THE STRUCTURE AND ORGANIZATION OF INFORMATION IN DIGITAL AND ELECTRONIC COMMUNICATION BASED LEARNING ENVIRONMENTS: AN ‘INFOGRAMIC ANALYSIS’ MODEL

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Abstract
The paper adopts a Lefebvrian view of spatiality and proposes a novel spatial perspective in thinking about how the application of information communication technologies affects the flow of information and implicates the construction of knowledge in digital and electronic communication based learning environments. Infogramic Analysis is proposed as an analytical model of theoretical approximations, which aims to advance our understanding of how learning occurs in digital communication and of how information communication technologies in digital and electronic communication based learning environments organize our representations and realities of the world within and around us, and consequently necessitate and direct decisions of social action.

Introduction
The global accelerated development of new media and technologies and of their application in electronically mediated communication has had a significant impact on human social learning and progress. Worldwide societies have come to find out about each other too much too fast, too soon, with an immense impact on the universal system of conceptual significations and socio-cultural representations. On a worldwide scale, learning environments and educational settings built and developed around digital and electronic networks of communication, are seriously challenged by the diverse applications of novel digital and information communication technologies, and the consequent exploitation of information and transfer of knowledge in these, rapidly increasing in complexity, networks.

The global system of information which constructs our knowledge of the social and defines our individual and collective existence is digitally reconstructed and reproduced in hyper-real configurations by digital and information communication technologies. There is a noticeable continuous reorganization of information, consequently of knowledge, which makes the traditional quest for true and absolute realities questionable and problematic. Such a quest often generates confusion and disillusion, which add up to the recycling process of already inadequate and insufficient justifications to explain the contemporary world or to educate its future citizens. A spatial theoretical understanding of the digital reorganization of information and knowledge in digital and electronic communication based learning environments is needed.

Digital and Electronic Communication Based Learning Environments
Learning environments and educational settings are disrupted by new forms of a new meta-postmodern logic. This logic is guided by digital and information communication technologies and by diverse cultural configurations, upsets traditional educational practices and learning processes and changes the conditions of production of knowledge in the global socio-economic structure. Digital and electronic
communication based learning environments and educational settings emerge as diverse postmodern formations characterized by the intensification of the availability and use of information. By means of electronic communication and of digital applications and technologies, they reproduce and sustain a diverse worldwide digital culture characterized by technologically dissimilar and informationally complex learning experiences. This culture is a mixture of mutated cultural configurations of postmodernity which can be more accurately termed as postmodernity-and-beyond. This is the culture of the information explosion which defines the societies of digital capitalism and which secures the conditions for the flow of information by reproducing itself through digital regenerations in hyperspace.

A global and differentiated system of information has been responsible for the social organization of societies worldwide. The intensification of the use of information in hyper-spatial environments becomes critical in the reconstruction and retransformation of the global social order and social change and the reproduction of human existence by means of digital cloning and mutation. The challenge is to reconsider the content and validity of the available information and knowledge in their learning contexts of global electronic communication, and, of their application through information technologies in digital and electronic communication based learning environments and educational settings.

In a world dominated by the increasing integration of human consciousness with digital and information technologies, I contend that an analytical model of learning in digital and electronic communication based environments can be synthesized and developed from a detailed analysis and spatial theorization of the structure and organization of the system of information.

**Hypotheses**

This in-depth analysis, I contend, can proceed from a ‘framing’ of the organization of the system of information which comprises our digital and electronic communication based environments, and which in effect organizes our existence within, and in relation to it. Such an analysis will provide the theoretical observations and justifications for an argument of the digital reconstruction of hyper-reality in digital and electronic communication based environments, and can proceed along four inter-related hypotheses: the Information Flow hypothesis which establishes contemporary historical and socio-cultural conditions; the Social Knowledge hypothesis which identifies specific informational patterns of organization in structures, discourses, ideological systems, and cultural trends and can be reflexively applied to describe the organization of the dominant system of information; the Code of Information hypothesis which aims in establishing the theoretical framework for diverse aspects of the organization of the system of information; and, the System of Information hypothesis, which offers a new philosophic description of the current epoch. It consists of theoretical approximations, more speculative and futures-oriented, regarding the organization and implication of the system of information in the era of global electronic communication and information communication technologies (Andoniou, 2008).

