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Article

The Hermeneutics of Information in the Context of Information Technology

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Abstract: The digital revolution has drawn us into the "information age," and information has become central in our discourses of communication, economics, socio-cultural studies, etc. A look into the historical evolution of the concept of information reveals its assimilation into the technical and positivistic orientation, largely shaped by the technically- and mathematically-oriented information theory and the analytic philosophy of information. A hermeneutical view of information is to bring information into the phenomenon of understanding from the perspective of philosophical hermeneutics developed by Hans-Georg Gadamer. Philosophical hermeneutics is not concerned with the art of interpretation, as what the traditional hermeneutics characteristically was, but with understanding as the fundamental mode of being of the human person. To view information within the realm of understanding, or to unfold its hermeneutic dimension, it is necessary to challenge its objectified and reified conception. To achieve this, an elucidation of the essential features of hermeneutic understanding, like its interpretive nature and linguisticality, shall take the aspect of engaging the phenomenon of information in the context of information technology. A relevant conclusion shall reveal the possibility of reintegrating information into the fundamental orientation of human *praxis* as coming to an understanding.

Keywords: Information technology, understanding, philosophical hermeneutics, communication

Introduction

The word "information" is now so fashionable, this is profoundly due to the development of the computer and telecommunication technology. The digital revolution has pushed information into the center of the discourses of communication, economics, globalization and international politics, security and socio-cultural studies. Pundits have often

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described our age as the "information age." The progress of information technology has undeniably brought massive changes to culture, societal communication, democracy, education and human interaction that lead to the "prioritization of information." However, the notions of information and knowledge are now also arrogated by information technology into its own sphere as well as into economics. As a result the learning institutions now just form part of the manufacturing stage of the knowledge industry. Hardly is it said today that knowledge is *cultivated,* or that the child is *formed* in his educational surrounding, because generally information is considered as hard facts that can be distributed, stored, processed and retrieved. Information *processing* that is based on a computer programming metaphor has become the paradigm of cognitive psychology, as noted by Gary Radford.[1] He argued that this has seeped eventually into the notion of communication resulting in the view that communication is the meeting of two people whose minds "process" the information given out by each other.

Whatever and however the concept "information" has evolved into its present usage and definition, there is that implicit meaning of information as *knowing* or *understanding*. For instance, to be informed that the network is down today is also to know or understand what the information says, that based on that understanding I expect that I would not be able to read my email, view a video in YouTube, pay my bill online, etc. This is the initial point that raises the hermeneutical issue about information and information technology. In this paper I shall attempt to bring the understanding of information within the perspective of philosophical hermeneutics. I shall first briefly trace the concept of information through its evolution into its contemporary currency. Then, after shortly introducing philosophical hermeneutics and its essential aspects, I shall discuss the engagement of hermeneutics and information in the context of information technology.

The Evolution of the Concept of Information: Capurro and Peters

Both Rafael Capurro and John Durham Peters provide us a historical account of the evolution of the concept of information. Capurro is one of the philosophers who focus on information and, later on, he extends to ethics of information technology. He tells us about the occurrence of "information" in Latin, particularly in Virgil's verses where *informatum* refers to hammering out lightning bolts for Zeus. *Informatio* is also found in the biological context, like in Varro which speaks of the fetus being "informed" (*informatur*) by head and backbone. In Tertullian, Moses is considered as the people's educator or

[1] Gary Radford, *On the Philosophy of Communication* (Belmont, California: Wadsworth, 2005), 50.

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molder, *populi informator*. *Informatio* in these cases would mean an act of giving form or shape to something.[2] *Forma* was the Latin translation of the Greek *eidos*, *typus* and *morphe* and throughout the Middle Ages, Capurro says, *informatio*, *informo* clearly belong to the epistemological, ontological and pedagogical domains. Thus, in general, *Informatio* means providing something with a form.

John Durham Peters also tries to trace the "historical odyssey" of information and says that it goes through its four main forms of life: 1) the late medieval Schools, 2) the British empiricists, 3) statistical data of state bureaucracies and 4) computer technology. Augmenting Capurro's observance of the epistemological and ontological senses, Peters also detects the cosmological sense in the broader use of *informatio* for it accounts for the way the universe is ordered. The Pythagorean and Platonic ideas uphold this view. Aristotle's hylomorphism (each being is composed of matter [*hyle*] and form [*morphe*]) is commonly held in the Late Medieval religion and science. "The intelligibility of material objects owes to the forms that *in-form* them, shaping them from within."[3] Information in the medieval society is very much different from how it is used today. Like the philosophers during his time, Aquinas considers form as an important element in the constitution of things and of our understanding of those things; for instance, he asserts that "the likeness of the thing understood, that is, the intelligible species, is the form by which the intellect understands."[4] Peters declares that "[e]ven when *information* was used in the sense of giving someone a report, it belonged to a world of animated essences and living forms quite divergent from our own."[5] Citing examples from Aquinas, from works in the 17th century, from John Milton, etc., Peters illustrates that information relates to invigorating aspect of life, nature and the world order. Even the phrase "for your information," claims Peters, originally means more "for your good," than "for your knowledge." Thus, in its early usage, information has to do with the active shaping of the world and with the conferral of form on matter.[6]

The Ancient and Medieval view of the universe ordered by form was discredited during the seventeenth and eighteenth centuries; and the *in-forming* shifted from matter to the mind. Thus began the massive inversion in the meaning of *information*. This slide from the metaphysical forms to the empirical senses can already be seen in Francis Bacon, a noted spokesman of

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[2] Rafael Capurro and Birger Hjorland, "The Concept of Information," in *Annual Review of Information Science and Technology*, 37 (2003), 351-352.

