

## **CHAPTER THREE**

# **PHILOSOPHICAL ENGAGEMENTS IN ENGINEERING AND ARTEFACTS**



# QUANTUM TECHNOLOGIES AND ETHICS IN THE CONSCIOUSNESS SOCIETY

FLORIN MUNTEANU

*“Earth has not been a gift from our fathers,  
but a mere borrowing from our children”*  
—Amerindian saying

## 1. The need for a new paradigm

*“Complexity will be the science for the 21st century”*  
—Stephen Hawking

To analyze and characterize Complexity is a challenge posed to the human mind which must structure *a new ontological framework*, *a new set of concepts*, *a new methodology* and *an adequate experimental technique* that would all be qualitatively different from those used today. This framework, labelled as the Science of Complexity (Erdi, 2008), has been defined through the integration of last years' results concerning the non-linear approach of phenomena in nature, results obtained by a series of new disciplines such as Synergetics, Complexity Physics, and the Catastrophes Theory. Additionally, the appearance and progress in new related fields like Fractals, the Theory of transition to chaos, as well as the Cellular Automats Theory and Neural Computers generated many novel and convenient mathematical models for describing the surrounding reality. Therefore, the Science of Complexity can be considered a collection of models and theories capable of allowing the understanding of local-global, part-whole type of relationships in a sufficiently general way so it can be applied to the study of all that is living, starting with genes, organisms and ecosystems and going as far as the study of transitions from atoms to materials and products, from computers to local networks and Internet, from citizen to group and society.

The Science of Complexity can be viewed as an integrating science, capable of ensuring an inter and trans-disciplinary approach (Nicolescu, 2008), to generate connections between different areas of knowledge, to create bridges between specialists in different research areas, from

different schools and from different cultures, bringing them together in interdisciplinary teams targeting strategically important topics, such as those demanded by ensuring a sustainable development. The Science of Complexity is considered today the central pillar with which one can restructure information in a new and coherent paradigm that is comprehensible to all social levels, thus also having a catalytic role by accelerating the flow of information and knowledge to society. Furthermore, it generates the primary activities imposed by the joint Man-Environment evolution, a fact that traditionally has not been generally known or 'advertised' to the public at large since Evolution had been usually linked only with ecosystems and biological species, or – as a special case of the latter – to the appearance and gradual enrichment of the human intelligence along the ages. Nevertheless, one of the key contributions of the Science of Complexity towards a new paradigm is highlighting this entwined two-fold interdependent concept of Man-Environment evolution that is both reflected and provided by a constantly more complex and far-reaching design, control and utilization of products and systems, themselves with a previously unseen level of complexity.

Some of the industrially most relevant applications of research concerning Complexity today are:

- Miniaturizing antennas with fractal geometry (fractal antennas) for mobile phones- Motorola was a main leader in the research of such applications;
- Early cancer diagnosis using fractal analysis of a tumour made by a neural computer- the first patent in this field was obtained by the Health Discovery Corporation;
- The non-traumatic resuscitation after a heart attack through technology provided by “chaos control”- Philips carried out research for such an application;
- The super secured transmission of information through the synchronization of chaotic oscillators (chaos communication)- The military and telecom companies are at the forefront of research in this direction;
- The evaluation and improvement of performance in organizations through the application of techniques and simulation methods specific to the Complexity paradigm- counselling in Human Resources of some prestigious companies such as PriceWatherhouseCooper.

The few applications listed above, although chosen randomly, have all the same common denominators. Thus, they exploit a few key aspects

which are traditionally either studied separately, or incompletely or (sometimes) are neglected altogether. These essential aspects studied (among others) by the Science of Complexity are:

- The non-linear properties of matter (or of the interaction matter-energy),
- The extreme sensitivity to initial conditions,
- The auto-similarity of spatial and/or temporal structures,
- Revealing new facets and meaning of the resonance concept, e.g. the chaotic resonance (which deals with the synchronization of chaotic oscillators), and
- Studying processes of formation/emergence of systems which exhibit auto-generated criticality.