**The Information Flow Hypothesis**

Our view and perception of the social, the world out there, are shaped by our accumulated life experiences, which exponentially add up to our banks of social knowledge. The discourses of history, politics, economy and culture, as separate, though inseparable to each other, as discourses of representational information,
construct a real and imagined at the same time vision of this world within the human mind. Social knowledge is constructed at the subjective and collective levels of human information processing, and is therefore dependent on the organization of the system of information within which it is produced.

Informational representations take form and shape in language and visual images, are reflected and manipulated in ideology, and finally they are expressed though patterns of social communication and action as a response to historical, political, economic and cultural conditions (Figure 1).

![Figure 1: The Information Flow hypothesis.](image)

**The Social Knowledge Hypothesis**

Within the boundaries of our physical space and across the arrow of time our perception of what constitutes (collectively and/or individually) acceptable social knowledge is to a great extent controlled by the global communication technologies and media of all forms. The system of information entails controlled representations of the intentions and the financial interests of transnational media corporations and their affiliated corporate and governmental infrastructure. At another level of spatial consciousness, that of hyperspace, human and machine information processing and communication, converge and align along fractal levels of distortion of the system of information. This in turn shapes our knowledge of the social – often in distinctive corporate interests. Let alone the nature of knowledge per se, more importantly, events of social change and decisions of social action, in this respect, become ambiguous and questionable, as to whether they are expressions of individual choice and freedom or reproductive of well-established patterns of exploitation and domination (Figure 2).

The development of information communication technologies and telecommunications networks has intensified the production, generation, regeneration, circulation and exploitation of the system of information in an endless vicious circle. Human interaction and communicational practice with computer technologies form
and recreate new social attitudes and modes of spatial thinking. The increasing flow and management of the system of information reconstructs social

![Figure 2: The Social Knowledge hypothesis](image)

knowledge and re-organizes social life. Its mechanics are characterized by interactivity, networking and flexibility. The new relations of human experience and construction of meaning are re-negotiated in the hyper-real cultural environments. They are globalized through economic systematization, the design and promotion of a global culture and consciousness, which seemingly integrates and unifies the world on the surface, but leaves the particular details of the validity of the underlying changes and transformations unresolved.

**The Code of Information Hypothesis**

The emerging new forms of postmodernity are dominated by the code of information. These forms do not consist separate historical periods, rather they are manifestations of the intensification of certain cultural attributes because of the ever-increasing surplus of information. New relations between spatiality and time are generated by the code of information in the hyper-real cultural environments. In our traditional physical world, the past exists in the form of memories and as practiced and acknowledged experience that has been interweaved in programmes of intended future action. The future exists only in the sphere of our imagination, and exists only as a projection of calculated evaluation and desired outcomes (Figure 3).

The concept of information in the age of information communication and digital technologies can be distinctively identified to have systemic characteristics, the organization and structure of which can be analyzed through the code of information. The **Code of Information hypothesis** refers to general patterns of organization of the system of information, and with regard both to content and relationships. The digitalization of the system of information makes the code vulnerable to control and programmability. The code of information is also susceptible to the weaknesses of
human information processing but also to the exploitative tendencies and interests of external interference and disturbance.