[3] John Durham Peters, "Information: Notes Toward a Critical History," in *Journal of Communication Inquiry*, (1988), 10-11.

[4] Thomas Aquinas, *Summa Theologica* I, Q. 85, Art. 2, <http://www.newadvent.org/summa/1085.htm#article2>.

[5] Peters, "Information: Notes Toward a Critical History," 11.

[6] Cf. *ibid*., 12.

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Modern Science. As Bacon still exemplifies a hylomorphic notion, it appears the complete break from the scholastic notion was sought by the empiricists. But before the empiricists, Peters points first to Descartes where the "doctrine of ideas" abandons "direct perception"—the scholastic communion of the Intellect and Nature. Clearing out for the first time the chasm between nature and the mind, Descartes bequeathed to both empiricists and rationalists the problem of how to account for our knowledge and experience of the world. Hume's skepticism could not "account philosophically for the existence of the world or for certain knowledge of it."[7] The senses are simply disconnected contacts called "impressions," of which the mind has copies, but could not make out any laws, either physical or moral. Aroused by Hume from his "dogmatic slumber," Kant finds the source of order and organization of the world, not in it, but in the *a priori* structures of the human mind. In this case, the mind is no longer *in-formed*, but it becomes the "repository of forms that shape and order the manifold material of sensation."[8] Now going back to the empiricist problematic, here Peters sees more how *informed* or *information* drifts away from its earlier meaning held by the Scholastics and Ancients – "the term's sense shifted from unities (Aristotle's forms) to units (of sensations)." "Under the tutelage of empiricism, *information* gradually moved from structure to stuff, from form to substance, from intellectual order to sensory impulses."[9]

The next stage in the development of the concept information is brought by another form of empiricism personified by the state as its knower, the bureaucracy its senses, and statistics its information. Basically, statistics is the name for the comparative study of states. The extent of the state's dominion over physical territories and over many public matters about its people are too large to be perceptible. Since statistics is a set of techniques of making them visible and perceptible, the state could provide the people a kind of "seeing," a gnosis that give them knowledge of something that they can never experience for themselves. "This new kind of knowledge—knowledge that absolves individuals from the claims of deixis, of existing at one place and at one moment—is of course none other than information. Information is knowledge with the human body taken out of it."[10] Even before the computer was created, computing – the making invisible aggregates intelligible and manipulable – was already part of the apparatus of the state.

According to Peters, recent dictionary's definition of information refers to it as facts or knowledge "separated from, or without implication or

[7] *Ibid*., 13.
[8] *Ibid*.
[9] *Ibid*.
[10] *Ibid*., 15.

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reference to a person informed." Information is alienated from the human scales and proportions. Then we have the telegraph and telephone, technologies that transmit and manipulate the commodity. This emphasized the difference (or ended the identity) between transportation (the movement of goods) and communication (the movement of information).[11] However, the catalyst for the contemporary discourse on information is the diffusion of the "information theory" inaugurated by Claude E. Shannon who researched on telephony at Bell Labs in 1948. Shannon's 1948 paper "A Mathematical Theory of Communication"[12] has brought information into the lofty concept of science and technology. At the same time, Norbert Wiener published his work, *Cybernetics*,[13] which deals with communication and control. Both authors acknowledge their influence on one another, thus, ascertaining the similarities of their concepts.

Shannon, Weaver, and Wiener: The Information Theory

At the onset of the development of the electronic computer, the theoretical foundation of the problem of information and communication was developed along the engineering problem for telephony. Although "Information Theory" is not specifically mentioned in Shannon's paper, among communication engineers and writers at that time the words "communication" and "information" always go hand-in-hand. Writing decades later, Wilbur Schramm considers "communication as *a relationship built around the exchange of information.*"[14] We find the significance of this discussion on communication theory (along with Cybernetics) in that the convergence of the ideas of communication, information and computer begins to consolidate in here. The words of Peters somehow demonstrate the point: "Resulting from this heady mix was a notion of communication as information exchange…. More important, this new view effaced the old barriers between human, machine, and animal. Anything that processed information was a candidate for 'communication.'"[15]

Shannon introduces the fundamental problem of communication to be "of reproducing at one point either exactly or approximately a message

[11] See James Carey, *Communication as Culture: Essays on Media and Society,* revised ed. (New York: Routledge, 2009).

[12] Claude E. Shannon, "A Mathematical Theory of Communication," in *The Bell System Technical Journal,* 27 (July, October 1948), 379–423, 623–656.

[13] Norbert Wiener, *Cybernetics or Control and Communication in the Animal and the Machine* (New York: John Wiley & Sons, The Technology Press, [c1948] 1951).

[14] Wilbur Schramm, "The Unique Perspective of Communication: A Retrospective View," in *Journal of Communication,* (Summer 1983), 15.

[15] John Durham Peters, *Speaking into the Air* (Chicago: The University of Chicago Press, 1999), 24.

