereas the latter system’s form of operation is consciousness. As noted, his theory replaces the conventional paradigm of society—that society is constituted by individuals—with a new paradigm: society is the communicative system that constantly produces communicative events. Society is communication. Accordingly communication theory linked with media theory

constitutes the heart of his systems theory. In the sense that communication is constantly processed only within the boundaries of society, communication is autopoietic (meaning “self-producing”). Radicalizing Emile Durkheim’s macrosociological tradition, Luhmann as such safeguards the operational autonomy of the social vis-à-vis the individual (or psychic).

But, for humans, communication and consciousness are intimately connected. In conversation, thinking is stimulated by conversation and vice versa, while thinking is not conversation and conversation is not thinking. “A social system cannot think; a psychological system cannot communicate. Seen causally, there are nonetheless immense, highly complex interdependencies” (Luhmann 2002, 165). To highlight their special interdependence, Luhmann ties them together under the rubric of meaning systems that constantly process meaning: “The most general medium that makes both psychic and social systems possible and is essential to their functioning can be named ‘meaning’ [*Sinn*]” ([1995] 2000, 107).

What is the Meaning of Meaning—for Luhmann? Luhmann’s concept of meaning is pivotal for our discussion and needs an adequate elucidation. We are normally accustomed to the concept of meaning in association with hermeneutics (What is the meaning of text?), existentialism (What is the meaning of existence?), semiotics/semiology (What is the meaning of sign?), or their combinations. These approaches, however, run into the problem of reference (What does text or sign refer to?) as in the case of hermeneutics or semiotics, and/or the problem of meaningfulness (How is existence or text meaningful to me/us?) as in the case of existentialism or hermeneutics. From Ferdinand de Saussure (and Charles S. Peirce) to Jacques Derrida, the problem of reference has been a perennial subject in semiology/semiotics. And the issue of meaningfulness comes to a dead end when text or existence does not make any sense at all.

Concerning these problems, Luhmann paves an alternative path by drawing on a less familiar resource, that is, phenomenology, while linking it with systems theory. “Phenomenology describes meaning as a surplus of references, that is, as references beyond what is intended at any given moment. The references cannot be brought to a definitive closure” (Luhmann 1999b, 57–58). Meaning, defined thus as a surplus of references, is poised between fully determinable (fixed references) and random (arbitrary references). And meaning references are internal to the system; there is no meaning beyond the system. Specifically, meaning refers to the ongoing recursive intersection of actual and potential events, an intersection that propels the operation of the system. “[T]he meaning actualized in each instance—makes sense only with respect to the possibility of actualizing other possibilities, and . . . this presupposes the existence of dynamic systems composed of operations (events)” (Luhmann 1999b, 58). “Everything actual has meaning only with a horizon of possibilities along

with” (Luhmann [1984] 1995, 66). Luhmann adapts George Spencer-Brown’s notion of form that is defined as referring to both a distinction and the unity of the distinction: “Form not only is the boundary, but also contains the two sides it separates (Luhmann 1999a, 17). Because meaning refers to both the unity and distinction of actuality/potentiality of a system, meaning is the form of actuality/potentiality, or it is actuality vis-à-vis potentiality. Meaning, so defined, is ephemeral and contingent, constantly evolving: “[M]eaning must be fashioned as basally unstable, restless, and with a built-in compulsion to self-alteration” (Luhmann [1984] 1995, 65).

This concept becomes more tangible when related to experience (*Erfahrung*) (Luhmann 1990, 31f.). Experience is a process, a flux, a continuum; our actual experience incessantly arises out of a continuum of potentially possible experiences through an ongoing process of sorting them out, selecting one, negating the rest. Put another way, our actual experience arises as a selection out of the sea of potential experiences. In the purview of such a surplus of references (that is, *meaning*), our experiences can make sense, being recursively sorted out and interpreted via the forms of communication and consciousness (coupled with the forms of body and technology—I stress this aspect more than Luhmann). Our experience is thus an ongoing selection or risk-taking process (because one selection implies negation of other) and is always contingent (because it can be otherwise vis-à-vis other possibilities). For instance, the feeling of love makes sense as a distinction from other possible feelings such as repulsion or indifference. When we are in love, this feeling is constantly being selected over against other possible feelings; this feeling is contingent because other possible feelings can be selected at any time. As such, experience processing is meaning processing. According to Luhmann, information is defined as an actual event of selection (Luhmann [1984] 1995, 67), whereas meaning indicates other potential selections vis-à-vis an actual event of selection; accordingly, meaning processing is information processing; experience processing is information processing.

What are the Merits of the Luhmannian Conception of Meaning? First, this conception establishes a rigorous conceptual link between *meaning* and *information*, thus linking “two cultures”—*Naturwissenschaften* and *Geisteswissenschaften*, wherein *information* belongs to the former whereas *meaning* the latter. It also carries crucial significance for (religious/theological) anthropology, safeguarding it from falling prey to a kind of informationalism that reifies information divorced from meaning/medium (see Hayles 1999). For Luhmann, despite his ostensible antihumanist stance, meaning always comes first while tightly linked to information—which implies for anthropology that humans are primarily meaning-making animals.

Second, this conception goes *beyond anthropocentrism* (espoused by hermeneutics or existentialism) by deconstructing the distinction of *meaningful/meaningless*—in this way Luhmann tackles the problem of meaningfulness ([1984] 1990, 62f., 72ff.). Nothing is meaningless; paradoxically, something meaningless is important (thus meaningful) for meaning processing in terms of provoking questions such as: What on earth is the meaning of this nonsense? Something seemingly meaningless provokes thinking or communication. Meaningless experiences are meaningfully processed *qua* nonsensical ones. “It is nonsense!” is a way of making sense/meaning of nonsensical experiences; thus there is no experience that meaning cannot process. As such this concept lays bare and tackles the paradox of meaningful/meaningless, to which hermeneutics/existentialism is entrapped.