![Figure 3: The Code of Information hypothesis](image)

**The System of Information Hypothesis**

The system of information spans along multiple coexisting spatial levels of organization across the arrow of time, which represent conditions of freedom, of exploitation and of domination of the system of information, respectively. These organizational levels of the system of information (corresponding to entropy, redundancy, and noise of its volume and intensity) coexist at any time at different levels of intensities, and which mark certain socio-cultural and historical periods. In the contemporary era of information communication and digital technologies, of hyper-real landscapes and fantasy worlds, the fractalization the system of information establishes new relations of meanings and understandings (Figure 4).

Information communication technologies are digitally constructing reality, or to put it in another way, *they are digitally reconstructing hyper-reality*. The re-organization and transformation of the system of information is taking place within the boundaries of hyperspace or cyberspace. Still, the human obsession with this electronic spatiality, recreates the conditions of the organization of the system of information in every aspect of contemporary social life. The code of the system of information is structured along coexisting and interacting with each other, levels of organization, each characterized by various degrees of intensification of information.

At any point in the arrow of time, the system of information presents coexisting and alternating degrees of authentic, simulated and illusionary segments of information which are reflected in the organization of social life and the world. In the era of digital communication and computer technologies, the system of information implodes towards fractalization. The meaning that justifies the relation of the system
of information to the social configurations and entities which reflexively are organized by it, is undergoing a gradual transformation of deconstruction,

**Figure 4: The System of Information hypothesis**

differentiation and reconstruction. Consequently, all logical justifications and confirmations of social reality in the postmodern world and beyond, are destroyed, intensified, transformed, reborn and set free of the tyranny of reason.

**Trialectics, Heterotopias and ThirDSPACE**

The suggested hypotheses leading to the proposed theoretical approximations of the *Infographic Analysis* model, challenge conventional modes of spatial thinking and require a conceptual shift. This is based on assertions of alternative envisionings of spatiality, as illustrated in the ‘trialectics and thirdings’ of Lefebvre (1991), the ‘heterotopologies’ of Foucault (1986), and Soja’s (1996) concept of ‘thirDSPACE’. They are briefly mentioned here.

For Lefebvre (1991) each field of human spatiality - the physical, the mental, the social - is seen as simultaneously real and imagined, concrete and abstract, material and metaphorical. Similarly, the philosophical discussion in this article envisions the system of information as ‘real’ and imagined, physically present but absent or invisible in an abstract way. Lefebvre’s ‘production of space’ in a dialectically linked triad (spatial practice - representations of space - spaces of representation) define a perceived spatiality that embraces the production and reproduction of the system on information, a conceived space of representations constituted via control over and exploitation of knowledge, signs, and codes, and the lived informational space of complex and imaginary symbolisms, coded and not. I contend that the social space of the system of information is defined by, across time, a ‘trialectic’ of spatial configurations, what I term elsewhere as ‘level-states’ of the system of information.

In Foucault’s (1986) spatiality of ‘other places’, ‘heterotopias’ are defined as those real and singular spaces to be found in specific social environments and whose
functions are different or even the opposite of others. Assumptions, analogies and isomorphies from diverse analyses which support the hypotheses stated in the current argument, suggest that the system of information can be considered as a ‘heterotopia’. As such, it is characterized by principles of ‘heterotopology’ and it is identified in worldwide signification and representational systems in differentiated forms, it can alter and transform over time in synchronization to specific environments it occupies, it can exist in different spatial configurations, even incompatible to each other, it presents heterochronic formations, it can be closed and isolated or open and permeable at the same time, it is responsible for creating illusionary ‘other’ spaces.

Soja’s (1996) ‘Thirdspace’ project called for a different way of thinking about the meanings and the significance of our already established spatial or geographical imaginations. Thirdspace can be seen as a new approximation, a different way of looking at the same subject, a sequence of never-ending variations on recurrent spatial themes. This is what, in my point of view, is what characterizes the system of information and because of this we need flexible and dynamic open-ended theorizations, based on frequent reconsiderations and recombinations of alternating conceptualizations of its structure, organization, and communication.