The collection of models, theories and measurement and control techniques provided by the Science of Complexity enables a new way of perceiving and understanding Reality, seen as a structured network of complex and interdependent systems that evolve far from thermodynamic equilibrium may manifest coherence on a large scale, and for whose study a special, holistic approach is required. Such complex and interdependent systems coevolved, displaying phase transitions, spontaneous restructuring, and even generating new structures that are neither the sum of, nor the exact image, of their 'parents'. Consequently, it has been notoriously difficult to study, let alone to predict, the behaviour of such systems by using classic, reductionist methodologies. Additionally, and most importantly, the Complexity paradigm can be considered an important step in understanding Life and the relationship between Living & Non-Living entities/systems. This is achieved by understanding the structuring role of recursive processes that can model feedback loops and implicitly, auto-regulation processes. The negentropy production, generated by living beings through metabolic processes that ensues the homeostasis of living systems, is put into balance with the implacable trend towards entropy growth, the fundamental property of non-living matter. This “competition” between order vs. disorder, information production vs. entropy growth, etc., induces a special dynamic in Living systems that develop on a non-living 'substrate', and this non-trivial dynamic must be studied using a special methodology. The Living entity-Substrate network/assembly forms a new system that cannot be understood only from a thermodynamic perspective, using only very complex models based on systems of differential equations to simulate the behaviour of such dynamic systems. Nevertheless, traditional methods still play a part in the approach used by the Science of Complexity, but they are supplemented by an array of other

methodologies that are used simultaneously with the traditional ones. These novel techniques strive to understand the streaming of information that ensures the regulation, adaptation, synchronization, and commencing of metabolic or behaviourist “procedures”, as well as the energy and matter flows that ensure the “functionality” of Living systems.

While the traditional approach that studies the energetic-material aspects/interaction(s) is a quantitative one, the study of information streaming (codes and messages) is a qualitative one and it defines a class of interactions specific to the Living entities/organisms. The intensity of energy fluctuations is not paramount in this informational connection, but the structure of the fluctuation is, meaning the message. From this perspective, the identification of the differences between a normal energetic-material fluctuation (noise) and one carrying information (message), requires a special approach, capable to identify codes (discrete elements) in a continuous fluctuation, the way of creating messages (syntax) and, naturally, the meaning of all of these. In this way, the study of continuous/discrete transitions, the identification of patterns (semiotics) and the decoding of meanings (semantics) become very important and are the centre of attention in the Science of Complexity. As a conclusion, for describing and understanding the evolution of a complex system generated by the continuous exchange of matter, energy and information between Living beings, which are also structured in their own specific way in atrophic chains that make in the end the GAIA network (Maiorescu, 2001), it is necessary to use from the classical methodology only the part concerning general issues of thermodynamics and allometry and at the same time set-up and structure a new science based on Information. Such a novel 'Infodynamics' science allows a major change of the way in which we perceive technology today, bringing it closer to the “production” means of living Nature (primary clean technology), and generating artefacts able to ensure the geostasis of the GAIA system.

## 2. From quantum physics to orthotechnology

*“Not everything countable is significant  
and not everything significant is countable”*

—Albert Einstein

The study of the consciousness (Chalmers, 1996) and the cognitive processes has been invigorated by the advances in computational science, structured around the central concept of *information*. Despite the daily overuse of the word *information*, one can state that its real meaning is not fully stabilized. Its intended meaning can be deduced only from the

context in which it was used, from “information” regarded as (trivial) news, to a structured semantic meaning: “information,” that is, to give a shape, to organize, to reveal a structuring pattern. The roots of the central interest for the deep significance of the “information” concept are to be found in *its relation with artificial intelligence, with cognitive processes, with the analysis of mind-matter interaction.*

One can define:

- *Information in Shannon-sense* is what eliminates or reduces a given, *a priori*, uncertainty. It does not bring an absolute additional knowledge, except for ameliorating an initial state of “accepted ignorance.” The concept is defined from an anthropomorphic observer perspective, and as such certain subjectivity is implicitly involved. The emphasis is set rather on a mathematical framework allowing a quantitative approach originating from an existent, well-defined, uncertainty.