Another important merit of this conception looms large when seen in an evolutionary perspective: “Both kinds [psychic/social] of systems emerge by path of co-emergence. . . . Meaning is the true ‘substance’ of this emergent evolutionary level. It is therefore false. . . . to assign the psychic over the social. It is impossible to find a ‘supporting substance’ for meaning. Meaning supports itself in that it enables its own self-referential reproduction. And only the forms of this reproduction differentiate psychic and social structures” (Luhmann [1984] 1995, 97–98). Luhmann deconstructs Edmund Husserl’s subjectivist phenomenology: It is not that meaning is generated by the subject, but rather that the subject is generated by meaning (1990, 22f.). In evolution, communication is not an outcome of consciousness as much as consciousness is not an outcome of communication; rather, it is out of the medium of meaning that the forms of consciousness and communication emerged together and bifurcated: meaning (medium) → consciousness/communication (forms)

As discussed, meaning is the most fundamental medium through which we make sense of (or manage) our contingent experiences, or “the form for the ordering of human experience” in terms of actuality/potentiality (Luhmann 1990, 43). Consciousness and communication are respectively the concrete forms of operations of psychic and social systems, while meaning is the universal medium cutting through the two forms, mediating them, and making their operations possible (Luhmann 1977, 21, 24). Here medium and form are postmetaphysical concepts replacing the metaphysical concepts of matter/form: “The distinction between medium and form suggests another primary distinction designed to replace and render obsolete the object-oriented ontological concept of matter. . . . From a systems-theoretical standpoint, by contrast, both media and forms are constructed by the system and therefore always presuppose a specific reference. They are not given ‘as such.’ The distinction between medium and form, just like the concept of information, is strictly internal

to the system” (Luhmann [1995] 2000, 103). These two concepts are differentiated only in a relative sense: A medium consists of loosely coupled elements, permitting their multiple combinations, whereas a form consists of tightly coupled elements (104 ff.). For example: “In the medium of sound, words are created by constricting the medium into condensable (reiterable) forms that can be employed in the medium of language to create utterances (for the purpose of communication)” (106). For another example: “The case of art clearly shows that, and in what ways, a form can be used as a medium for further formations. As form, the human body can be used as a medium for the presentation of different postures and movements. A play can count as form to the extent that it is determined by a script and stage distinctions; at the same time, it functions as a medium in which different productions and individual performances can assume a specific form” (108). This concept thus foreshadows the concept of remediation that will be discussed later.

To recap the Luhmannian concept of meaning:

1. Meaning, defined as the form of actuality/potentiality, is *paradoxical*.
2. Meaning, indicating both actual and potential events, is *bi-/multireferential*.
3. Meaning is *system-referential*.
4. Meaning is *dynamic, ephemeral, contingent, and evolving*.
5. Meaning is *postsubjectivist*.
6. Meaning is *postanthropocentric*.
7. Meaning is *postmetaphysical*.

In brief, meaning is the system-referential basal medium or “raw material” (in the form of actuality/potentiality) out of which the system-specific process of events occurs.

To elaborate, meaning is the system-referential basal medium or “matter” (in the form of actuality/potentiality) out of which concrete media, such as cognitive media and communication media (also, physical media and organic media, as will be explained)—which are form givers—work out the system-specific process of events.

What evolutionary niche would the emergence of communication and consciousness have had? Articulate/concrete meaning processing would not have been possible without the emergence of the two concrete forms accompanied by the concrete communication media such as language. They are much more tightly coupled forms than meaning and thus able to do a better job of managing contingent experiences; they coemerged for the sake of meaning’s more effective management of contingent experiences (cf. Deacon 1997). To illustrate: The feeling of love cannot be concretized or articulated without language. When we feel love, affective meaning

(coupled with bodily meaning) is already set in motion (Johnson 2007, 25); but it is only when we communicate and/or reflect on the feeling via language that articulate or concrete meaning is processed. As Luhmann highlights it in *Love as Passion* ([1982] 1998): “[L]ove will not be treated here as a feeling (or at least only secondarily so), but rather in terms of its constituting a symbolic code which shows how to communicate effectively in situations where this would otherwise appear improbable. The code thus encourages one to have the appropriate feelings. Without this, . . . most people would never acquire such feelings” (8–9).

By modifying Claude Shannon’s communication theory (Shannon and Weaver 1963), Luhmann construes communication as the coordinated threefold-selection process involving the unity of (1) information, (2) expression, and (3) understanding, all of which require selections ([1984] 1995, 147). Nothing is transferred in this process, but something is selected in the medium of meaning (141). There is no message transferred, but meaning is processed through the selection process. On this scheme, communication processing is meaning/ information processing. Consider a concrete romantic situation: John sends a rose to Jane to communicate his love. Here, love is information and the rose is an expression. First, John needs to sort out his feelings to make sure of his feeling toward Jane, which is a selection of information. Second, he also needs to select his expression (rose) out of a variety of ways (email, kiss, etc.). Finally, it is Jane’s turn to select (discern) the information (love) from the expression (rose) she received—this selection is termed understanding. Luhmann adds one more selection, that is, the selection of acceptance/rejection: Jane can decide to return the rose. Corresponding to this three-/fourfold selection process, there exist obstacles, and the success of communication should never be taken for granted.

How, then, could communication have emerged in evolution against all odds? Specifically, how could communication be (1) understandable, (2) spatiotemporally accessible, and (3) acceptable ([1984] 1995, 160–161)? Such obstacles, Luhmann contends, were effectively overcome by the appearance of three types of communication media: (1) the general medium (language) increases communication’s understandability “beyond the sphere of perception” (161); (2) disseminating media (writing, printing) provide “an immense extension” of communication’s spatiotemporal accessibility; and (3) symbolically generalized media (symbolic media hereafter)—such as love, power, faith, money, good, legal, etc.—enhance communication’s acceptability. A paper, in order to get published, must be (1) understandable via a proper language (say, English), (2) spatiotemporally accessible via a proper disseminating medium (say, email), and (3) acceptable via a proper symbolic medium that meets the thematic expectations of the pertinent discourse (an appeal to faith in a scientific paper would be improper).