Soja’s ‘trialectical’ thinking challenges all conventional modes of thought and taken-for-granted epistemologies. It is disorderly, unruly, constantly evolving, unfixed, never presentable in permanent constructions, denoting a shift from existential ontology to an epistemology of space. Thirdspace provides the spatial perspective needed to consider and understand social reality and the organization of the system of information and a closer understanding of social change and of emerging hyper-realities in the Digital era.

The Digital Reorganization of Information
Following the theoretical assumptions in the four hypotheses and the philosophical positions underlying them, I argue that a pattern of structural and organizational characteristics of the system of information can be indicated which provides the background to develop an argument for the digital reorganization of information in hyper-spatial environments.

The system of information is shared in a variety of ways within networks of exchanges, where internal and external communication enables its content to organize and be organized. The system of information is a complex system with substantial internal differential integration and co-ordination that exists in a state that is neither totally ordered nor totally chaotic. Alternating between order and chaos it settles into patterns associated to ‘relations of meaning’. Although the distribution of the elements of information patterns is unpredictable, still they do not disperse outside the boundaries of the pattern. Breaking apart the elements, that make up the code of information, and looking at the individual pieces and their interrelationships is the key in understanding the complexity of the system of information, and coming to a closer understanding of the relationship between ‘reality’ and ‘hyper-reality’.

A dynamic retransformation of the system of information in digital and electronic communication based systems takes place, characterized by self-similarity and fractal dimensionality. This digital reorganization or fractalization of the system of information, I contend, can be described along distinct phase spaces (spatial changes across time) of fractal implosion empowered by equally distinct interconnecting micro-processes, which comprise the archetypal organizational pattern and force of change and transformation responsible for the unpredictable vulnerability and programmability of ‘real’ and ‘hyper-real’ social configurations in the Digital era.
These processes are discussed in brief next along with some additional elements of the generic macro- and micro-structure of the system of information.

**Infogramic Analysis**

The *digital reorganization of information* stresses the need to understand the code of the system of information within fresh ways of thinking, unavoidably abstract and probabilistic and possibly paradoxical and controversial. To this end, I propose a series of theoretical approximations on the organization of the system of information, namely: the *Infotype*, the *Level-States of Information*, *Virtual Implosion*, *Fractal Dynamics*, and *Infogramics*. These comprise the analytical model which I term *Infogramic Analysis*.

These theoretical approximations can be argued to be a meta-philosophical proposition towards a radical reconstruction of long-established thinking of the production of social knowledge. The analytical model put forward in the form of conceptual / digital / graphical approximations is a radical methodological suggestion on how we can improve our understanding about the operation and impact of the system of information in the digital reconstruction of contemporary societies and on the re-realization of human consciousness in the postmodern-and-beyond era. The proposed theoretical model aims to offer an alternative idea and to envisage as to how we can use the results of such an understanding to identify patterns of exploitation, domination and struggle in a diversity of real, imagined and other places. The model hopes to redefine principles of organization of social transformation, social change and successful survival in living and learning with information communication technologies.

The spatial context within which the proposed theoretical conceptualizations are made explicit and can be represented with more ease is where human and machine technologies converge, that is *hyperspace* or, *cyberspace*, or what Wilson and Corey (2000) defined as *e-space*, the spatial context of the emerging digital and information communication technologies, such as, computers, telecommunications networks, electronic media, and the Internet.

**Infotype**

At any moment of transformation across time, the system of information can preserve its quantitative and qualitative dimensions from one trajectory to another, which are embodied in what can be called an *infotype*. An *infotype* refers to the specific content and the general architectural characteristics of the system of information. Different systems of information may belong to the same infotype, and a system of information may belong to more than one infotypes. The infotype carries the code (instructions) which the components of the system of information need to use for their structural and interactive orientation and their iterative proliferation. For an infotype to survive and secure its existence in the ocean of informational landscapes, it needs to regenerate constant change by way of adaptation and habituation to the available informational environments. Adaptation implies quantitative and/or qualitative alterations, which can be the result of mutation of information through iterative processes, whereas habituation refers to the successful establishment of adaptation.