- *Information in Săhleanu-sense* (Săhleanu, 1973) originates from the remark that in nature some interactions cannot be formalized through a classic causal interconnection, based solely on energy and substance fluxes, together with a conservation law. Săhleanu defines an *informational type link (ITL)* influencing the dynamics of a system. This happens not through intensive variables, but rather through special fluctuations acting as “messages;” they generate new aspects/mechanisms like storage, decoding, tuning or triggering. The ITL aspect is revealed in the context of the generalized hierarchical systems theory, where the global stability of a system is accomplished through formal and informal cooperating mechanisms of the constituent subsystems. Each subsystem has a certain structure, organization, and a sensitivity to information defined as *informability*, that is, its property to react to specific patterns of energy fluctuation.

It is clear from the previous remarks that the concept of information is strongly connected to structure and organization. From this perspective, the suitable methodology is rather close to grammar, semiotics and semantics research fields than to the study of dynamical systems - mathematically defined as sets of differential equations (Hoffmeyer, 2008). *While the energy is a measure of the dynamics, the activity strength of matter, the information is a measure of its structuring.*

The informational connection is more subtle and difficult to reveal, as it appears through correlation factors at different scales; the stronger the irregular or the unstable character of the system, the more pertinent is the manifestation of the informational link. The main classical methods for the

theoretical and experimental analysis of fluctuations and irregularities rely on statistics, and are unable to decipher and characterize the structure and the related informational link. It is therefore necessary to initiate a fresh approach in theory and experiment, based on a new ontological reality model. *Orthophysics* (Drăgănescu, 1985) is exactly such a model. Defined in 1973 by Mihai Drăgănescu, the orthophysics model of reality relies on combined structural and phenomenological vision of the world and leads to the definition of so-called *The Ring of the Material World (RMW)* (Drăgănescu, 1979). It postulates the existence of a deeper layer of existence, named *orthoexistence*, acting as source and substrate for any physical universe characterized through energetic and material (substance) properties. What exists is no more than orthoexistence and universe, in a subtle connection linking entities with distinct fundamental properties. Orthoexistence, as substrate of the physical universe, is made out of two components, *lumatia* and *informatter*. Lumatia represents the substrate of the substance, without any self-structuring capabilities, while informatter is the component responsible for structuring lumatia. In the absence of informatter action, lumatia presents a trend toward global equilibrium and stationarity; it can be regarded as the source of energy in the (physical) universe. The structuring characteristics of the informatter reflect in the concept of phenomenological information that manifests as physical “sensitivity.” These processes within informatter, named *orthosenses*, induce a special dynamics in the orthoexistence. When the two primordial ingredients (lumatia and informatter) couple, the matter is structured and maintains this state through orthosenses; the result is the generation of universes with specific physical laws. Part of the informatter remains unstructured and potentially available for new structuring processes. The informatter is not conscious and does not contain intelligence, but is nevertheless an essential ingredient of any living organism.

Living organisms have (direct) access to informatter through a specific interaction named *intro-openness*. This interaction endows the living entity with distinct phenomenological attributes: sense, psychological continuity and the quantification of the spatiotemporal reality. Orthophysics is the science having as its goal the study of the orthoexistence and its properties. It tries to elaborate a model of the depths of the material world that explains the way orthoexistence is coupled with the universe, from the formation of the elementary particles to a unitary description of (quantum and macroscopic) physical laws, biological phenomena and the mental and psychological processes.

The structural and phenomenological perspective of the world proposed by orthophysics goes beyond the limitations of the present



contemporary science approaches, placing in its centre a common principle for all the phenomena studied in the natural sciences and information theory.