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selected at another point."[16] However, the messages are taken not for their meaning-content because "these semantic aspects of communication are irrelevant to the engineering problem." Rather "the significant aspect is that the actual message is one *selected from a set* of possible messages."[17] The measure of the amount of information is based on the finite number of messages, where each one can be equally likely selected. Thus, in statistical terms, the measure of information is the logarithmic function of the number of messages to choose from. At the lowest level, for one to have the freedom to choose there must be at least two messages; and they can be represented symbolically in, say, "yes" / "no," or 1 / 0. So, using the logarithm to the base 2 (binary system), it can be said that with the two messages to choose from, the amount of information is one bit (binary digit). Here, information refers more to the freedom of choice in picking a message from a set, than to the message that is picked. One might say that people do not really talk about communication this way, and Radford observed that that is also true even to his students of communication.[18] How come that it was widely taken to be the foundation of the understanding of communication (and of information)?

The answer lies in Warren Weaver's role. In 1949, Shannon and Weaver published the book, *The Mathematical Theory of Communication*, containing Shannon's paper and Weaver's "Recent Contributions to the Mathematical Theory Of Communication."[19] Weaver's task is to explain Shannon's paper in more understandable terms.

In presenting his contributions to the mathematical theory of communication, Weaver went beyond Shannon's elaboration. Instead of limiting the purported use and sense of "information" to the original problematic of Shannon, Weaver delineated three levels of communication problems:

> Level A – How accurately can the symbols of communication be transmitted?
>
> Level B – How precisely do the transmitted symbols convey the desired meaning?
>
> Level C – How effectively does the received meaning affect conduct in the desired way?

[16] Claude E. Shannon, "A Mathematical Theory of Communication," 1.

[17] *Ibid*.

[18] See Radford, *On the Philosophy of Communication*.

[19] Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication*, (Urbana: The University of Illinois Press, 1949).

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This schema puts Shannon's mathematical theory in level A, or the technical problems, which are "concerned with the transference of information from sender to receiver."[20] Levels B and C are what Weaver calls, respectively, the *semantic problems*, those concerned with meaning, and *effective problems*, those concerned with the success of influencing the conduct of the receiver. Weaver believes that "the theory has a broader significance" for "a theoretical analysis of the technical problem reveals that it overlaps the semantic and the effectiveness problems more than one might suspect."[21] Here Weaver insists that level A, where Shannon's theory is situated, cannot be isolated from the other levels; in fact, the theory of level A is also the theory of levels B and C. If we look back from the viewpoint of the development of the idea of communication, the two levels, B and C, (but not exclusively apart from level A) are what draw studies to the theory. Drawn outside the engineering field, the theory of communication would be occupied with meaning and effectiveness. With regards *meaning* and *effectiveness*, according to Radford, his communication students also speak of becoming "better speaker or communicator." Apparently, for the students a better communicator is one whose meaning of the message is correctly received by others and that it shall cause some results in their behavior. Radford claims that while Shannon's theory is a rigorous mathematical system, "Weaver is bringing communication back to the familiar ground."[22] Weaver himself is convinced that Shannon's mathematical theory is able to explicate the underlying communication competence that is the same in any situation:

> This is a theory so general that one does not need to say what kinds of symbols are being considered—whether written letters or words, or musical notes, or spoken words, or symphonic music, or pictures. The theory is deep enough so that the relationships it reveals indiscriminately apply to all these and to other forms of communication.[23]

The level C, which is about effectiveness of the message upon the recipient, encompasses Norbert Wiener's theory in *Cybernetics*, which emphasizes the relationship of communication and control. It claims that the inherent link between communication and control is common in human, animal and machines. In Wiener's book, *The Human Use of Human Beings: Cybernetics and Society*, he gives his justification why he "classed" communication and control together:

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[20] Warren Weaver, "The Mathematics of Communication," in *Scientific American*, 181:1 (1949), 11.

[21] *Ibid*.

[22] Radford, *On the Philosophy of Communication*, 75.

[23] Shannon and Weaver, *The Mathematical Theory of Communication*, 25.

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> When I communicate with another person, I impart a message to him, and when he communicates back with me he returns a related message which contains information primarily accessible to him and not to me. When I control the actions of another person, I communicate a message to him, and although this message is in the imperative mood, the technique of communication does not differ from that of a message of fact. Furthermore, if my control is to be effective I must take cognizance of any messages from him which may indicate that the order is understood and has been obeyed.[24]

The human being is an information processing organism. Internally, information processing transpires in the human body as its parts communicate to each other, governed by message-feedback mechanism. Externally, the human interacts with the environment in a similar process of feedback loop thereby adjusting to changes in the world. The same mechanism is present in the animals and machines. The message-feedback system is part of the core of communication which can be true in any situations. Both Weaver and Wiener are convinced about the universal scope of the theory of communication. "It is certainly true," says Wiener, "that the social system is an organization like the individual; that it is bound together by a system of communication; and that it has a dynamics, in which circular processes of a feedback nature play an important part."[25] Inasmuch as Wiener's concern is not limited to how communication theory works in the individual agent, cybernetics for him entails an ultimate collaboration with other disciplines, even the non-physical sciences, due to the centrality of information and communication.

Apparently, there is a strong sense of over-extension in Wiener than in Shannon. Wiener is driven by his logic that since the mechanics of information within man (physiologically) is basically the same in animals and machines, – it is even the same at any level of organization – the same mechanics would also work in a larger system, the society. When Wiener wrote *The Human Use of Human Beings* in 1950, he forecast that machines would join humans as active participants in society. Today, many find no difficulty to concur with such idea. Those who admire Wiener's ideas decades

[24] Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (London: Free Association Books, [1950] 1989), 16.

[25] *Ibid*., 43.