All of the above-mentioned communication media require codification that means transforming meaning/information into a concrete form for communication (142). Language codifies communication in the forms of sign, syntax, etc.; disseminating media, in the forms of writing, printing, digital, etc.; symbolic media, in the forms of power, love, money, etc. Because communication processing is meaning processing, the communication media play an essential role in processing meaning—transforming meaning into communication and recursively transforming communication into meaning—via codification. In the sense that communication is processed through codification, communication is codification. The communication media also play a central role in mediating communication and consciousness via codification (Luhmann 2002, chapter 8). To put these together, the communication media are the interpenetrating codifying fields of meaning processing—simply, communication media are codifying fields.

To generalize this concept, media give forms to meaning by codification; briefly, media are codifying fields, form givers, or “code makers” (Barbieri 2010, 758).

Without concrete media (such as communication or cognitive media), meaning—while being itself the basal form of actuality/potentiality—would not acquire concrete system-specific forms (such as communicative or cognitive meanings), so meaning processing would not be possible. For a system to operate, meaning must acquire concrete forms by media’s codifications. With the concepts of form and codification, Luhmann’s theory of meaning/media merges with semiotics (1999b): Conceiving of sign as the form of signifier/signified, he says, “Systems operating in the medium of meaning . . . can be described as sign-processing systems. . . . The progression from one actuality to another in the medium of what is possible requires the sign form because only in that form can the selection of a tight coupling be accomplished” (60).

The most distinct type of Luhmann’s communication media is symbolic media, which function to regulate communication on the level of semantic or thematic expectations. To revisit the “rose” example, the rose functions as a symbolic medium conveying the semantic (or culturally conditioned) meaning of love. An appeal to faith in a scientific paper would be preposterous because it contradicts the thematic expectations of scientific discourse. Luhmann ([1986] 1989) famously contends that modernization resulted in a functional differentiation of symbolic media and corresponding function systems: power for politics, money for economics, truth for science (*Wissenschaft*), legality for law, good for morality, beauty for art, faith for religion, and so forth. Contemporary society is therefore fragmented into specialized thematic domains of communication; social fragmentation is media fragmentation. In the sense that the function systems process communication in terms of their

distinct symbolic media or codes, they can be named codifying systems or mediatizing systems. Politics codifies/mediatizes the world in terms of power; economy, in terms of money; religion, in terms of faith, and so forth. In conceiving symbolic media as an essential operational component of social systems, Luhmann has opened up the possibility of a conceptual expansion of media beyond its conventional arena confined to technological media—namely, an extended media paradigm.

Meaning is autopoietic, as meaning refers to another meaning within a specific meaning system (Luhmann [1984] 1995, 62). But meaning is not self-sufficient; it must be fed constantly. For meaning systems to operate, organic systems must be involved as well. Would cognition be possible without the brain? Would human communication be possible without brains, mouths, eyes, etc.? Luhmann certainly did not overlook this vital dimension: “Interpenetration involves human bodies as well as psychic systems” (244). He articulated schematic symbolization in psychic systems and ritualization in organic systems (240–251)—they designate varied kinds of codifications in the extended media paradigm. But he failed to provide a sufficient account of the interpenetrating fields involving body, mind, society, and technology all at once; as I see it, this is a major blind spot of his systems theory with a dire result of the human being torn apart. It is in and out of the interpenetrating fields that fully embodied, fully contextualized human meanings emerge—this is the crux of my post-Luhmannian anthropology.

Likewise Brier (2002) criticizes Luhmann’s theory for its lack of “a concept of meaning that relates deeply to the flesh, blood, and life (conditions) of biological systems and to the existential conditions of human consciousness”; he argues, “Luhmann’s . . . three autopoietic systems are all needed to create meaning of a message and one needs the sign concept to understand their interaction” (116). And he offers—by integrating Luhmann’s systems theory and Peirce’s semiotics—a comprehensive biosemiotic scheme that places human and nonhuman species together while distinguishing them thus: Animals play sign games for ritualization whereas humans play language games for symbolization. This is an interesting solution to the perennial debate on human uniqueness vis-à-vis other species—leading to our next discussion on language evolution. As such, biosemiotics or systems biology in connection with neuroscience is promising in offering cogent accounts for body-mind-society interpenetrations (e.g., Hoffmeyer [1993] 1996; Wildman and Brothers 1999).

Recent studies on language evolution (Hurford et al. 1998; Knight et al. 2000; Christiansen and Kirby 2003) also throw important light on this issue. For example, Terrence Deacon’s *The Symbolic Species* (1997) presents a compelling case for the coevolution of brain, language, and culture. He argues that humans have a different kind of intelligence distinguished

by symbolic language that emerged through complex interpenetrations occurring between the brain and social life. Appealing to the Baldwin effect, and based on fossil evidence, he develops this hypothesis: “The remarkable expansion of the brain that took place in human evolution, and indirectly produced prefrontal expansion, was not the cause of symbolic language, but a consequence of it” (340). For Deacon, this biological change has something to do with communicative demands in that period. “Why? What was the spark that kindled the evolution of symbolic communication” (376)? He finds the answer in social regulations concerning sexual relationships—unique to the human species is marriage, the long-term, exclusive sexual relationship under social regulation based on a social contract (384). A strong sense of contingency in sexual relationships triggered the emergence of social contracts regulating social expectations (399)—this point resonates with Luhmann’s idea of symbolic media for the role in conditioning communicative expectations. Such contracts require symbolic communication unique to humankind (400). Symbolic learning was carried out in terms of rituals enforcing redundant and repetitive actions (402). As such Deacon provides a cogent evolutionary account on the link between body, language, and society, thereby supplementing Luhmann’s theory.