Informatter (the deep “sensitive” substance) *has* orthosenses, *generates* orthosenses and *searches* for new orthosenses. The material world evolves in time and space under the “pressure” of a fundamental orthosense: “*to be*”. It manifests *within* (giving the existence a stable unity with its profound source), *outward* (generating fundamental secondary orthosenses) and *inward* (the orthosense of searching of orthosenses – the evolution of the physical universe and living nature toward accumulating new senses, perceptions).

The phenomenological information cannot be formalized, but has a structuring action through the relations it establishes between senses. The structuring of the orthoexistence appears when the structuring informatter couples with lumatia; this results in a stable non-living universe fully describable through mathematical formalisms. Its coupling with lumatia is the source of its stability. On the other side, the living universe presents a phenomenological intro-openness, which is not possible to describe through mathematical formalisms.

Life (the animate matter), is generated from the same ingredients as the inanimate matter, but possesses supplementary features on the information side. In the non-structured informatter there is a category of orthosenses able to attach only to structures with a level of organization beyond a certain minimum threshold (resulting from the interactions between the elementary particles, through electromagnetic forces). These orthosenses are called *orthobionts*, informational components setting a characteristic, *specific unit* to structures of minimum complexity. As a consequence, elementary forms of life begin with an “intro-open” molecule with reproduction capabilities. The evolution towards the next level, living cellules, is initialized through a process of association between these primitive “animate” molecules. The living matter, through its intro-openness, subordinates and controls the properties of the non-living matter, in a trend to evolve and towards increased complexity.

Every living entity has mental processes. In the elementary living matter these mental processes flow without intelligence or consciousness. These two last attributes emerge only at the level of organisms possessing a nervous system.

Intro-openness acts only through animate (living) matter; the mental and psychological level of the physical world is the necessary interface between the spatiotemporal universe and the profound substrate, and

allows the birth of ideas. Ideas cannot exist in the profound level, for their substrate is the nervous system in the physical world.

The *structural information*, the only one analyzed by science so far, is in fact of secondary importance in the physical world, relative to *phenomenological information*. Orthosenses from informatter are the basis for the generation of physical universes, but they are phenomenological informatter.

The most general form of information has a dual formal-phenomenological character. The formal aspect contains structures specific to syntax and semantics (either reference or in the specific context), while the phenomenological aspect contains the associated senses or orthosenses. The mental and psychological information of the human consciousness is presented in this dual form. Obviously, there are cases where information appears only in a formal structural and syntactic way, as approached in the classic theory of information transmission or in bioinformatics (genetic information).

Consciousness operates with structural-phenomenological information, thus escaping from any mathematical formalism approach. The structure of the brain allows a bidirectional communication between the structural and phenomenological aspects. RMW model postulates three levels of interaction: phenomenological interaction (to be), structural-phenomenological interaction (to know) and the pure structural (to say). The nature of man places him at the border between existence and orthoexistence. This enables the dual capacity to interact with the informatter (from the profound reality) through intro-openness and with the physical reality through openness (senses). This dual interaction can be developed in a conscious manner, through mental and psychological process, leading to a control of the reality. Man is able to “interrogate” and “control” domains of physical reality through direct physical interactions (forces, energies, moments). A second alternative, at a subtle level, is to act through inter-openness upon the mechanisms in orthoexistence responsible for the generation of that specific sector of physical reality. In other words, man and society are able, through knowledge, to actively influence processes in orthoexistence. The results can be materialized in the actual spatiotemporal universe, generating anti-entropic effects or to even lead to the generation of a new universe. A new technology, called *orthotechnology*, will assume the development and use of a new category of equipment: *orthotrons*. They are intro-open systems without consciousness, analogous to present instruments and tools from the lower levels of the physical reality. The intro-openness could thus provide a justification for the effects of the interactions between mind and physical

reality. These effects have been observed so far accidentally or in empirical experiments trying to quantify the influence of human intentions on the behaviour or properties of a designated physical system.