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later find their application to ethics, specifically information ethics.[26] Terrell Ward Bynum claims that "Norbert Wiener, whose achievements in cybernetics, communication theory, computer design, and related fields, in the 1940s and 1950s, helped to bring about the current 'information age.'"[27] Bynum also points to telecommunications, virtual communities and teleworking as part of what Wiener envisioned before the coming of the internet.[28] Expressing an idea that the world is built of information (thereby reiterating what was repeatedly asserted after Weiner's pioneering work, *Cybernetics*), Keith Devlin says in his book, *Logic and Information*, that: "Perhaps *information* should be regarded as (or maybe *is*) a basic property of the universe, alongside matter and energy (and being ultimately interconvertible with them)."[29] A similar idea but expressed with respect to computer revolution, Rudy Rucker observes:

> I think the real issue was that the computer revolution forced people to begin viewing the world in a new way. The new worldview that computers have spread is this: everything is information. It is now considered reasonable to say that, at the deepest, most fundamental level, our world is made of information.[30]

Philosophy of Information: Floridi

In his elaboration of information theory and information ethics, Luciano Floridi views information as a dominant phenomenon and that the understanding of the society and human being is now determined with respect to their relation to it. History, strictly speaking, he says, is synonymous with the information age because the former is based on information from records of events and things of the past.[31] He believes that the information revolution is spawned by the information technologies that developed in recent times; and that he considers it as a 4th Revolution after the Copernican, Darwinian and Freudian revolutions that modified our

[26] Cf. Terrell Ward Bynum, "The historical roots of information and computer ethics," in *The Cambridge Handbook of Information and Computer Ethics*, ed. by Luciano Floridi (Cambridge: Cambridge University Press, 2010), 20-38.

[27] *Ibid*., 23-24.

[28] Terrell Ward Bynum, "Philosophy in the Information Age," in *Metaphilosophy*, 41:3 (2010), 430.

[29] Keith Devlin, *Logic and Information* (Cambridge: Cambridge University Press, 1991), 2.

[30] Rudy Rucker, *Mind Tools: The Mathematics of Information* (London: Penguin, 1988), 31.

[31] See *The Cambridge Handbook of Information and Computer Ethics*, 3.

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conception of who we are.[32] Floridi issues neologisms, such as "infosphere," and "inforgs," to aptly describe the changing ontology of our surrounding and its information-processing inhabitants. He declares that

> Today, we are slowly accepting the idea that we are not standalone and unique entities, but rather informationally embodied organisms (inforgs), mutually connected and embedded in an informational environment, the infosphere, which we share with both natural and artificial agents similar to us in many respects.[33]

Floridi believes that the Information and Communication Technology (ICT) is "re-ontologizing" (another neologism) our technologies and our environment as well. Re-ontologization does not only mean a radical re-engineering of the design, construction and structure of our surrounding but "one that also fundamentally transforms its intrinsic nature, that is, its ontology or essence."[34] It is hoped that the convergence between the digital resources and the digital tools leads to the gradual elimination of "*ontological friction*," in that, information would flow freely within the infosphere where everyone has little chance to claim ignorance and knows what everyone else knows (common knowledge).[35] He goes on to assert that in the future ICT-mediated interactions also involve the interconnectedness of digital devices so that a re-engineered world is one that diminishes the ontological difference between the infosphere and *Umwelt* (external world). In this situation, it seems that the ultimate principle that holds everything together is not energy or the law of nature but information.

Floridi defines information as data + meaning, that is, a well-formed *meaningful data*.[36] Being *well-formed* means that data are put together and governed by the rules of syntax. Then there is the semantic content wherein meaning can be embedded in information-carriers independently of any informer. Floridi claims that based on the general definition of information data and information are "reified entities, that is, stuff that can be manipulated (consider, for example, the now common expressions 'data mining' and 'information management')."[37] Since information and data can

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[32] *Ibid*., 11.

[33] *Ibid*.

[34] *Ibid*., 6.

[35] Cf. *ibid*., 7.

[36] Luciano Floridi, *Information: A Very Short Introduction* (Oxford University Press. Kindle Edition.), 20.

[37] *Ibid*., 20.

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be "decoupled" from their support, the actual *format*, *medium* and *language* in which they are encoded are irrelevant. Information is not yet knowledge, because the latter "can be built in terms of *justified* or *explained information*.[38] Thus, knowledge is a body of (relevant) information explaining/justifying why things are the way they are. Against that view that our knowledge is a picture or representation of the world, Floridi holds a constructionist view of knowledge since data are regarded as *resources* (rather than *sources*) for information. However, it is not necessary that a collection of information would lead to knowledge for much of the things we meet in life need not or do not have explanation/justification. In an interesting manner, Floridi asserts that "the greatest part of our epistemic life is based on true information, not on knowledge, since understanding is rare and often unnecessary phenomenon."[39] In other words, information abounds but knowledge can rarely be obtained.

Floridi deviates from the theory of information generally held by Shannon and Wiener. Floridi emphasizes the semantic content as the constitutive part of information. He is not concerned so much with the notion of transmission and communication than with the pervasiveness of information around. Once it is argued that information constitutes our entire environment (the infosphere), there's no need to emphasize the notion of transmission and communication. Floridi also speaks of the "dynamics of information," which involves, among others, the notion of *information processing*, modeled after *computation* and the Turing-machine sense of *algorithmic processing*. "[I]nformation has finally acquired the nature of a primary phenomenon thanks to the sciences and technologies of computation and ICT," concludes Floridi.[40] Although instrumentalist and positivist in orientation, Floridi is motivated by the metaphysics of information where he constructs a philosophy of information that would eventually be regarded as the *philosophia prima*, by virtue of the primacy of its object – information.