Current neuroscientific studies (LeDoux 2002; Damasio 2003) accentuating the vital role of emotion/feeling in body-mind-society interpenetrations for meaning making furnish another important supplementary resource (see Johnson 2007, chapter 3). As Mark Johnson (2007) underscores it, “According to current emotion research, emotions are not merely cognitive structures, they are not merely brain processes, and they are not merely bodily responses. Rather, emotions are all of these dimensions, and more” (61–62); “meaning is in what you think and feel and do, and it lies in recurring qualities, patterns, and structures of experience that are, for the most part, unconsciously and automatically shaping how you understand, how you choose, and how you express yourself. You have meaning, or are caught up in meaning, before you actually experience meaning reflectively” (79).

Moreover, in this infomedia age, the interpenetration of technological media into body-mind-society, a dimension that is often overlooked in biological/cognitive anthropology, deserves due attention in anthropology (Hayles 1999; Hansen 2004; 2006; Haraway 2004)—consider that *Homo sapiens* is *Homo faber*.

To conclude, humans are distinct in terms of mediatic communications that are concrete meaning producing/processing activities via the body-mind-society-technology interpenetrating codifying fields, that is, the media that emerged to cope with contingencies—*Homo sapiens* is *Homo medialis*.

AN EXTENDED MEDIA PARADIGM: MEDIATIZED CO-MEDIATIZER AND CODIFIED CO-CODIFIER

Why did *Homo medialis* emerge in evolution? Better put: How can we make sense/meaning of the rise of *Homo medialis*? What I intend to do here is a meaning-seeking of this uncanny evolutionary fact. It concerns the meaning of evolution and the meaning of human existence vis-à-vis media, and it directly touches on the central issue of this essay: What is the meaning of human existence vis-à-vis info-media? I offer one perspective centering on two correlated concepts: *Mediatized Co-Mediatizer* and *Codified Co-Codifier*.

Let's begin with the term *Mediatized Co-Mediatized*. This concept is based on the Luhmannian paradigm that sees the world as hypercomplex networks of systems operating via diverse kinds of media: Organic systems operate via life; psychic systems via consciousness; social systems via communication; technological systems (machines) via technological codes (Luhmann [1984] 1995, 2; Clark 2008, 17ff.). What about the physical systems, which are not properly addressed by Luhmann? According to theoretical physicist Paul Davies (1996), the laws of nature are “doubly special” because they produced the mind through the evolutionary process and because they also are “of a form which is apprehendable” by the mind (152–153). Drawing on Heinz Pagels (1983), Davies argues that the laws of nature can be seen as “written in code” and science is “to decode nature and read off ‘the message’ consisting of the underlying laws” (153). This insight cues my post-Luhmannian reading: that is, the laws of nature (interplaying with chances) function as the *physical media* for the operations of physical systems. If media are defined, to recall, as form/code makers, the laws of nature that are themselves the forms/codes of nature can certainly be conceived as physical media. Here, however, the laws of nature operative in physical systems should not be confused with physical theories constructed by science (which is a social system) (Stoeger 1996, 207–231); to use a Kantian distinction, the laws of nature belong to *noumena* whereas physical theories *phenomena*—here I consistently adopt the position of realistic operational constructivism (see Moon 2010) which rejects epistemological realism of any sort, while holding that the laws of nature are operationally (not essentially) real (that is, operational realism), constraining physical theories.

This completes a post-Luhmannian paradigm: that is, the world systems are operative in terms of diverse kinds of world media—physical, organic, psychic, social, and technological media. The world is the dynamic totality of the formations, operations, and interpenetrations/couplings of the world multimedia; and evolution is the world multimedia in the making or the (multi)mediatization of the world. Here *mediatization* refers to a media-in-the-making process (cf. de Vries and Weber 2001, 28): Given

our Luhmannian conception of media as the interpenetrating codifying fields of meaning processing, mediatization can be defined as the dynamic process of actualization, virtualization, and proliferation of such codifying fields. This paradigm extends the concept of media so as to encompass the entire world systems—this I name an extended media paradigm. Most striking is its rigorous extension and assimilation of media theory into the evolutionary framework, which enables us to conceive the grand panorama of cosmic-organic-sociocultural evolution in terms of the complex processes of world multimedia in the making.

This extended media paradigm implies an extended meaning paradigm that expands the concept of meaning beyond the psychic and social systems—domains designated by Luhmann as meaning systems—to encompass all kinds of systems, including physical, organic, and technological systems, which are not usually deemed relevant to meaning. As such this paradigm deconstructs the anthropocentric conception of meaning, a view that has long been taken for granted. Also, it deconstructs the still-dominant materialist paradigm which maintains that physical or organic systems have nothing to do with meaning. To recall, it is Luhmann who has paved this path by conceiving meaning in close connection with information (although his view is still anthropocentric). Meaning indicates other possible selections vis-à-vis an actual event whereas information indicates an event of selection for a system. On this post-Luhmannian conception, meaning is always meaning/information, and the world consists of systems processing diverse (physical, organic, psychic, social, and technological) kinds of meaning/information; and evolution is world-meaning processing/proliferation via the world multimedia. It is via the evolutionary emergence of the diverse kinds of media that virtual world meanings—this notion resonates with Luhmann's Husserlian conception of the world as "the ultimate horizon of all meaning" ([1984] 1995, 69; 2002, 45)—have been actualized, virtualized, proliferated, and processed in terms of physical, organic, psychic, social, and technological meanings. Because of space, let me just outline the diverse kinds of meaning processes without elaboration as follows:

1. Physical systems process physical meanings via physical media (the laws of nature)—this view resonates with Whitehead's process philosophy ([1929] 1978, 166ff.; Barbour 1997, 287ff.) and Peirce' semiotics (Robinson 2004).
2. Organic systems process organic meanings via diverse organic media, both analogic (biochemicals, cells, neurons, etc.) media/codes and digital (DNA, RNA) media/codes, whose medium couplings named *code duality* are essential—this view finds support from biosemiotics or systems biology (Hoffmeyer [1993] 1996; Brier 2002; Barbieri 2008; Favareau 2010).

