Communication in the Age of the Great Turning
Understanding the Role of Analog and Digital Modes in Liberating Imagination

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Abstract: The "Great Turning" is a time of transition from societies dominated by the digital mode of communication to a global civilization grounded in imagination. Our current way of communicating has been so infatuated with digital and analytical thinking that it made it easy to overlook the significance of analog in imagining new realities. The mass rush to digitization comes with a high price. Digitization, while it is an advantageous technological achievement in speed, accuracy and efficiency, it impoverishes the role of the analog mode in simultaneously capturing infinite imaginative possibilities. Imagination transforms ideas into images, which in turn need to be communicated through language. The very nature of imagination depends on the undifferentiated seamless qualities of an analog experience. While the proposed conceptualization process utilizes words as vehicles of thought, imaginative thinking does not rely on the digital sequential syntax of language. This idea raises challenging questions: How do we communicate imagination by using language, which is sequential and linear in nature? How do we use the digital mode of language in an analog manner to conceptualize? By deconstructing familiar symbolic digital taxonomies into qualities, we open the potentiality for imaginative connections that give rise to breakthrough and discovery. This paper offers an opportunity to integrate digital and analog modes for the emergence of that which is *yet-to-be*.

Keywords: Communication, Imagination, Great Turning, Design, Social Change

1. Introduction: Communication in the Digital World

We live in an epochal transition where the purpose of communication can hardly be overestimated. Understanding or misunderstanding communication has far-reaching consequences. But our inability to imagine and communicate new possibilities is beyond understanding; and this inability can lead to the demise of our humanity. Observing the current world affairs and events, it is evident to me that there is a growing need to go beyond *what we are conventionally able of transmitting into what we are imaginatively capable of communicating.* There has never been a time in history when it has been more significant for societies to communicate a transformational process that would lead to global well-being and an imaginative sustainable way of living. Equally troubling is that we live in an age so infatuated with new digital communication and analytical verbal thinking that it is easy to overlook the significance of the analog mode in accessing the realm of imagination.

By *digital mode*, I mean systems that represent the complexity and richness of life by breaking it down into discrete bits or packets of information so it can be managed efficiently. *Analog mode*, on the other hand, is direct representational or analogous

systems of continuous undifferentiated whole experiences. An analog recording, for example, is where the characteristics of the original sound are represented directly in the groove of a gramophone album. Digital recording is where the original sound is converted into bits of information that can be easily compacted and stored as well as mass-produced in a compact disk (CD). A clock with hours, minutes, and seconds is an example of the digital mode [1], whereas an hourglass represents analogically the time of the day through the continuous flow of sand, or as humans experience time through the undifferentiated movement of the sun and stars.

Ever since societies acquired alphabet literacy, we have seemed to rely heavily on a rational, digital sequential thinking process. In fact, the fictitious notion that logical, linear thinking is better than intuition and wholistic perception is a fallibility written by left-brainers. Thousands of years of left-brain dominance have encouraged digital dependency, and may have led to numerous world conflicts and the devastating experience of Hiroshima. Even with all their intrinsic worth, "abstract science, linear words, and sequential equations had led the world to the brink of extinction" (Shlain 1998: 409). It is not unusual for language to dominate and monopolize the mind to a degree that thought is rendered a slave to words (Koestler 1964) and imagination is trapped in digital analytical boxes. It is obvious that the mass rush to digitization and analytical thinking comes with a high price. When the shocking events of September 11, 2001 took place, the US government concluded that they were due to the intelligence failure of the Central Intelligence Agency. But 9/11 was not a failure of intelligence; it was a lack of imagination. Digitization is becoming our addictive path to maximization. But this is the antithesis to the nature of life, where "*life tends to optimize rather than maximize*" (Hawken 2007: 183). Digitization, while it is an advantageous technological achievement in speed, accuracy and efficiency, it impoverishes the role of the analog mode in simultaneously capturing whole and infinite imaginative possibilities.

Certainly, the division of knowledge into fields and domains is the consequential influence of rational analytical thinking and digital efficiency. While specialized jargons and linguistic obfuscation—which are mediated efficiently by the digital mode—have contributed to the advancement of human knowledge, they have rendered professional domains and fields more isolated. Consequently, "each domain is becoming increasingly specialized not only in its vocabulary but also in the conceptual organization of its rules and procedures" (Csikszentmihalyi 1996: 338). While the tendency toward specialization has made professional mastery and precision possible, it has also created rigid boundaries accessible only to those qualified practitioners who are well trained to play *within* those established boundaries. However, as Thackara (2005) argues optimistically, if we were once able to create our way into this disarray, we can certainly design our way out of it.