Philosophical Hermeneutics

With the publication of his main work, *Truth and Method*, Hans-Georg Gadamer finally established a philosophical hermeneutics transcending the hermeneutics that preceded it. In Gadamer's project, hermeneutics is no longer concerned about technique for interpreting texts like the Scriptures,

[38] Luciano Floridi, "Information," in *Encyclopedia of Science Technology and Ethics*, vol. 2, ed. by Carl Mitcham (s.v. 2005), 1000.

[39] Luciano, Floridi, *Philosophy and Computing* (London New York: Routledge, 1999), 106-107.

[40] Luciano Floridi, "What is the Philosophy of Information," in *Metaphilosophy*, 33:1/2 (January 2002), 138. Emphasis added.

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laws and classical literature. It is also not about the doctrine of Romantic hermeneutics that the meaning is located in the *mens auctoris* (the meaning intended by the author). Gadamer's philosophical hermeneutics also rejects Dilthey's use of hermeneutics as the foundation of the *Geisteswissenschaften* or the human sciences because the latter's view is still very much dominated by the concept of method set by modern science.[41] For Gadamer, "the understanding and the interpretation of texts is not merely a concern of science, but obviously belongs to human experience of the world in general."[42] He seeks to recover the dimension of understanding wherein the familiar horizon of the interpreter's world is integral in assimilating the alien object.[43] He criticizes the consciousness that lets itself be restricted to a scientific conception of truth, like the aesthetic consciousness, but develops a notion of consciousness of being effected by history – the principle of effective historical consciousness. The interpreter's participation in tradition, his being part of history, and even his prejudices are not an obstruction to be overcome, but rather constitute the condition of occurrence of understanding or interpretation. It also means being conscious of the hermeneutical situation, a situation that constitute one's horizon.

Heidegger's existential analytic of Dasein is, for Gadamer, the turning point for the problem of hermeneutics because it reveals that "understanding is the original characteristic of the being of human life itself."[44] Phenomenology provides for Heidegger a tool for opening up the realm of the pre-predicative and preconceptual that can be traced to the facticity of human existence, rather than to human consciousness. This entails for hermeneutics that understanding is originally not a willful act of the subject but the mode of being as a "thrown projection." This also entails that, primordially, understanding is really an event that happens to one who understands and in which meaning emerges.

Another essential aspect of philosophical hermeneutics is the role of language as the medium of hermeneutical understanding and experience. The hermeneutics' claim to universality is based on the inseparability of language and thinking. Language cannot be fully objectified but encompasses

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[41] Gadamer does an incisive account of this claim in *Truth and Method*, see section with heading "Dilthey's entanglement in the aporias of historicism." *Truth and Method*, 2nd rev. ed., trans. by Joel Weinsheimer and Donald Marshall (New York: Continuum, 1998). Henceforth this work is abbreviated as *TM*.

[42] *TM*, xxi.

[43] Cf. Hans-Georg Gadamer, *Philosophical Hermeneutics*, trans. and ed. by David Linge (Berkeley: University of California Press, 1976).

[44] *TM*, 259. Cf. Martin Heidegger, *Being and Time*, trans. by John Macquarrie and Edward Robinson (Oxford, UK: Blackwell, 2001), § 31, or 182ff.

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all objects for us, just like understanding itself.[45] The noninstrumental character of language is what Gadamer has articulated to describe the finiteness of human speaking vis-à-vis the infinity of meaning that is laid out within it, as well as to point out the dialectic of question and answer that is worked out in conversation. This rejects the "sign theory of natural language," including the view that words are tools of man for communicating his thoughts.[46] According to Gadamer language is not just a system of signs that we have constructed but rather a natural language that has a "saying power within itself." The terms "themselves tell something of their own origin and from this they form a horizon of meaning which is supposed to lead speaking and thinking beyond themselves to the thing meant."[47] Gadamer painstakingly argues in the third part of *Truth and Method* how in language the hermeneutical problem is elucidated in full breadth. Language is central to Gadamer's hermeneutics because it guides the ontological shift of hermeneutics. Thus, for Gadamer "*Being that can be understood is language.*"[48] Meaning comes into language and this entails the ontological structure of everything toward which understanding is directed. This new aspect of understanding, interpretation and language, as elucidated by Gadamer, shall be further explained in following discussion that dialogically engages information and hermeneutics.

Communication and Information in Hermeneutical Understanding

The present notion of information and communication, largely shaped by the theory of information, has diverted further away from the phenomenological sense where the unity of experience and the person experiencing is a central idea. This will be made clear below, but for a start it is pertinent to point out that there is so much subjectivity in the notion of information and communication. Communication, for instance, is understood as totally a subjective act: the person has the information and communicates it to the other person. The presupposition there is the subject (the person) – object (i.e., information) dichotomy. But, phenomenology has already broken down such Cartesian presupposition. Phenomenology teaches us that knowledge and its object are wholly bound up with each other. Heidegger's phenomenological hermeneutics even radicalizes that in the sense that the concern is no longer epistemological (like the way in which

[45] Cf. Richard Palmer, *Hermeneutics* (Evanston: Northwestern University Press, 1969), 204.

[46] *Ibid*., 202.