3. Psychic systems process psychic meanings via cognitive media (schemas or modules)—this view finds support from neuroscience (Russell et al. 1999) and systems biology (Hoffmeyer [1993] 1996).
4. Social systems process social meanings via symbolic media (power, money, truth, beauty, faith, etc.)—this is Luhmann's view.
5. Technological systems process technological meanings via technological media/codes (writing, printing, visual images, machine codes, digital codes)—this view resonates with Luhmann (Clark 2008, 17ff.), Jacques Ellul ([1954] 1964, 133f.), Friedrich Kittler ([1986] 1999), and Marshall McLuhan with his famous maxim: "The medium is the message" (that obviously generates meaning) ([1964] 1994, chapter 1).

Although the operation of each of these extended meaning systems is autopoietic (some of physical systems or technological systems being exceptions) in terms of its distinct medium, it also requires intersystemic interpenetrations via structural coupling (Luhmann [1986] 1995, 221f.) or medium coupling. The world multimedia are hyperrichly coupled; so are the diverse kinds of world meanings. The film supplies a good example of medium coupling as it interfuses indissolubly an audio-visual medium and a narrative medium. Thinking requires complex medium couplings between body/brain and mind; writing requires complex medium couplings between body, mind, society, and technological media (say, computer).

Today technological media have penetrated so deeply into human phenomena (Hansen 2004; 2005) that we are even named cyborgs (Haraway 2004)—this fact is taken into deep consideration in my proposal of fully embodied, fully contextualized soft posthumanist anthropology, but certainly not in the manner of the AI-version antihumanism that erases body (Hayles 1999). Humans are no longer the interpenetrating codifying fields of just body-mind-society, but of body-mind-society-technology.

The concept of medium coupling relates to that of remediation (Bolter and Grusin 1999, 45) or recodification that involves semiotic transformation (Wildman and Brothers 1999). For instance, a filmed version of a novel (say, *Harry Potter*) is a cinematic recodification/remediation of a novel. The enterprise of natural science comprises the complex process of recodification (cf. Latour and Wooglar [1979] 1986; Galison 1997; Daston and Galison 2007): Nature is coded via experimentation/observation into technological codes, which are recoded via perception into neurological codes, which are recoded via cognition into psychic codes, which are finally recoded into scientific language.

What are the implications and advantages of this post-Luhmannian paradigm of extended media/meaning?

First and foremost, it provides a comprehensive framework of the world multimedia that enables us to conceive the emergence of human

phenomena along with a plethora of technological media as the culmination of the amazing panorama of the world-multimedia-in-the-making processes.

Second, it offers a methodological alternative to any totalizing metaphysical system (such as Hegel's or Whitehead's) that demands heavy epistemic/ontological commitment. As a postmetaphysical (but not antimetaphysical) paradigm based on Luhmann's operational constructivism—which maintains that all realities are either constructed realities or constructing/operating realities—it requires much less epistemic burden, which makes it possible to take a somewhat liberating stance holding that this paradigm is one plausible way, among others, of seeing (or constructing) the world; on this stance the question is not so much “Why this way of seeing the world?” as “Why not?”

Third, in place of a rigid metaphysical paradigm, it offers a more flexible postmetaphysical one—to be more specific, a postmaterialist one as an alternative to the materialist worldview, that is, a semantic worldview that lifts up the meaning dimension embedded in the material world. It sees the world as a meaning-material world, which does not mean that two separate realms exist but that material processing is itself meaning processing: All realities are semantic realities or meaning realities. In this regard, this paradigm finds limited affinities with Whitehead's or Peirce's; but unlike them, it maintains a postmetaphysical stance based on both operational constructivism and the postmetaphysical concepts of meaning/media.

Fourth, it is a postinformationalist paradigm as an alternative to informationalism by placing meaning as primary over information (while tightly linking them); the world is no longer portrayed as the totality of information-processing machines but as a complex nexus of meaning-processing or meaning-seeking operations. It not only thwarts the deep-seated problem in the concept of information that is easily divorced from meaning (Hayles 1999, chapter 3); but it also fundamentally prevents the widespread idea of free floating information divorced from its medium (Hayles 1999, 13, 18f., chapter 8), as meaning is intrinsically inseparable from its medium that is the field of meaning processing.

Last, but not least, compared with the information paradigm, it takes more seriously and makes more explicit the proliferation and couplings of meanings as the consequence of the proliferation and couplings of media; meaning is always meaning with respect to a particular medium (recall that meaning is always system-referential); thus we have to constantly ask: Whose meaning?

Importantly, this somewhat alleviates the problem of (natural) evil by challenging anthropocentrism: Storms, earthquakes, or tsunamis are evil in our human eyes but they could be “meaningful” in the “eyes” of nature to our grief; as such this paradigm constantly reminds us that we humans are not the only ones making meanings although we (sentient beings) are the

only ones making high-level (abstract, symbolic, transcendent) meanings, being able to say, "Where is God in this?" To recall, such an expression (or "It is nonsense!") is a typical way of making meaning of the nonsensible, and there is nothing out of which meaning cannot make meaning. The term *evil* possibly being a name for the nonsensible (Nuyen 2001), *the problem of evil* is a sophisticated version of such kind; it has generated discourses like "God is dead" or theodicy, even evolutionary theodicy (see Southgate 2002), making the world even *more meaningful* (not in the sense of being more sensible, but in the sense of a greater horizon of meaning possibilities).