**Level-States of Information**

Infotypes are organized across space and time in an inter-connected triad of associated spatial level-states of organization: an *Era of Romanticism* (actuality), an *Epoch of Ersatz* (imitation) and an *Age of Chimera* (fantasy). *Romanticism, Ersatz* and *Chimera*...
are space-time coordinates, which remain unaffected as a triad globally, but they differentiate individually and locally, across the arrow of time. They refer to the volume and intensity of available information during various historical periods, not necessarily distinct ones, but related to the historical, socio-economic and cultural conditions of these periods. They co-exist as general spatial frameworks across time that encompass and host diverse systems and organization networks. At different space-time coordinates one level-state may predominate to the expense of the others depending on the degree of intensification of the flow and organization of information within a given system (Figure 5).

**Figure 5:** The Infotype Level-States of the system of information.

![Level-States of Infotypes](image)

The **Era of Romanticism**. The *Era of Romanticism* is predominated by the intensification of *spatial practice*. The perceived physical space is the main domain of the negotiation of information and social knowledge (actuality). At this *level-state* the system of information is characterized primarily by the authenticity, and subsequently by the simplicity and originality of its components. The *Era of Romanticism* would probably characterize socio-spatial formations of primary and basic organization, where the networks of information are almost non-existent or just emerging, where communication of the information is scarce and elementary, and where social transformation and change is time-consuming. It is an era of potential progress and development as a result of social exploration, error and trial, based on the unhindered ‘freedom’ of information (Figure 6).

**Figure 6:** The Era of Romanticism.
The Epoch of Ersatz. The *Epoch of Ersatz* is characterized by the intensification of representations of space, in which information is disputed, infected and dominated. The *Epoch of Ersatz* signifies the ‘conceptualized space’ of the system of information. The social during the *Epoch of Ersatz* is constituted through the control and exploitation of information. Information is classified and categorized into controlled knowledge and defined signs and codes are responsible for the construction of ‘social reality’. During this level-state, the system of information becomes redundant with the elements of unpredictability and entropy being controlled. Informational constructs are generated through imitation and floating signifiers define the limits of social experience. Reason and logic dominate social action and change. The *Epoch of Ersatz* can probably apply to developing and developed patterns of organization, with well established networks of communication. This would be a system indicative of experimentation, justification and potential exploitation of choices and alternatives (Figure 7).

![Figure 7: The Epoch of Ersatz.](image)

The Age of Chimera. In the *Age of Chimera*, fantasy becomes the predominant component of the system of information. Information becomes illusive, provocative and hyper-real. The spaces of representation become intensified with the original authenticity of the *Era of Romanticism* and the ‘original’ simulations of *Epoch of Ersatz* becoming incorporated and assimilated in the domination of lived experience. The system of information shows a highly complex organization, with ‘reality’ being encoded, and ‘hyper-reality’ being decoded as the dominant socio-spatial dominant. At this level-state the system of information is dominated by the rejection of authenticity and originality, by increased tensions of imagination and hallucination, and by the emergence of distorted spatial formations. The system of information reactivates its entropic tendencies within a system environment alternating between states of chaotic organization and of organized chaos. The *Age of Chimera* is a period of subordination to the code of the system of information which controls and regenerates ever-emerging spatial realities. The *Age of Chimera* is intensified in advanced modes of organization characterized by networked flexibility, flexible networking and infinite possibilities of communication. Change and transformation is fast and at its extreme leads towards the fractalization of the system of information (Figure 8).
Virtual Implosion
The theoretical approximation of Virtual Implosion of the system of information intends to describe how the system of information transforms (mutates) to a fractal system, where meaning is replaced with the ambiguity of ‘relations of meaning’.

