

CONSCIENCE SOCIETY. STAGE DEVELOPMENT

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Abstract. Conscience is ability or a faculty that distinguishes whether one's actions are right or wrong. It can lead to feelings of remorse when a human does things that go against his/her moral values, and to feelings of rectitude or integrity when actions conform to such norms. Conscience in Information Age represents individual spirit feelings, a set of conscientious actions of each individual member of Society. The Sum of Society's individual's conscientious actions forms Conscience Society of Information Age. Discussions in this subject help to materialize notions of Conscience, Conscience Society, Intelligent Systems, its Characteristics, Functions, its Adaptability in Information Era

Commonly used metaphors for conscience include the "voice within" and the "inner light". Conscience, as is detailed in sections below, is usually seen as linked to a morality inherent in all humans, to a beneficent universe and/or to divinity, is increasingly conceived of as applying to the world as a whole and as a main feature of conscience society, has motivated its numerous models, characteristics and functions for creation the societal intelligent adaptable information systems in Conscience Society.

Creativity [Mih-11] is a result of brain activity which differentiates individuals and could ensure an important competitive advantage for persons, for companies, and for Society in general. Very innovative branches – like software industry, computer industry, car industry – consider creativity as the key of business success. Natural Intelligence' Creativity can develop basic creative activities, but Artificial Intelligence' Creativity, and, especially, Conscience Intelligence' Creativity should be developed and they could be enhanced over the level of Natural Intelligence. Providing only neurological research still does not offer a scientific basis for understanding creativity but thousand years of creative natural intelligence behavior observations offer some algorithms, models, methods, guidelines and procedures which could be used successfully in Conscience Society' Creativity.

This essay is based on the communication „Sisteme informatice in Societatea Conștiinței.” [1] presented at the International Conference of AESM, September 24-25, 2009, Chișinău, on the communication “Discovering and Managing Creativity in Product Development” [2] presented at the International Conference of AESM, September 24-25, 2010, Chișinău, and on the communication “Creativity and Conscience Society” [3] presented at the International Conference in Economic Informatics, May 5-10, 2011, Bucharest.

Keywords: Information, Knowledge, Conscience, Artificial Intelligence, Intuition, Creativity, Spirituality, Conscience Society.

Introduction.

Throughout generations, as people grow older, they remark that **morals** in society have degraded compared to when they were younger. Perhaps this is because as people grow older they view all the corrupt, thoughtless, and inhumane acts people commit. Or, perhaps this is true, that morals in society have indeed become worse. In this generation, it is often heard that technology is to blame - first TV, and more recently, the internet. However, becoming a responsible human being often begins in the home, where parents can impart key values to their children. This key value should be so central that any conflicting messages from external sources are blocked and filtered. Thus, technology may have a role in corrupting society; however, it is not totally to blame.

Many of the ancient philosophers (Confucius, Socrates, Lao Tzu, Epictetus, and others) also wrote about morals. In summary, leading a moral life is a vital part for the world to maintain a conscience (civilized) society [1], so always keep in mind to: (1) accept differences in others; (2) respond promptly to

others; (3) leave some "free" time; (4) care about others as if they were you; (5) treat everyone similarly; (6) never engage in violent acts; (7) have a sense of commitment; (8) have an inner sense of thankfulness(http://lifskills.endlex.com/article/morals_in_society.html)

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Conscience in Information Age represents individual spirit feelings, a set of conscientious actions of each individual member of Society. The Sum of Society's individual's conscientious actions forms Conscience Society of Information Era. Discussions in this subject help to materialize notions of Conscience, Conscience Society, Intelligent Systems, its Characteristics and Functions, its Adaptability in Information Era.

Creativity [2] is a result of brain activity which differentiates individuals and could ensure an

important competitive advantage for persons, for companies, and for Society in general. Very innovative branches – like software industry, computer industry, car industry – consider creativity as the key of business success. Natural Intelligence' Creativity can develop basic creative activities, but Artificial Intelligence' Creativity, and, especially, Conscience Intelligence' Creativity should be developed and they could be enhanced over the level of Natural Intelligence. Providing only neurological research still does not offer a scientific basis for understanding creativity but thousand years of creative natural intelligence behavior observations offer some Computer Based Information Systems (CBIS) Brainware (algorithms, models, methods, guidelines and procedures) which could be used successfully in Conscience Society' Creativity.