### 3. Mankind's Spiritual Becoming and the Birth of the Awareness Society

*“The true meaning of History in a Universe is to induce/aid the Becoming of Consciousness”*

—M. Drăgănescu

The orthophysical model of Reality also postulates the existence of a *Fundamental Consciousness* (FC) whose appearance and operation takes place via the primordial ingredients of the 1<sup>st</sup> level of Existence. Therefore, FC itself becomes a primordial element, situated in non-space and non-time (i.e., in orthoexistence). The individual and group relationships with FC define a special type of behaviour for the Human Being(s), namely the *spiritual behaviour* (Drăgănescu, 2003).

*The scientific approach* can recognize, within the framework of a transdisciplinary ontological vision, the existence of the FC; however, it would not be capable to principally experiment it directly by using its specific methods.

The *Initiation* of the Human Being is a special process that would allow him/her to access this spiritual dimension, and which has been repeatedly outlined along the ages in many esoteric or religious cults and practices (mysteries). Since the relationship between the Human Being and FC is a phenomenological one, being mediated by states of *being* that – by definition – cannot be expressed fully or exactly in a formal language/manner, automatically implies that an authentic initiation does not require or consist of a rational accumulation of concepts and theories, religious or of any other character, but by a personal experience and a deeply felt communion with the inexpressible.

According to the orthophysical model that postulates the structural-phenomenologic nature of the Universe, one can identify three types of interactions in orthoexistence:

1. Phenomenological interactions (states and processes of ‘being’),
2. Structural-phenomenological interactions and operations at the level of “knowing”, and
3. Structural interactions formalized at the level of “saying”.

A model of the interaction between the individual consciousness and FC based on RMW states that *the key point of a Human Being's Spiritual life is the emotional trace, or 'imprint', left by his [state(s) of] Being in his Affect*<sup>1</sup>. The Human Being thus connects to the FC who will transmit her/him “tasks”, in consonance with the overall harmony of Universe's evolution, and this connection leads to the awakening (via the Affect) of internal energies and desires of search, creation, fulfilment, and embodiment in the Material of the elementary cell, or ‘brick’, which (s)he, the Individual, can contribute with at the construction of Reality, according to her/his own particular psychophysical features. This state “feeds” the intellect, which will *act to adapt the “intentionality seed” (brought in by the [state(s) of] Being) to the spatial-temporal requirements of the physical Universe*. The intellect, as semantic processor, operates in the Structural and generates algorithms, technological processes, inventing materialization solutions. In other words, a subtle interaction (mediated by the Affect) is forged between the FC and the individual Human Being who is ‘immersed’ in a spatial-temporal reality.

The mind of an individual, when in a neutral state (i.e. with an attitude without any intentionality, in a contemplative state), can be configured such that it could “receive” its own personal Being process. However, the message is typically received in an extremely hermetic language, structured according to the laws of a very different medium/environment, which knows no spatial or temporal boundaries or ‘milestone’ delimitations/demarcations. Therefore, decoding the symbols within, and the meanings of, this message, as well as its adaptation/conversion into the physical reality by material implementation assumes a perfect synchronization and cooperation between the individual's affect and intellect, a very good control of the affective/emotional states and a developed capacity to formalize and operate logically with abstract notions specific to the tangible surrounding physical reality.

The abilities required to operate coherently at the interface between “knowing” and “saying” are formed by an academic education, which develops the rational, logic, intelligence originating from the brain's left hemisphere. This intelligence can be structured beyond the perceivable reality by further developing the self-awareness and filtering the existing knowledge by using the most refined paradigm(s) currently accepted

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<sup>1</sup> Merriam-Webster's on-line dictionary definition of ‘affect’ is: 1- (obsolete): feeling, affection; 2- the conscious subjective aspect of an emotion considered apart from bodily changes; *also*: a set of observable manifestations of a subjectively experienced emotion <patients...showed perfectly normal reactions and *affects* — Oliver Sacks >.

academically. The development and performance of this rational intelligence actually strongly determines the quality of the decoding process applied onto the “message” received via the state(s) of Being.