Information. The systemic organization of Information before Virtual Implosion is strongly related to ‘meaning’. Information can be considered as segments of communicated knowledge concerning particular facts, subjects, or events. Any set of data, out of which information is constructed, is in essence an abstract flow of electronic signals, which are coded and exist in various forms. These coded data sets are defined here as ‘fragments of data’, whereas, the components of a system of information as ‘fragments of information’. Fragments of data make up data, data make up fragments of information, which, in turn, can form a system of information, which presents systemic characteristics. A set of Information is in essence a system of information.

Phase spaces of Virtual Implosion. Virtual Implosion takes places in a series of continuous, infinite loops of dynamic change, expressed in distinctive phase spaces, and repeated in alternating and interrelated iterative cycles. During Virtual Implosion abstract flows of electronic signals, coded as information, undergo quantitative and qualitative alterations within trajectories (phase spaces) of mutation. These phase spaces lead to the fractalization of information, by reproducing irregular, contradictory and chaotic distortions of the original. These fractal informational simulations may be simplified, distorted, controllable and programmable versions of the original information.

The Virtual Implosion of the system of information is characterized by three phase spaces of fractal mutation: (a) Syghysis (deconstruction): With Syghysis, a relatively ordered group of components (fragments of data or fragments of information) of meaningful information is deconstructed into the individual components; these are then rearranged randomly, in disorder, around a core reference point and within the boundaries of the information environment; (b) Molynsis (differentiation): Molynsis follows the phase of Syghysis. During Molynsis each one of the randomly dispersed individual units (data) start to differentiate acquiring diverse degrees of emphasis,
prestige, and structure, of similar dimensions; and, (c) *Photococciasis* (reconstruction): As a result of *Molynsis*, with *Photococciasis*, the differentiated stress applied on the constituent units of information, generates a non-linear stretching of the components towards a disorganized reconstruction of fractal dimensions (Figure 9).

![Virtual Implosion](image)

**Figure 9:** The phase spaces of Virtual Implosion: Information (meaning), Syghysis, Molynsis, Photococciasis, Fractal (m&é%ani*n(g).

**Fractal.** The *Fractal* systemic condition of information is an irregular, disorganized mutation of communicated knowledge. In contrast to the original, meaning-related system of information, the fractalized system of information consists of repetitive distortions of facts, subjects, or events, without any specific or necessary reference to meaning, truth or reality, other than the reference to themselves. The structural architecture of a *Fractal*, accounts for the exhibited vulnerability, fragility and anomia, whereas the irregularity of the patterns of interactivity accounts for the potential manipulation, controllability, and programmability. The later may regenerate distorted versions of an original, and disguise it as the original itself. The viral character of the fractal neutralizes and liquidifies the original translation, and its scandalous behaviour produces false recognition of the original system of information.

**Fractal Dynamics**

The three phase spaces of the *Virtual Implosion* of the system of information to fractalization, are controlled and interconnected by five powerful micro-processes hereby collectively termed as *Fractal Dynamics*: (a) *Catastrophe* (destruction) generates the *Syghysis* of *Information*, by breaking down, deconstructing, the components of the system to fragments of information and data; (b) *Orgasm* (excitement) completes *Syghysis* and powers up *Molynsis*, by generating random mobility of the components of the system of information; it forces them to rearrange
in the periphery of, but still within the prescribed limits, of the system; (c) Metamorphosis (transformation) concludes Molysis and initiates Photococciasis, by producing levels of differentiation among the fragments, and assigning to them various degree of emphasis and substance; (d) Epigenesis (rebirth) signals the end of Photococciasis, restructuring the differentiated fragments by exercising flexible non-linear stretching on them towards the Fractal phase of the system; and (e) Anomia (lawlessness) secures the fractalization of the system of information by the irregular disorganized reconstruction of the stretched components (Figure 10).