With the growing complexity of domains and fields, the digital mode with its influential precision and efficiency has become the state-of-the-art means of communication. Although the digital mode of communication has been around for nearly 800 years, its technology has recently accelerated with amazing speed where time, space, and energy have been divided into bits of information. Despite the fact that these bits of information are very helpful in communicating *information*, they do not provide sufficient qualitative significance or meaningful *knowledge*. The digital mode seems to be ideal for

disseminating and retrieving information; on the other hand, the analog mode is indispensable for creating new knowledge and imagining new realities.

In this paper, I shall not only explore the possibility of making deliberate connections among disparate domains and fields by playing with their boundaries, but more significantly, I shall offer what I call a *conceptualization process* for understanding and integrating digital and analog modes which has the potential to intentionally make the fundamental shift needed to kindle the time of the "Great Turning."

2. Experiencing the "Great Turning"

What is the "Great Turning"? And why do we need it? There is strong evidence that our global community is experiencing unprecedented movement, cognitive revolution, and spiritual awakening. It is an extraordinary global movement. Although David Korten (2006) circulated the term widely through his book: *The Great Turning: From Empire to Earth Community*, it was Joanna Macy (1998) who coined the term "The Great Turning." Paul Hawken (2007) in his most recent book *Blessed Unrest,* also describes this massive happening as "the movement with no name" which "doesn't merely advocate recycling, it actively *imagines* [emphasis added] a system of human production that is as elegant, frugal, and abundant as what we observe in nature" (Hawken 2007: 179). The Great Turning, as Joanna Macy (1998: 17) describes it, "is a transformation from the industrial growth society to a life-sustainable society." It is, to borrow a phrase from William McDonough (2002), a shift from *efficiency* to *effectiveness*. It is a transformational process that goes beyond the need for speed and accuracy into meaning making and wholistic living. We need this transformational process to move beyond the perceived limitations and illusionary barriers, and their unintended consequences, that we have constructed for ourselves.

So why do we need both digital and analog modes for communication in the age of the Great Turning? According to Joanna Macy, there are three dimensions of the Great Turning: "1) action to slow the damage to Earth and its beings; 2) analysis of structural causes and creation of structural alternatives; and 3) a fundamental shift in worldview and values" (Macy 1998: 17). However, action without analysis is a mindless task, and analysis without a major shift is a paralyzing effort. A brief look at the first two dimensions of Macy's idea reveals a process that can occur through currently available problem-solving methods, as well as cause-and-effect models. This process triggers minor changes that are described by systems theorists as a "first order of change" (which fixes what already exists), whereas meaningful change is a "second order of change" and is attained through cognitive shift.

Granted, we can approach a problem with thoughtful analysis and even sensible action to achieve remedial goals or objectives; such being the case, we still perform within established boundaries. But without a shift in our perception and thinking process, social and environmental problems will remain the same even though their appearance might change. Only by reframing social problems—seeing them from a fresh vantage point and playing with their boundaries—can we make true meaningful changes. Having said that, how can we creatively reframe social problems and not simply accept their common appearance by analyzing and rushing to fix them?

It is in Macy's third dimension—a fundamental shift in our worldview and values—that we find a promising point of departure. A fundamental shift in our worldview and values implies a transformation in our consciousness, a cognitive revolution, and use of imagination. Such a transformational change, as I mentioned earlier, is a "second order of change" which can best be attained by a *design approach.* A design approach makes use of design principles, including the expectation of surprise, guiding intention, and seeking not a prescribed solution but a desired outcome that is limited only by our imagination. This cognitive leap is essential for intentional and sustainable social and environmental change as it provides the lens through which we come to imaginatively interpret the context within which these changes will take place. I believe the third dimension is fundamentally significant for such a transformational change, and consequently requires that we make a major shift in our way of thinking.