[47] Hans-Georg Gadamer, "Reflections on my Philosophic Journey," in *The Philosophy of Hans-Georg Gadamer*, ed. by Lewis Edwin Hahn (Chicago: Open Court, 1997), 22.

[48] *TM*, 474.

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being is grasped) but ontological (that understanding and being both belong together). In *Being and Time*, Heidegger makes his point using the notion of communication: "... the phenomenon of *communication* must be understood in a sense which is ontologically broad."[49] Generally, communication is already part of our "being-with." But Heidegger asserts that "communication is never anything like conveying of experiences, such as opinions or wishes, from the interior of one subject to the interior of another."[50] Thus, for Heidegger, understanding is not simply a subjective attitude, but a fundamental mode of existence that "denotes the basic being-in-motion of Dasein that constitutes its finitude and historicity, and hence embraces the whole of its experience of the world."[51]

The present concept of information connotes more than just objectivity but also being detached, abstract and reified. Reified means, following Stanley Deetz, abstracted and objectified, and that the abstraction is then treated as the real thing.[52] A reified concept, information is given an objective and independent existence such that it is present anywhere, but can be picked and malleable enough to abide by the purposeful actions of people. Thus, as such, information is very much removed from the realm of understanding. Nevertheless, if we set the question of information and communication in this era of information technology against Gadamer's ideas in philosophical hermeneutics we can gain insights on information as a hermeneutical phenomenon – that is, as part of understanding, information is also a "genuine historical life comportment achieved through the medium of language."[53] In the succeeding paragraphs I shall incorporate "information" in the elucidation of interpretation, understanding and linguisticality.

A discussion about communication and information involves, in the least, an implicit consideration of how do humans get to know the objects in their surroundings and the other human beings with whom they naturally interact – in other words, in men's general relation to the world and other humans. Knowledge and understanding, in this sense, go beyond their epistemological and cognitive significance. "Our understanding of being is closely linked to our understanding of knowledge," say Terry Winograd and Fernando Flores in their elaboration of Heidegger's existential notion and its impact on understanding computer design.[54] Stanley Deetz asserts that "we

[49] Heidegger, *Being and Time*, 205.

[50] *Ibid*.

[51] *TM*, xxx.

[52] Stanley Deetz, "Conceptualizing Human Understanding: Gadamer's Hermeneutics and American Communication Studies," in *Communication Quarterly*, 26:2 (Spring 1978), 17.

[53] *TM*, 389.

[54] Terry Winograd and Fernando Flores, *Understanding Computers and Cognition: A New Foundation for Design* (Reading, Massachusetts: Addison-Wesley Publishing Company, 1987), 72.

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cannot teach or talk about communication very long until we must either present or assume a theory of understanding… any attempt to describe the communicative process will be connected to a theory of understanding."[55] Communication, information, knowledge and even people's clicking of the mouse or swiping their fingers across the screens of tablets and iPads are part of the phenomenon of understanding. Thus, they are part of the problem of hermeneutics.

A fundamental tenet of philosophical hermeneutics is that "all understanding is interpretation."[56] Many would say that this assertion applies only to literary texts, Scriptures, laws and works of art because they usually generate different and even contradictory interpretations. They would say that it does not cover simple and plain statements in ordinary life, including even the information mediated by technology as digital devices have become prevalent and ordinary. But the claim of philosophical hermeneutics is about the universality of the hermeneutical problem based on the ontological and linguistic nature of understanding. Gadamer says that "we were led to a universal hermeneutics that was concerned with the general relationship of man to the world."[57]

If the computer screen flashes the information that the file will be deleted the user understands it but such is always already an interpretation. Interpretation is sort of built into our knowing process. Ordinarily we take information, like what one sees on the screen, for granted. It is because the familiarity of the user with the information and the context in which it occurs (assuming that he is not a first-time user of the computer or a first-time observer of using a computer) establishes the immediacy of the user's understanding and no explicit interpretation is undertaken. However, philosophical hermeneutics asserts that interpretation is not a subjective act to achieve understanding. "Rather," says Gadamer, "it enters into the content of what is understood."[58] Considering that Dasein is a "thrown projection," Gadamer always emphasizes that our normal mode of dealing with things is always understanding; and when something strange or unfamiliar comes up, it stops us in our usual course, as if the stream of understanding is broken and then we make an effort to resolve it. Here the act of understanding becomes thematic, but when the unfamiliarity is overcome, understanding again recedes into the background. The meaning of our being-in-the-world and being-with-others is that we are always already thrown into the world that is familiar. It is not as if we get in touch with it for the first time. Of course, some things may appear strange, but that does not mean we are completely

[55] Deetz, "Conceptualizing Human Understanding," 15.
[56] *TM*, 389.
[57] *TM*, 476.
[58] *TM*, 398.