![Fractal Dynamics (FD)](image)

**Figure 10:** The micro-processes of Fractal Dynamics from Information to Fractal: Catastrophe, Orgasm, Metamorphosis, Epigenesis, and Anomia.

**Infogramics**

With Virtual Implosion and Fractal Dynamics always present at the generic level of systemic organization, Datagrams and Infograms are informational constructs and patterns of informational organization at a smaller scale, which may as well be understood as basic or complex concepts, definitions, attitudes, opinions, beliefs, ideologies, theories, bodies of knowledge, in general, any organized or non-organized (around meaning or relations of meaning) system of information.

**Datagrams.** Datagrams are basic and simple informational constructs of symbols, icons, signs, figures, characters, letters, numbers, archetypes, and so on. They may generate infinite combinations within their native environment to add more informational units to their system. The self-similarity and plurality of the components of datagrams accounts for, and appends to the ‘meaning’ entailed in the datagram. Datagrams may interact with other similar or not datagrams, in infinite combinations, to produce infograms (Figure 11).
Infograms. An Infogram is an informational construct of higher level of complexity than that of a datagram. An infogram can be generated from interacting datagrams but is not necessarily the sum of the source datagrams. Infograms present multi-dimensional patterns of organization of spatial symmetries and structural non-linear curves. They can be said to represent, at varying degrees of complexity, concepts, definitions, ideas, perceptions, explanations, descriptions, segments of information, bodies of knowledge, and so on. According to their origin of their constituent components (combined arrangements of datagrams or other infograms), infograms are distinguished as: Authentic infograms (strong relations of meaning, resistance to foreign interactions); Simulated infograms (visible imaginary versions of authentic infograms); and Fractal infograms (simplified, distorted, and programmable version of authentic or simulated infograms and of ‘dubious’ meaning) (Figure 12-14).
Endogenesis and Exogenesis. Infograms (and datagrams) present distinctive patterns of organization which account for the inter-relativity and interactivity of infogramic systems. These organizational patterns are here defined as Endogenesis and Exogenesis respectively. Endogenesis refers to the innate tendencies of the structural condition of the infogramic system to self-relate, generate and maintain a stable and enduring structural architecture of meaning around the core theme characteristic of the system. Three levels of structural condition characterize the endogenous associations of an infogramic system: Organization, Lethargy, and Disorganization. Exogenesis refers to the tendencies of the infogramic system to communicate or respond to incoming communication with its environment. Exogenesis expresses the tendency of the system of information to associate, to establish networks, and to progress to further evolvement. Three levels of structural involvement characterize the exogenous interactions of an infogramic system: Simplicity, Apathy, and Complexity. In any state of infogramic activity or inaction, the system is balanced as endogenous associations establish a condition of heterogeneous homogenization, whereas exogenous interactions, on the opposite side, apply a condition of homogenous heterogeneity (Figure 15).
Conclusion

In the era of digital and information communication technologies, the fractalization of information leads to the mutation of information and knowledge to electronically distorted and repetitive hyper-realities. The proposed model of Infogramic Analysis, I contend, can act as a methodological response for the analysis of learning and teaching with information communication technologies in digital and electronic communication based learning environments. Infogramic Analysis can be useful in identifying the patterns of gradual deconstruction, differentiation and reconstruction of digital information and knowledge, and their gradual mutation towards abstract fractal infogramic systems. In our contemporary global information society forms of digital and electronic communication establishes new relations of meanings and understandings of the world. Information and knowledge in digital and electronic communication based learning environments challenge our empirical so-called orthodoxies with the appearance of paradoxes and controversies, the non-absolute of ‘reality’ or the partial availability of ‘truth’. Understanding how the global system of information is digitally reconstructed within digital and electronic communication based learning environments reveals to us how systems and bodies of social knowledge, based on it, they all mutate to digital illusions, altered states of reality which come to dominate our so-conceived real and conceptual imaginations through our daily interactive practices and learning and experiences with information communication technologies.

References