3. The Nature of Change and Our Way of Thinking

We have known that change is the fundamental nature of *reality*. Changes can be triggered by different causes, among them intentional design by human agents; necessity, inevitable condition, or circumstantial need predetermined by universal law; chance, an accidental event, an unintended act, or luck (flip of a coin); chaos and disorder as a result of systems bifurcation and randomness; evolution and genetic reconstruction; and a cosmic event or act of God (figure 1). When looking at these various causes for change, it becomes apparent that other than intervention by intentional design, there is really little or no interference by humans in these causes. Only through the coping mechanism of a problem-solving strategy can we handle changes imposed on us by other causes. On the other hand, animating and leading change can only be accomplished intentionally by design. Interestingly however, changes made by human intention and changes made by divine intervention (or a cosmic event) complete the full loop of changes (Seif 2005). This is a revealing proposition, which I shall return to later.
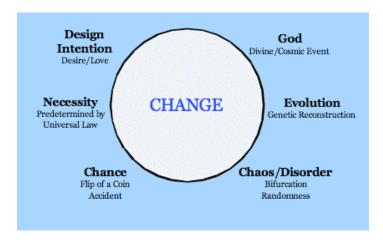

Figure 1. Causes of Change

If we accept the premise that a transformational change requires a different way of thinking, we could begin by engaging in a process that has the potential to stimulate such a shift, which in turn would create the second order of change. An intentional change at

the second-order level will not take place without imaginative thinking, augmented by a high level of abstraction. Undoubtedly, language offers us resources for thinking abstractly. Ironically, however, while language makes it possible for us to think abstractly, we seem to "abandon the use of images and are able to carry on without resorting to them" (Shlain1991: 18). Since imagination involves more than logical, linear operations and depends on the acquisition, interpretation, and manipulation of images and nonverbal codes, it does not fit neatly into the mainstream, conservative understanding of abstract thinking. This is the paradox of language. As Shlain puts it, it is "the majesty and the tyranny of language" (1991: 18).

4. The Paradox of Language: Analog-Digital Polarity

In order to develop an appreciation for the paradox of language, perhaps it is helpful to briefly revisit and locate language within the larger scope of semiotics. Under this large umbrella, there are three major semiotic systems: linguistics, kinesics, and objects. As we can see, language is only one of three major systems of signification in almost any sociocultural setting (figure 2). While language is one of our systems of communication and signification, it is not our highest ability. A considerable portion of our mental activity is of a nonverbal character.
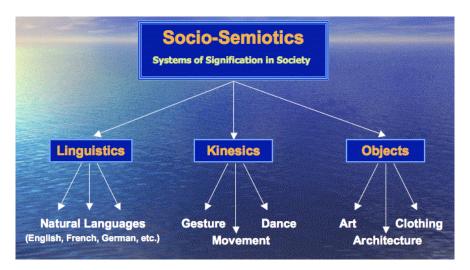

Figure 2. The Place of Language Within the Realm of Semiotics

As we know from C. S. Peirce (1955), semiotic signs in relationship to their entities or objects are three types: icon, index, and symbol. An iconic sign and its object have an isomorphic relationship of strong resemblance; that is, some qualities of the object are represented or perceived in the icon—e.g. photos of persons, drawings of buildings. An indexical sign is one where spatial-temporal contiguity or concurrence defines its link to its object. In other words, it has a physical relationship with its object, but this relationship is not defined by shared qualities or resemblances—e.g. smoke and fire, window and view. A symbolic sign relates to its object only by an association of an idea, which has to be created and learned within a social or cultural context. Convention sets the random link between a symbolic sign and its object or entity. In this type, signs and their entities are related by virtue of an agreement and convention, not by virtue of any quality intrinsic to either the entity or its sign (figure 3). Though Peirce noted that there is

an inclusion of the three sign types in any given representation, words in all natural languages are *predominantly* symbolic signs.
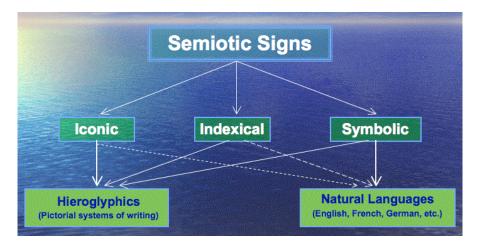