In the next paragraphs will be discussed the evolution of notion of Creativity (what It Is, why It Is Important, where It Is Used), will be analyzed Creativity from basic point of view (Creativity as a Brain Activity; Mastering Daily Life; Creativity and Profession; Piirto's six Steps; When and where Creativity Occurs; How Creative People are looked upon). Creativity manages Individual Creativity and Company Goals (Individual Creativity; Teams, Creativity and Product Development; Company's Product Development Goals; Entrepreneur's and Small Companies' Product Development).

1. Information Society, Knowledge-based Society, Conscience Society

Luciano Floridi (<http://en.wikipedia.org/wiki/Information>), in his book [4] "Information - A Very Short Introduction (Oxford University Press)" underlined that information (1) explores a concept central to modern science and society, from thermodynamics and DNA to our use of the mobile phone and the Internet; (2) considers concepts such as 'Infoglut' (too much information to process) and the emergence of an information society; (3) addresses the meaning and value of information in science, sociology, and philosophy; (4) raises the broader social and ethical issues relating to privacy, accessibility, and ownership of information.

For the point of view of creation Conscience Society' Information Systems [1] the information is discussed as (5) signification in natural language; (6) Shannonian information; (7) genetic information; (8) information as an ontology factor; (9) information as an economic resource and the service of first necessity.

1.1. Information Society is a Society with human, economic and significant impact. In the Information Era the dimension sphere of Information and Knowledge Based Societies' interactions are without ambiguities. From structural and organization points of view Information Society is supported by CBIS, which is represented by SoftWare, HardWare, People, KnowledgeWare, BrainWare, and GroupWare component parts; these parts of CBIS manipulate information in such evolution fazes of

computerized information process as information capture, storage, processing, and its distribution. Information Society implementation supposes correlation of such main factors as: (a) information technology, (b) MULTIMEDIA production and (c) communication technology.

1.2. Knowledge-based Society (http://www.oas.org/en/topics/knowledge_society.asp) refers to the type of society that is needed to compete and succeed in the changing economic and political dynamics of the modern world. It refers to societies that are well educated, and who therefore rely on the knowledge of their citizens to drive the innovation, entrepreneurship and dynamism of that society's economy. Knowledge-based Society provides the basis of future society of conscience, truth, morals, creativity, and of spirits. Knowledge-based Society' CBIS are represented by its technological (internet, WWW, electronic books, artificial intelligence, nanoelectronics) and functional (knowledge management for enterprises, global moral usage of knowledge, biological knowledge, care knowledge, durable and sustainable environment knowledge, thoroughgoing study, knowledge and innovation culture development, e-learning) vectors [1].

1.3. Conscience Society is based on the notion of Conscience, Individual Conscience, World Conscience and the methods, models, algorithms, procedures, and technologies to create Conscience CBIS [1, 2] which will support Human-Human and Human-Machine intelligent communications.

1.3.1. Conscience (<http://en.wikipedia.org/wiki/Conscience>) is an aptitude, faculty, intuition, or judgment of the intellect that distinguishes right from wrong. Moral evaluations of this type may reference values or norms (principles and rules). In psychological terms conscience is often described as leading to feelings of remorse when a human does things that go against his/her moral values, and to feelings of rectitude or integrity when actions conform to such norms. The extent to which conscience informs moral judgment before an action and whether such moral judgments are, or should be, based wholly in reason has occasioned debate through much of the history of Western philosophy.

1.3.2 World conscience (<http://en.wikipedia.org/wiki/Conscience>) is the universalist idea that with ready global communication, all people on earth will no longer be morally estranged from one another, whether it be culturally, ethnically, or geographically; instead they will conceive ethics from the utopian point of view of the universe, eternity or infinity, rather than have their duties and obligations defined by forces arising solely within the restrictive boundaries of "blood and territory".