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"unplugged" from our fundamental connection with the familiar world. These breaches in understanding or the encounters of meanings that are not immediately understood form part of the hermeneutical phenomenon. Thus, the point here is that information is not separate from knowledge and understanding, as what Information Science would categorize it,[59] but one that belongs to the interpretive nature of understanding. The experience of non-techie people in their initial encounter with the computer could provide a good illustration here. First of all the mouse is the center of their attention rather than the screen. But after getting the feel of it, the use of the mouse recedes into the background and their attention directs to something else they need to tackle. Usually they can hardly finish a simple task in the module simply because unfamiliarity (or not understanding) always gets in the way, in which they become conscious of their ignorance or knowledge. In contrast, the well-versed user, one who knows his way around the computer, takes the computer and its peripherals as ready-to-hand; they all recede into the background, or are taken for granted, when he starts drawing using Photoshop®[60] or posting his comments on an article in the internet, etc. Like him, the good speaker is not conscious of his language (it flows naturally) when talking to the audience – the words just recede into anonymity, but still tied up with what the speaker is talking about. "No individual has a real consciousness of his speaking when he speaks," says Gadamer.[61] Incidentally, Gadamer maintains that understanding (*verstehen*), as displayed in knowing one's way around (*Sichverstehen*), is ultimately self-understanding:

> Thus, it is true in every case that a person who understands, understands himself (sich versteht), projecting himself upon his possibilities.[62]

In this light, the notion of information must fall within the ambit of understanding in which meaning is neither a subjective determination of users nor a fixed property of the information itself. Rather, meaning is produced in the event of understanding itself, a moment of disclosure, guided by what is handed down and the expectation of completeness. The

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[59] Cf. Russell L. Ackoff, "From Data to Wisdom," in *Journal of Applied Systems Analysis*, 16 (1989), 3-9. Nikhil Sharma, "The Origin of the Data Information Knowledge Wisdom Hierarchy," in <http://go.webassistant.com/wa/upload/users/u1000057/webpage_10248.html>, 1 April 2013. M. Zeleny, "Management Support Systems: Towards Integrated Knowledge Management," in *Human Systems Management*, 7:1 (1987), 59-70. Luciano Floridi, *Philosophy and Computing*.

[60] A popular photo or image-editing software produced by Adobe Systems Incorporated. See <http://www.adobe.com>.

[61] Gadamer, *Philosophical Hermeneutics*, 64.

[62] *TM*, 260. *Sichverstehen*: knowing one's way around.

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structure of understanding is dialectical, underlying which is the structure of questioning. The questioning reveals the openness as well as the negativity in understanding. The openness that is raised by questioning means that the answer is not yet determined; however, it also entails a certain direction. Thus, information cannot be information in the real sense of the word (that is, of "informing") if there is no question (however tacit) to which it is an answer; the question leads us to that according to which information says something to us. If the thermometer reads a room temperature of 33°C, this information appears so within the frame of questioning, say, about the temperature for the day. However, there is no such information if it falls outside the present concern of the knower. Information theorists perhaps would say that the computer records the room temperature anytime of the day even if no one cares to know, and the record of it in the computer's hard disk is called information. Well, if it remains there and no one will ever take a look at it for whatever reason, then it is indeed nothing – it is not information – except when viewed in a much greater perspective, that is, of the designer of that technology (the computer) who puts such temperature-recording capability into the computer. In this regard Gadamer emphasizes that "no assertion is possible that cannot be understood as an answer to a question, and assertions can only be understood in this."[63] Elaborating the point, Richard Palmer says that "[w]ith the placing of the question, what is questioned is put in a certain light. This already 'breaks-open' the being of what is questioned."[64]

Information is basically articulated in language and for this reason it is a hermeneutic phenomenon. One key principle of philosophical hermeneutics is the inseparability of understanding and language. Language is the medium in which we understand the world. Language allows the object to come into words, and yet these words are the language of the person who understands (or interprets).[65] This is why when something is taken as information it means that it speaks to us or tells us something through language whose power to disclose binds understanding to itself. But this speaking or the verbal nature of information creates an openness in which interpretation (or understanding) happens. Thus, information does not have a fixed meaning, or that there is only one way of understanding the information. Information theorists persistently conjure information as objective, existing independently from whoever wants to use it. It is because they regard language as a set of signs the person can create, or is available to him. Information is viewed as a statement about a fact, or a statement whose

[63] Gadamer, *Philosophical Hermeneutics*, 11.

[64] Palmer, *Hermeneutics*, 199.

[65] Cf. *TM*, 389. Also in *TM*, 383, Gadamer says: "… it [language] allows something to 'emerge' which henceforth exists."

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meaning the informant wants to relay to others. Two things are assumed here: 1) a statement expresses exactly what the fact is all about, and 2) language is available to the informant as a set of tools with which to form his statement and convey his meaning. Based on this assumptions if there is information which says, "Facebook users like the new Pope," this statement has an objective meaning which accompanied its expression when stored or distributed. When this statement is retrieved somewhere else or sometime in the future, the meaning is supposed to be still the same. The meaning of this information is independent from whoever reads it, but when it is used for certain action it becomes, according to information scientists, knowledge. Knowledge, defined as "purposeful coordination of action,"[66] is different from information also because it is something "internalized," as possessed by the subject. Certainly, the foregoing is an objectivist view of language and expression; one which we find in Shannon's theory of information as well as in Floridi's philosophy of information. An objectivist and instrumentalist theory of language is guided by its ideal of exact designation and unambiguous concepts. On the contrary, philosophical hermeneutics tells us that language is organic -- meaning, that it is always an ongoing process of concept formation. Gadamer explicates the hermeneutic phenomenon opened up in language, something which transcends the semantic structure, as follows:

> Hermeneutical inquiry is based on the fact that language always leads behind itself and behind the façade of overt verbal expression that it first presents. Language is not coincident, as it were, with that which is expressed in it, with that in it which is formulated in words. The hermeneutical dimension that opens up here makes clear the limit to objectifying anything that is thought and communicated. Linguistic expressions, when they are what they can be, are not simply inexact and in need of refinement, but rather, of necessity, they always fall short of what they evoke and communicate.[67]

Gadamer points out that in speaking (as in writing as well) there is the unsaid but is said nevertheless (which Gadamer refers to the "occasion" which is brought up when the words are spoken), and there is that which is concealed by speaking (refers to a lie, error and deceit). In general, this notion implies

[66] Milan Zeleny, "From knowledge to wisdom: on being informed and knowledgeable, becoming wise and ethical," in *International Journal of Information Technology & Decision Making,* 5:4 (2006), 755.