Figure 3. Semiotic Signs

The fact that we often use gestures and facial expressions in our communication strongly indicates our disparate efforts to include more iconic and indexical signs, and overcome the limitations of language. Words, as symbolic signs, are effective systems for describing life experiences and cognitive events, but they are not the experiences or events themselves. Words are "vehicles of thought, but the vehicle should not be confused with the passengers" (Koestler 1964: 600). Even with its magnificence and robustness, language is not indispensable to our thought. Mere verbal thinking is the prototype of "thoughtless thinking" in which the habitual recourse of the mind retrieves connections from stored memories. In this sense, language is useful but unimaginative. Language is helpful to thinking; however, thinking is not in words. "It must be the help that words lend to thinking while it operates in a more appropriate medium, such as visual imagery" (Arnheim 1969: 232). While linguistic abstraction and symbolic representation could be perceived as limitation, it has, as we shall see shortly, the capacity to be manipulated freely through random association, a quality that is essential for conceptualization. This paradox of limitation and advantage of language is in the core of imaginative thinking.

5. Abstractions and Imaginative Thinking

"Abstraction" is one of the most ambiguous words in language. Because of its many interpretations, it may be helpful to describe what I mean by abstract thinking. First of all, we should be cautious viewing abstraction as the opposite of concreteness. The terms "abstract" and "concrete" are neither antonyms nor synonyms. As Arnheim argues persuasively, "concreteness is a property of all things, physical or mental, and many of these same things can also serve as abstractions" (Arnheim 1969: 156). He goes on to say, "generalization presupposes abstraction" (1969: 161). Being not mutually exclusive, abstraction and concreteness are connected perceptually through the notion of generalization. Both abstract and concrete concepts, then, are conditions for generalization.

As stated earlier, abstraction is the human brain's highest function. It is an indispensable attribute of thinking. When we think of concepts such as freedom, justice, *or* peace we are not thinking in physical or visual images, rather we are thinking abstractly and in a digital mode. When we make imaginative connections among freedom, justice, *and* peace we are also thinking abstractly but metaphorically and in analog mode. Only when we reflect, muse, play, and imagine, do we revert to images and metaphors, and experience the analog mode. Due to the erosion of images by words at an early age, "we forget that in order to learn something radically new, we need first to imagine it" (Shlain 1991: 18). Not only does imaginative thinking depend on a high level of abstraction, it also must exist within a different type of conceptualization. Unlike the digital mode of thoughts and sequential order of language, the analog mode, with its undifferentiated and seamless perception and experience, offers interpretations of numerous ensembles of images.

Imaginative thinking is a multi-dimensional encounter with the subconscious and engages multi-sensory perception. The experience of "synesthesia" [2] involves all senses; in this experience, the perception of one sense is based upon stimuli received by another sense. In order to function properly, "the imagination must be rendered capable of remaking whole aspects of life, that is, of performing genuinely poetic or hypothetical operations" (Grudin 1990: 52). As Kant asserts, the imagination reveals "an idea of the whole" to transform what is lacking in the existing situation (Makkreel 1990). However, revealing the "whole" doesn't mean an elaborate and extensive laboring over a situation; it is more spontaneous, what Malcolm Gladwell (2005) calls "thin-slicing," extracting and making sense quickly of the most meaningful characteristics or qualities of the situation.

To imagine is to make an image. The act of *making an image* is a "philomorphic," or form-loving, act (Grudin 1990). James Hillman also reminds us of the connection that "when we fall in love, we begin to imagine: and when we begin to imagine, we fall in love" (1992, p. 9). Imagination is intimately interconnected with love, a connection that is exhilarating. In view of this, an act of making an image is really a *lovemaking* process. And in this process we experience wholistic, synthetic, undifferentiated seamless reality; it is an experience that takes place in the analog mode *par excellence*. In the vein of God's creation, the act of making an image is giving life to form, or what Hillman (1992) calls *ensouling*. Imaginative formation, Kant perceives it, "raises from an activity of the soul" (Makkreel 1990: 15). This idea recalls what I introduced earlier: intentional design and God's creation complete the loop of changes. By implication, this idea also reveals the splendor of imagination where "the thought of the heart and the soul of the world" (Hillman 1992) reconnect humans with the "numinous" or the divine.