The abilities required to operate coherently and consciously at the interface between “being” and “knowing” are formed by gradual and systematic long-term application of various meditation, prayer, or other introspection techniques targeting self-knowing and exploring the individual’s own affective dimension, i.e. elements that define the so-called “spiritual life”.

The lack of such a spiritual life/development and the exaggerated role and importance attributed solely to the rational intelligence would transpose ideas in tangible facts and in material objects without any moral discrimination or other judgment based on a holistic vision of the Individual’s true role/calling and/or of Mankind’s/the Individual’s necessary Evolution. This has led to the present-day society that clearly values mostly the Matter above the Human Being, i.e. the artefacts and the profit(s). The present-day paradigm for mankind’s *modus operandi* can be summarized (even if somewhat simplistically) as follows: “An individual is valued on what he owns materially, and on either how much more he can further gain or his capability to be used to make others to gain”. The one that has the highest number of possessions at the end of life ‘wins’. Any other ‘spiritual’ elements, i.e. non-provable tangibly in a reproducible manner and non-formalizable, are -at best- either allocated a ‘lateral’ place as a ‘distraction’ or (e.g. religion) being partly necessary for mental comfort or a ‘good’ life, or –at worst– completely denied as possible or existent. However, it is clear that the existence of such a materialistic society that encourages consumption as main engine of ‘development’, that always seeks quantitative clear-cut estimators of success based solely on profitability, that demands constant economical growth as a primordial requirement of well-being, will clearly not survive in a very long-term (i.e. on a geological scale) due to either unavoidable exhaustion of all available resources, or overpopulation, or other causes (e.g. pollution or climatic changes). Moreover, this process will literally enslave the masses for the benefit of the few, will alienate most of the members of the society and de-humanize their activities, while at the same time also causing severe ecological unbalances.

We can conclude that modern Science, although has initially started along the route of explaining Nature’s secrets (and which will still remains a key drive in the future), it now reached a critical point in which it can formulate a new vision about the entire observable Universe. This vision should be based on quantum physics, on the study of Consciousness and of

the human Mind, and it could also define the role of the Human Being in a similar manner (although probably using very different words) with the teachings of the great Initiates of the mankind. Thus, through Knowledge and Affect, Man can attain Wisdom and awaken spiritually in order to subsequently assume a new role of “interface” between the observable/intelligible universe and the Sensible Universe, between potentiality and history. We shall exemplify with a quote from an Orthodox Christian sacred text that defines the role of the Human Being as central element of the Divine creation (i.e. of the Fundamental Consciousness). The saint Maxim The Confessor said:

The Lord lastly introduced the Man among the other beings, yet above all beings, as a laboratory that brings together the extremities of the universe through his own parts and thus brings into himself in unity all those that by nature previously had been split asunder and separated by great distances.

The Human Being has to

unify the entire sensible creation *through knowledge and contemplation of meanings in things and love*, and then to unify the sensible ones with the intelligible ones (Larche, 2001).

The Man, himself/herself a part as well as a whole, an *arhem* and not a system, becomes the intersection point, the crux, between the physical and the metaphysical worlds.

The Man is simultaneously both the conclusion and the apex of the creation. This is why he was created in the seventh day. As soon as he appeared, everything was complete and flawless, both the upper and the lower worlds, because everything is contained within the Man he encompasses all forms – says the Zohar.

For Pico della Mirandola

The man is the link between the entire nature and an essence comprising all its saps, and this is why the one who knows thysself knows everything.

Similarly, Rudolf Steiner also asserted that

The Man is an organism that transforms different forms of the force in the force of his thought, an organism which we maintain active with, what we call food, and by the means of which we can produce, what we call

thoughts. What a marvellous chemical process must be that that could transform a simple quantity of food into the divine tragedy of a Hamlet,

and he concludes by saying “The Man is placed in the middle, between God and the animal”.