An interesting and important conclusion we can draw here is this: *Possibly, this world that produced humans (or sentient existences) could be the most meaningful (not the best as Leibniz envisioned it) of all possible worlds* because, had it not been for the arrival of humans, high-level meanings (such as psychic-social-technological meanings), to the fullest sense of the words, would have not been available for the world-meaning processes.

On this paradigm it is no longer that humans are the sole producers of meaning, but that they are, first and primarily, a product of the world-meaning processing via diverse kinds of media and, only secondarily, the producers and proliferators of world meanings via the kinds of media they create. Humans are *Mediatized* in the sense that they are an ongoing, dynamic outcome of the mediatization of the world, and at the same time they are *Co-Mediatizers* (here "Co-" signifies "with the world") in the sense that they are uniquely equipped to mediatize the world (and even the transcendent) in terms of the media they create; thus humans are *the Mediatized Co-Mediatizers*.

This term needs a fine tuning in the following two respects:

For one, humans are coevolving with the world; they are constantly in the making, just as the world multimedia systems are. Ever since their arrival through the evolutionary process of the natural multimedia world (physical-organic systems), humans have produced the transnatural multimedia worlds (physical-organic-psychic-social-technological systems) and they have been recursively being reproduced by both worlds that are constantly interfusing each other. Humans are not a finished product of nature (humans are not nothing but a biological species and even species are subject to change according to Darwinian theory), but a product-in-the-making of the world multimedia systems—humans are constantly being Multi-Mediatized.

For the other, humans produce not only human (organic-psychic-social) meanings via human (organic-psychic-social) media, but also technological meanings via a plethora of technological media, while all the media being richly coupled with each other (technological meanings have interpenetrated deeply with physical-organic-psychic-social meanings; witness the impact of the mass media). Humans are unparalleled in

the respect that they have all the variety of kinds of media at their disposal with the capacity to assimilate them ingeniously so as to produce highly creative and sophisticated meanings—they are Multi-(or Trans-) Mediatizers. Also, humans are unparalleled in the respect that they are able to produce symbolic meanings out of freedom or transcendence from nature—they are Transcendent Mediatizers. Human meanings are thus unfathomably interfused (body-mind-society-technology) and symbolic/transcendent. How did symbolic/transcendent meaning arise in evolution? Adapting Luhmann's insight that the code of transcendence is the principal contingency formula that functions to manage contingency (Luhmann 1984, 7, 10), one possible answer could be that the symbolic code of transcendence emerged in evolution to cope with variegated contingencies derived from complex environment.

Accordingly, to be more elaborate, humans are the Multi-Mediatized Co-Trans-Mediatizers; here the Latin prefix “trans-” means both “across” (multi) and “beyond” (transcendent). For brevity's sake, though, I will use the shortened version, Mediatized Co-Mediatizer, in which “Mediatized” implies “Multi-Mediatized” and “Co-” implies “Co-Trans-” henceforth.

The proposed term is based on a post-Luhmannian paradigm without theological considerations—thus viable for diverse contexts. However, a theological reading is also possible as an option: that is, the world systems were created to serve ultimately as the external media for divine communication, and the evolutionary process is an ongoing recursive process of actualization/virtualization of the divinely intended potentiality of the world systems, a process I name divine mediatization. This also applies to humans, but they are set apart with their unique capacity to create and employ the diverse media that also emerged through divine mediatization. From this standpoint, the term Mediatized signifies the emergence of this unique capacity through the evolutionary process, and the term Co-(Trans-)Mediatizer signifies humans' creative participation as the “image of God” in divine mediatization by means of diverse media (“Co-” signifies “with God”). In sum, the term Mediatized Co-Mediatizer signifies that humans are at once an outcome of and creative participants in divine mediatization of the world.

This theological rendering provides a clue to the opening question of this section: Why did *Homo medialis* arise in evolution? My proposal is that the evolutionary process can be seen as an ongoing process of divine mediatization that enables and optimizes the world systems to become more and more appropriate as the divine media *ad extra* that ultimately, albeit ambiguously, manifest divine/sacred reality. The world multimedia systems are the divine multimedia *ad extra* in the making. The emergence of *Homo medialis* with the unique capacity to observe divine mediatization (or communicate transcendent meanings) via symbolic media culminates divine mediatization of the world. *Homo medialis* arose through the process

of divine mediatization as the mediator between God and the nonhuman world. It is via human mediatization that *Homo medialis*, as the *imago Dei*, represents God to the nonhuman world (Middleton 2005, 89–90) and, as the *imago mundi*, intercedes for the nonhuman world to God (Moltmann [1985] 1993, 189–190).

My proposal finds strong affinities with Jürgen Moltmann's conception of the universe as a complex "communication system" and as "a *participatory* system, which is aligned towards, and dependent on, ever richer and more diverse communication between the different open part-systems, whether their levels of organization are the same or different" ([1985] 1993, 205). Orienting towards "growing communication," the universe is "an *anticipatory* system" marked by "self-transcendence" (205). The universe thus is "the self-transcending totality of a diversity of communicating, individual open systems" (205).

Also, my proposal resonates with current theological emphasis on the sacramental view of nature (e.g., Brun 2002; Davies 2004).

The terms *media* and *mediatization* reconfigure the key theological/biblical terms *mediator* and *mediation*, whose significance has been highlighted by many. For example, Hans Urs von Balthasar ([1967] 1982) conceived Christ as the form of revelation and highlighted the mediating function of the scripture and the church. Walter Brueggemann (1997) placed, under the category of mediator, key biblical terms such as Torah, king, prophet, cult, and sage. Recently Graham Ward (2005) underscored the centrality of mimetic mediation in Christology, soteriology, ecclesiology, and theological anthropology.