Ever since the Neolithic age, we seem to have lived in what Erick Jantsch (1975) calls a "conceptual space" where our thoughts, feelings, and imagination reside, urging us to create new realities. Although analog conceptual space has been in human consciousness for millennia, it has been overshadowed by the information and digital age. This trend has certainly prompted a few writers to encourage us to adopt a different way of thinking and acting in a more human sustainable global society (McDonough 2002; Thackara 2005). Others declare that we are moving from the Information Age to the Conceptual Age (Pink 2005). But the conceptualization cannot truly be divorced from the information. Therein lies our challenging polarity. There must be a process through which one can access imaginative thinking that relies on wholistic, undifferentiated, and seamless experiences

associated with the analog mode without rejecting (or even compromising) the efficiency, speed, and accuracy of the digital information mode. In others words, we need a process where conceptualization is at ease with the paradox of language.

6. Making the Shift Through the Conceptualization Process

As we have seen, imaginative thinking does not rely on the digital mode and sequential syntax of language. This idea raises challenging questions: Can we experience the analog mode in a digital world? In a sense, how do we engage in imagination using language, which is sequential and linear in nature? How do we use the digital mode of language in an analog manner to conceptualize the imaginable and sustain the age of the Great Turning? How do we access imaginative thoughts that hover in some subliminal space waiting to be linguistified? To bear fruit, imaginative thinking must be communicated to self and others through some sort of efficient articulation. But in what way can we effectively communicate the concept of that which is *yet-to-be?*

In order to formulate the concept of that which is *yet-to-be*, the conceptualization process is designed to trigger the fundamental shift needed for our thinking and perceiving. Generally, concepts can be invented, discovered, or revealed. In the spirit of image making, the conceptualization process depends primarily on what Paul Laseau (1980) calls, "concept formation" which is unlike "concept recall" or "concept attainment." I should add that concept formation is synthetically formed, imaginatively interpreted and reinterpreted, and playfully cogitated. And it is apparent that "interpretation can begin only when we have some sense of a whole" (Makkreel 1990: 37). In concept formation there are no preconceived ideas or fixed answers to be remembered or discovered—concept formation is truly *expecting the unexpected*.

The conceptualization process begins by identifying known and important categories. These categories are essentially boxes of digital information represented predominantly by linguistic symbolic signs; and as I mentioned earlier, symbolic signs and their degree of abstraction are easily manipulated and deconstructed into qualities, attributes, or characteristics. The next step of the process is to list as many characteristics or qualities as possible under each category or entity. Without any analysis or debate, the listing evolves very quickly through, what Gladwell (2005) calls, "thin-slicing" where first impression is essential in identifying more characteristics or qualities in the blink of an eye than labored scrutiny. My experience with graduate students has shown that the habit of relying on the digital mode and analytical thinking often leads to fixation on one particular category. This fixation often disappears when I suggest moving in non-sequential order and diving freely into other categories (figure 4).

Figure 4. Examples of Different Entities Sharing Similar Characteristics

Following the creation of various categories and then the identification of their qualities, attributes, or characteristics, we use free play to integrate or combine them into phrases. It is important that we not be critical about the syntax or semantics of these phrases at this point in the process. The mind operates on the spur-of-the-moment, making unconscious associations among these characteristic words. Since words are mostly symbolic signs in natural languages, they also lack explicit qualities intrinsic to what they signify. However, as symbolic signs, and because of their random association and convention, they can be interpreted and manipulated much more easily than other sign types. And because characteristics or qualities are the very essence of categories and entities, countless possible phrases—which share same characteristics or qualities—can be formulated. Often interpretation and manipulation of the identified characteristics reveal a metaphor, an analogy, a similarity, or a profound isomorphism. When two or more characteristics seem to share conceptual structures on some level of abstraction, magical things can happen. That is why abstraction is one of the most valuable tools in this process.

It follows that these phrases in turn be integrated into a comprehensive statement or an inclusive inquiry question that guides our design endeavors and provokes action in the world. Ultimately, by deconstructing the familiar symbolic and digital categories or taxonomies into unfamiliar iconic analog mode—in the form of qualifiers (adjectives, adverbs, active verbs)—infinite imaginative connections are formulated that give birth to breakthrough (figure 5).
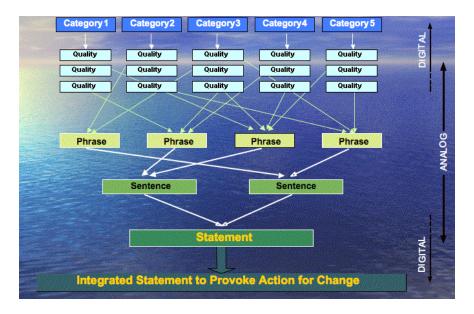