[67] Gadamer, *Philosophical Hermeneutics*, 88.

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that there is more to it than what is objectified in verbal expressions. That is why in speaking, especially in conversation, there is a constant searching for the right word, and that, according to Gadamer, constitutes the genuine life and nature of language. These illustrations clearly dismiss the idea that statements convey meaning exactly and unambiguously. These also show that technical language that is found in information theory of Shannon and Wiener is only a secondary aspect of language, lacking the dynamic, living virtuality of the word.[68] For Gadamer the semantic examination has to yield to the hermeneutic dimension if we are to appreciate the living character of language and the fluid horizons of understanding. If we look at information in this light we will gain a different grasp of the so-called *processing*, *manipulation, commodification, etc.* of information. For in these notions the communicative life of what is evoked in information is actually impeded and stunted.

In another point, the objectivist view of language considers words merely as tools. Words like "Facebook," "Pope," or "like" are merely created signs, which could be something else to express still the same meaning. However, philosophical hermeneutics teaches us that language is not something that exists like a tool that is subject to our disposal. We are already born into a linguistic world; and we don't create words as if they are arbitrary signs subject to our capacity to assign meaning. "It is indeed true that we live within a language, but language is not a system of signals that we send off with the aid of a telegraphic key when we enter the office or transmission station," says Gadamer.[69] For him words do not emerge through a "significance-bestowing act." "Nothing gets founded here," says Gadamer, "and nothing gets bestowed; we are always already in agreement. It is only through this agreement that the word is word, and is confirmed by every new instance of language."[70] Borgmann asserts a similar point here when he says that: "Signs are always and already meaningful things. We can discover, explain, and qualify their meanings. But there is no such things as the original bestowal of meaning on a meaningless sign."[71] Viewed from the point of view of primordial agreement evoked by language, we will see that information technology reveals numerous instances that manifest this agreement and belonging to a language. One example refers to what the following terminologies like, Facebook, Twitter, Skype, Tumbler, Multiply, YouTube,

[68] *TM*, 458. Cf. also Jamey Findling, "Gadamer and the living Virtuality of Speech," in *Philosophy Today*, 47:5 (2003), 28 -33.

[69] *Ibid*., 15.

[70] Hans-Georg Gadamer, *In Praise of Theory,* trans. Chris Dawson (New Haven: Yale University Press, 19987).

[71] Albert Borgmann, *Holding on to Reality: The Nature of Information at the Turn of the Millennium* (Chicago: The University of Chicago Press, 1999), 23.

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Blogger, Google, Yahoo, Evernote, Digg, Pinterest, Firefox, Wikileaks, Apps, etc. (they are now innumerable) have in common. They are new and uniquely formed terms, but not entirely new to be totally detached from already understood words and thereby lose a communicative power. Rather, they are names that lean on, or better, are embedded in the living language that we have understood, one that raises communality, or belonging to a common world.

That information is fundamentally expressible in language, albeit sometimes in technical and mathematical forms, draws itself closer to hermeneutical study, and opens up a possibility for reintegrating it into the fundamental orientation of human praxis as coming to an understanding. This is an important consideration of this study. Gadamer points to dialogue or conversation as model in order to better grasp the phenomenon of language and understanding. More than its epistemological sense, understanding means "coming to an understanding," that is, "to understand one another" (*sich verstehen*), "to agree," "reaching an agreement," "to concur," about something (*Sache*). Gadamer, guided more by Aristotle's practical philosophy, emphasizes the notion of understanding as agreement, something which bears greater significance in praxis. I believe that this is a stronger sense of understanding especially in the context of information and communication technology. Information being essentially verbal can easily be taken up in conversation where it can unleash its potential for consensus and fusion of horizons. The information should be viewed as something that carries with it a heritage, culture or tradition that penetrates with our own horizon. The hermeneutic openness fostered by conversation is even more relevant in here. Openness, however, does not mean that one has to abandon one's prejudices, for that is existentially impossible and because understanding is always historical too. Rather, openness entails that one needs to constantly test one's prejudices, to put one's prejudgments at risk. In this way one broadens one's horizon. For example, the netizens, in surfing the internet, may have come across varied accounts of Catholics' belief, customs, behavior and practices in the election of their Pontiff.[72] Anyone who gets interested in reading these accounts is certainly not someone with a clean slate of mind. He has his own belief, culture and historical circumstances too that frame his perspectives, and if he pursues his interest on these accounts, it would mean that he broadens his horizon to take in what is encountered. Coming to an understanding takes place as a fusion of horizons. It is an event, a conversational event towards which the netizen is drawn. The coming to understanding of the information (in this case about the election of the Pope)

[72] Pope Francis was elected on 14 March 2013 following the resignation of Pope Benedict XVI in 28 February 2013.

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and the netizen is the culmination of the conversation as a movement that "bears all participants beyond their initial horizons."[73]

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[73] Gadamer, *Philosophical Hermeneutics*, xxii.

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