The foregoing account of Mediatized Co-Mediatizer can be also ascribed to its correlated term Codified Co-Codifier or, to be elaborate, Multi-Codified Co-Trans-Codifier. Based on the conception of evolution as the multicodification of the world, the term (Multi-)Codifier signifies that humans are an ongoing dynamic outcome of the world's multicodifications, that is, the complex couplings of natural multicodifications (via physical-organic media), human multicodifications (via psychic-social media), and technological multicodifications (via technological media). And the term Co-(Trans-)Codifier signifies that humans creatively participate in the world's multicodifications via human-technological multicodifications richly coupled with physical-organic multicodifications.

This term can be theologically appropriated as well. The Priestly account of creation in Genesis 1 is crafted to highlight God's creation of meaning as evidenced most explicitly in terms of God's "naming" of creatures (Genesis 1:5, 8, 10; Westermann 1974, 87, 114f., 118f., 122f.; Moltmann [1985] 1993, 188). The link between creation and naming implies that the created systems are the outcome of divine codifications through the Word, which endows them with divine or ultimate meaning. The created systems are divinely codified systems. This reading accords with the Hebraic

mindset that viewed creation in terms of the creation of order out of chaos—which implies that creation of the world is the creation of meaning out of nothingness (which can mean an infinite horizon of virtual meanings) or the instantiation of divine codifications *ad extra* (see Moon 2010). And the doctrine of *creatio continua* implies God’s continuous creation of meaning or continuous codification via the evolutionary process. Seen thus, God’s creation of human beings “in his own image” (Genesis 1:27) after the creation of all other creatures, or God’s forming of the man “from the dust of the ground” and breathing “into his nostrils the breath of life” (Genesis 2:7 NIV) is the culmination of God’s creation of meaning or divine codification through the evolutionary process—which implies that the human is an outcome of natural-divine codification. Adam’s “naming” of animals (Genesis 2:19–20) and the woman created out of his bone (Genesis 2:23) symbolizes the unique capacity of the human as God’s representative (or *imago Dei*) to produce and ascribe transcendent meanings vis-à-vis complex environment in terms of human codifications. In sum, humans are an outcome of natural-divine codifications via the evolutionary process and they participate in divine codifications of the world via human codifications—this is a theological reading of the Codified Co-Codifiers.

The proposed terms, *Codified Co-Codifier* and *Mediatized Co-Mediatizer*, reconfigure Philip Hefner’s celebrated term *Created Co-Creator* (Hefner 1993) so as to make it more appropriate for the context of infomedia. Hefner’s term signifies that the human is at once a natural outcome of biological evolution and the transcendent agent of sociocultural evolution. The prime virtue of this notion lies in its emphasis on their interdependence, as Hefner says, “The *created co-creator* refers to the emergence of a creature, *Homo sapiens*, (1) who on the one hand is thoroughly a creature of nature and its processes of evolution—hence the term *created*—and (2) who at the same time is created by those very processes as a creature of freedom” (1998, 175). The human, so depicted, is both a defined and self-defining creature (180). Building on this anthropological insight, Hefner offers a theological reading: “*Homo sapiens* is God’s created co-creator, whose purpose is the ‘stretching/enabling’ of the systems of nature so that they can participate in God’s purposes in the mode of freedom, for which the paradigm is Jesus Christ, both in respect to his life and to his understanding of the world as God’s creation” (181). This view, he argues, offers a viable alternative to anthropocentrism, nature-human dualism, technoscience, radical naturalism, and the stewardship or caregiver model of humanity vis-à-vis nature.

Hefner’s term has received high acclaims (Case-Winters 2004; Doncel 2004; Pederson 2004; Peterson 2004; Stone 2004; van Huyssteen 2006, 147ff.), but it also has invited criticisms, most commonly leveled against its elevation of human nature at the cost of downplaying its negative side

and ambiguity of history. Langdon Gilkey (1995) sees in Hefner's view "a covert expression of nineteenth century liberal beliefs in progress" (293); anthropologist William Irons (2004) doubts whether this notion accurately represents human capacities; Roger A. Willer (2004) points out its lack of a proper ethical emphasis.

But these shortcomings are effectively overcome in the notions of *Codified Co-Codifier* and *Mediatized Co-Mediatizer*. Compared with Hefner's term, my proposal has the following advantages.

First, it is postmodern sensitive, taking into serious consideration not only the ambiguities of all human codifications (including religious codifications) but also the real possibility of dissonance between human and divine codifications—thus I conceptualize the doctrine of sin which is itself a religious codification.

Second, it replaces the nature/culture dualistic schema still operative in Hefner's notion with a much more complex and dynamic paradigm of the world multimedia systems comprising the networks of physical-organic-psychic-social-technological media. On this paradigm, humans are an ongoing product of and proliferators of the world multimedia systems, coevolving with them.

Third, it provides a coherent meta-framework that explicitly enunciates the mediatic communicative function of humans vis-à-vis environment and God in the light of the extended media paradigm. It also accents the receptive function of the human vis-à-vis divine codification, linking theological anthropology closely not merely with creation but also with revelation and Christology—and with other doctrinal loci; thus it provides an anthropological basis of a full-scale theological program named media theology and/or science-and-theology of media.

Let me briefly outline a media theology of revelation and Christology (an elaboration requires another paper that is forthcoming): Revelation is religion's observation/codification of God's manifestations in and through the world multimedia systems (cf. Tillich 1951, 188f.). As the "image of God," Christ is the paradigmatic Codified Co-Codifier (or Mediatized Co-Mediatizer) who represents perfect resonance with God in codifying the world and God—via the perfect medium coupling between the human and the divine as the incarnate Word (John 1) or a uniquely Spirit-anointed man (the Synoptic Gospels), both accounts signifying that Christ is at once fully naturally codified and fully divinely codified and that Christ is the paradigmatic live human codification of the divine or the Uncodifiable. This view resonates with Balthasar's Christology: "By being dynamically inhabited by God, man is brought to attunement (*Stimmen*) by God: he possesses a voice (*Stimme*), and the right voice at that. He does not stammer and babble; he speaks with God" ([1967] 1982, 475). Similarly Graham Ward (2005) claims, "[I]f Christology grounds a theological anthropology, the God who becomes form grounds the human capacity to make forms.