Figure 5. Conceptualization Process

It should be noted that while the conceptualization process utilizes words as vehicles of thought, imaginative thinking does not rely on the digital sequential syntax of language. In this process, aesthetic composition, philomorphic act, and free play are weaved seamlessly in our experience into an imaginable whole. Due to the high level of abstraction and generalization, conceptualization operates metaphorically as a *crystallization* process "by which the vague or fluid play of the imagination and the understanding is suddenly captured in a form" (Makkreel 1990: 64). Consequently, out of

the disorderly array of explored characteristics or qualities, an orderly whole emerges. Without any connection with logically constructed words, qualities and characteristics seem to attract us to a mysterious zone. It is then fair to say that despite the fact that imaginative thinking can be accessed *analogically*, it has to be communicated *digitally*. Therefore, a fundamental shift is accomplished by using new formulated qualities of a *desired reality* to modify the representations of the *present reality*.

Additionally, whereas the act of reading and writing is generally a solitary endeavor (Shlain 1998), the conceptualization process requires camaraderie, dialogue, intimacy, and collaborative efforts. In this context, conceptualization always takes place in a collaborative fully engaged small group [3] where individual members perform as crystals coming together through the crystallization process to actively envision the emergent new. This distinctive collaborative grassroots quality is, in fact, congruent with Paul Hawken's lucid description of the Great Turning as a movement without a leader, sage, or ideology, which emerges locally in small, discrete endeavors and enormous numbers (Hawken 2007).

7. Conclusion: Is It a Duck or Is It a Rabbit?

The imaginative shift needed for the age of the Great Turning is accessible linguistically through the use of both digital and analog modes. Interestingly, some technologists have been converting digital and analog systems into each other in the process of achieving quality recording, and others are making efforts toward a "hybrid" approach to telecommunication. Also, an interdisciplinary approach to learning has been at the cutting edge in education, where learners have overcome the limitation of language. Language as a system of arbitrary rules binds us together socially through communicating our thoughts and feelings. But through the conceptualization process, language is also our means to communicate the significance and meaning of the imaginable.

In a highly digitized world, the television and computer greatly increase the power of images, and iconic representations have superseded alphabetic representations as the single most significant cultural influence of our time. In fact, the influence of written word "has been declining for the last fifty years, counterbalanced by the increasing power of the image" (Shlain 1998: 411). Ironically, as the television and computer (both of which are products of the digital mode) become dominant forces in our lives "the supremacy of the left hemisphere dimmed as the right's use increased" (Shlain 1998: 408). This contradictory, yet complementary, relationship between the digital and analog modes cannot be resolved, but in fact, can only be experienced. Some can perceive only the "duck" of the left hemisphere; others can see only the "rabbit" of the right hemisphere! A few individuals have acquired the capacity to experience both modes. Albert Einstein, Marie Curie, Leonardo de Vinci, Queen Elizabeth 1, Thomas Jefferson, William Shakespeare, Mother Teresa, among many others, demonstrated their capacity to operate freely within these two polarities.

I have attempted to offer a way to understand and engage with both the analog and the digital modes with "a new whole mind," and to wholly experience their intriguing paradoxical relationship. Imagination is thus accessible linguistically through the use of both the digital and analog modes, in a kind of creative dance. With a clear intention and

within the appropriate context, the kaleidoscopic flexibility of the conceptualization process is certainly the most effective intra-communication and inter-communication tool we have in an age we experience as the Great Turning. My experience reveals that students and professionals learn to master the conceptualization process and inevitably access the realm of imagination needed for transformational changes. Perhaps the wise words of Black Elk can best articulate this profound experience of engaging in the digital and analog modes together and liberating our imagination: *I saw more than I could explain; I understood more than I saw.*

Endnotes

[1]   Conventionally, digital watches go from one numeral to the next without displaying the intermediate values between numbers. Watches with hands moving around the face have been viewed as analog. However, the two types can both be viewed in the context of this paper as digital, particularly if we compare the two with the hourglass, or a human experience of time.

[2]   "Synesthesia" from the Greek *syn + aisthanesthai,* which means to perceive together. Interestingly, the meaning of synesthesia is also similar to that of the word "synthesis," one of the leading principles in all design fields.

[3]   My experience in conducting numerous sessions involving a conceptualization process indicates that a group of 7-13 participants is the most appropriate and efficient size.

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