Although mostly in an archaic language, all the texts above clearly highlight, from various perspectives and from different epochs, one and the same thing: The role of the Human Being as a thinking being, as the ‘alembic’ or ‘retort’ in which is synthesized the conscious reflection of the Universe and thus making possible, beyond/above a certain developmental level, to perceive the FC. It must be outlined that the above statements have been mostly the results of an intuitive, revelatory process, based on successive refinements of expressing special states of being (altered states of consciousness triggered by prayers, meditations, and shamanic practices) in a formal and verbal language.

We can thus conclude by saying that the Human Being, as a special self-aware being capable of interacting creatively in and onto the physical universe by the means of artefacts, is an Arhem equipped with a structural-phenomenological “processor”. A key feature of the Human Being is thus his/her capability to interact with the phenomenological by means of the intro-openness; another one is the capability to participate personally and directly in stabilizing the Universe in which (s)he is immersed. Through knowledge and assuming the responsibility of its usage, as well as through individual and collective development and evolution *the Human being becomes the keystone for the quantum stability of this Universe*, and in this role (s)he fulfils her/his destiny. This development level that assumes the spiritualization of the entire human race is accompanied by the emergence of a new specific social structure: The Awareness Society. This will be a spiritual society, not in a passive, meditative meaning, but rather denoting a society in which the education of both rational intelligence and the spiritual evolution of the Human Being become well-defined targets. This would be an informational, scientifically, technologically and agriculturally active society, seeking to understand and assist the Evolutionary process of Life on Earth, and in the Universe as a whole. Only this type of society could possibly ensure a sustainable long-term survival and evolution of the human race.

## 4. Conclusions

*“To be so bold as to give people the conscience of greatness that they themselves cannot imagine.”*

—Malraux

The exponentially growing dynamic of the modern socio-economical life, in the context of globalization and climatic changes, puts an enormous amount of pressure on each individual. Trying to survive in this turbulent and increasingly stressful environment in which the prediction of future events is becoming more and more difficult, and requires an increased effort to ensure both continuous adaptability and, at the same time, also to provide the ability to deal efficiently with a possible failure.

It is common knowledge that every critical point (either a dilemma or a choice) requires a (sometimes hard) decision that subsequently results, or leads to, a change. The psychological tension induced by the uncertainties that naturally accompany any decision in a primary unpredictable evolution has the power to affect human beings at both an emotional and mental level. Presently, we, i.e. humankind, are lacking an appropriate 'bird-eye' vision of this dynamic evolution of Reality, thus missing not only the entire picture but being incapable of understanding its dynamics, its sense/direction of evolution, or its specific manifestations in various sub-systems. This is largely due to the fact that we are still using concepts and information that had been specific for a previous, much more static, stage which admitted a *linear estimation* and a *Newtonian approach*. However, nowadays modern (wo)men deal harder and harder with stress at increasingly more numerous levels, a fact illustrated by the continuous world-wide degradation of the quality of life and by the negative decrease of the immune system's performances in general as well, with dramatic consequences in the continuous degradation of the physical and psychological state.

A solution for improving the individual state of health and the growth of the chances of survival of the human species in the context of the actual socio-economical turbulences, would be accepting on a social scale an immediate need to begin taking the following measures:

- Understand the processes which mankind experiences today (a "forced" transition from the *industrial society* to the *informational* one, that of *Knowledge* and *Conscience*),
- Spread the study, understanding and application of the Science of Complexity. Only propagating and using this new paradigm into the society would enable us to identify and foresee certain patterns in the socio-economical turbulence, thus providing a step upwards/forward to a conceptual stage superior to that of the current paradigm,
- Refine and adapt formally, at the understanding level of the modern society, of the clerical information and advice, which assume the



placement of the Human Being, through faith, education and triggered self-awareness, in the centre of the Universe's evolution (eco-sophia),

- Develop a new educational system based on the unity of knowledge (interdisciplinary vision) and the understanding of the cognition processes (the science of the mind) in harmony with the assumed role of the Human Being to be, first and foremost, an unique spiritualized entity capable of creating adequate conditions for the protection, maintenance and further development of Life on Earth.