Being *Homo symbolicus* is integral to being made “in the image of God” (184).

Last, but important, my proposal draws serious attention to fragmented social reality as a consequence of the differentiation of codifying systems. All human codifications being ambiguous and fragmented, humans are ambiguous, fragmented codifiers. But fragmented social reality is not necessarily a lamentable condition when seen in the perspective of divine mediatization of the world; rather we may even say that as a result of social fragmentation—analogue to the functional differentiation of the body—we are better equipped (or optimized) to cope with our complex environment more effectively.

This last point has strong implications for science-and-religion.

In primitive societies the religious symbolic media were dominant, but modernization has brought about the functional differentiation of symbolic media with a result that the public influence of the religious code has waned significantly. How could the terms Codified Co-Codifier or Mediatized Co-Mediatizer be relevant in this fragmented social condition?

According to Luhmann, religion functions to solve a specific problem that concerns society as a whole; it carries the task of managing social contingencies by appealing to God or the sacred/transcendent/ultimate (1984, 7). To put concretely, religion tries to make sense of incomprehensible phenomena such as death in terms of divine acts. Not only religion but other social systems also employ such schemes of managing contingencies and Luhmann names such schemes contingency formulas (10). All codifying systems participate in the task of managing contingency, a task that ultimately belongs to religion with its ultimate contingency formula, namely, God. Natural science, for instance, attempts to manage natural contingencies by codifying nature in terms of the laws of nature, but the laws of nature beg the question about their origin—an ultimate question pertinent to religion. Politics attempts to manage social contingencies by codifying society in terms of power, but power also begs the question about political legitimacy, ultimately pertinent to religion. In such ways nonreligious systems, with no exception, latently share the function of religion. Nonreligious codifying systems have the latent dimension of transcendence, which implies their latent observations of and latent participation in divine manifestations or transcendent meaning making. The religious system is unique and more fundamental than any other systems because of its manifest transcendent code or ultimate contingency formula, which makes possible its manifest codifications of divine manifestations (say, “God acts.”) and manifest participation in them (say, “We are caregivers of nature.”). This conceptualization, adopting a classic sociological idea (Merton 1996, chapter 7), distinguishes between manifest and latent observations of divine manifestations in terms of what kinds of symbolic media are operative in observations: Religion uses

transcendent media whereas nonreligious systems use non-transcendent media.

Here I employ Luhmann's extended conception of observation. Adopting George Spencer-Brown's formal conception of observation as an operator to make a distinction (1969), Luhmann ([1988] 2006) understands observation as a generic feature common in all kinds of systems: Organic, psychic, and social systems are all observing (or cognizing) systems, but they diverge in terms of the kinds of medium via which to observe—organic systems observe via the medium of life; psychic systems via consciousness; social systems via communication. For social systems communication is observation, and because communication is processed via codification, observation is codification; thus observation of divine manifestation means communication/codification of divine manifestation (that is, transcendent meaning).

Today nonreligious observations are hyperspecialized for their designated fields of inquiry in terms of their specialized codes and programs. Thus, we may even say that contemporary society is, because of the differentiation of codes and codifying systems, equipped with diverse specialized "eyes" that have made possible much more sophisticated observations/codifications of divine manifestations than the past. For instance, the anthropic principle is an outcome of such sophisticated observations of the universe made through the "eyes" of contemporary astrophysics (Leslie [1997] 1998). Such examples abound. With this consideration, the extended media paradigm enables us to conceive science-and-religion as a crucial infomedium mediating between nonreligious systems' latent and religious system's manifest observations, aiming to optimize observations of divine manifestations in and through the world multimedia systems. Accordingly, the diversification of codes and codifying systems poses not only an unprecedented challenge but also a great opportunity for science-and-religion, whose task is to manage creative tensions between religious and scientific observations for the sake of the optimization.

CONCLUSION

I have presented a metatheoretical framework as a viable conceptual resource for science-and-theology in the context of infomedia, namely, a post-Luhmannian paradigm of anthropology (a soft posthumanist version) and extended media/meaning. To recap my proposal:

1. The human signifies the interpenetrating codifying fields in which complex meaning-making activities take place across body, mind, society, and technology, incessantly producing emergent collective meanings that interfuse organic, psychic, social, and technological meanings with unparalleled sophistication and creativity.

2. Humans are the media *sui generis* as the media-making/proliferating media, or *Homo medialis* distinct with mediatic communications that are concrete meaning producing/processing activities via the media that emerged to cope with contingencies.
3. Evolution is the world multimedia in the making or the (multi-)mediatization of the world; evolution is world-meaning processing/proliferation via the world multimedia.
4. Humans are an outcome of the mediatization/codification of the world and uniquely equipped to mediatize/codify the world via the diverse media they create: Humans are the Mediatized Co-Mediatizers or the Codified Co-Codifiers.
5. This universe that produced humans or sentient beings is possibly the most “meaningful” (full of meaning possibilities) of all possible worlds.
6. In theological perspective, evolution is divine mediatization of the world and the world multimedia are the divine multimedia *ad extra*; humans as the “image of God” are an outcome of and active participants in divine multi-mediatization of the world.
7. Social fragmentation could be an optimization process via media differentiation: Science-and-religion is a crucial infomedium optimizing religion’s manifest and science’ latent communication of transcendent meanings.

This proposal aims toward developing a full-scale media theology and/or science-and-theology of media; in this essay I have briefly touched on the doctrines of creation, revelation, sin, and Christ; and elsewhere (Moon 2010) a theology of God (Trinity). The proposed post-Luhmannian paradigm is flexible, inclusive, fertile, and potentially viable in diverse contexts. I hope my codification of the world and the human to be a mediatizer stimulating further communication for enriching and flourishing inexhaustible human meanings in this age of infomediality.

NOTES

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