1.3.3. Conscience CBIS is represented by [1] Conscience' SoftWare and HardWare, People in Conscience Society, KnowledgeWare (data,

information, knowledge, consciences), BrainWare (methods, algorithms, procedures and conscience models) and GroupWare (communications). These components parts of Conscience CBIS will activate with data, information, knowledge and conscience in such evaluation phases of Intelligent Information Interactions of Conscience Society as: conscience emphasize, conscience storage, conscience processing, and conscience distribution. Conscience CBIS will be based on conscience definition parts (knowledge, activity, sentiment, spirit, thought, lucidity) and conscience functions (informational-cognitive, finalist, anticipative-predictive, adjustment, creative-projective) which supply conscience reproduction characteristics (etymology of conscience word, mental goal presence, goals are established before, mental activity organization, people don't reproduce reality into itself).

Conscience CBIS constitute the Kernel of Artificial Intelligence Systems and of Artificial Conscience Systems of Conscience Society of Information Era.

2. Creativity in Conscience Society.

It is necessary to discuss the evolution of notion of Creativity (what It Is, why It Is Important, where It Is Used) in Conscience Society, to analyze different approaches to achieve Creativity in Conscience Society (Creativity as a Brain Activity; Mastering Daily Life; Creativity and Profession; Piirto's six Steps; When and where Creativity Occurs; How Creative People are looked upon), and also to manage Individual and Group Creativity in combination with Company Goals (Individual Creativity; Teams, Creativity and Product Development; Company's Product Development Goals; Entrepreneur's and Small Companies' Product Development).

2. 1. What Creativity Is, why It Is Important, where It Is Used

There are two notions with similar meaning: Creativity and Ideation. Creativity has a more general meaning.

(1) **Creativity** is man's (in our opinion not only man's (Natural Intelligence) but and exclusive important computer's, that is, Artificial Intelligence's) capacity to produce insights, new ideas, inventions or artistic objects, which are accepted of being of social, spiritual, esthetic, or technological value. Creativity is a mental process. There are two parts in this definition [2]:

- The first one considers a very large activity spectrum – starting from having insights and / or having new ideas – up to developing inventions and artistic objects. This opens the creativity door to every one: almost everyone has several new ideas daily. Therefore Creativity - in a larger sense - is a common activity of mankind (Natural Intelligence) and computer-kind (Artificial Intelligence): it belongs to the self Adapting Process to every day's life of natural and artificial intelligences. A given level of minimum creativity is crucial to survive in the initial period of Conscience Society. Jane Piirto said:

“Creativity is the process of a life.”

- The second part introduces a bottom limit in the very large creativity spectrum from insights to artistic objects: only these ideas, etc. which have intrinsic value – for others - are considered results of a Creative Process. All other, more personal results of a thinking process – necessary for individuals to cope with daily life - do not belong to creativity as this is defined through the quoted definition. Creative results are normally related to profession results: when we speak about creativity we mean professional creativity.

(2) **Ideation** is the mind process of forming and relating ideas, typically connected with new product development. The term ideation is often used interchangeably with “brainstorm”, though brainstorm typically implies following a more specific group process while ideation is a more general term. Ideation is a concept utilized in the study of new product development.

Because Ideation is also a Creative Process, it could be regarded as a part of Creativity. A boundary between creativity and ideation cannot be defined, but we can consider that the creative processes are going much further and the results are more dramatic. Both could be considered also as a Psychological State of Mind in which an individual generates alternate scenarios or imagines things in a way that may contradict actual known and accepted reality

2.2. Analyzing Creativity

Creativity manifests itself in all situations of daily life. It is interesting also to analyze Daily Creativity Aspects, which serve only a person and therefore are not considered as belonging to creativity (see above definition): their mechanism could be the same as for more important Discoveries.

2.2.1. Creativity as a Brain Activity

Creativity is the result of brain activity. Brain develops many kinds of Activities; two of them are:

(a) activities which are ordered from the human will. It allows to the human being to move, to learn and to communicate with other human beings. It is a **Conscious** Activity. The conscious activities could be improved, trained, developed, and modified.

(b) activities which are not consciously coordinated: body's growth and evolution, breathing and supplying cells with oxygen, eating and transforming food in energy, birth of a new life and probably...creating new ideas. It is a **Subconscious** and/or **Unconscious** Activity. These activities – normally - cannot be influenced from the human will. They follow automatically, as if they were coordinated from a good programmed computer-analogy with Artificial Intelligence Systems are often used to explain brain functions [5].

2.2.2. Mastering the Daily Life

Daily personal activities happen following established routines; hence only changes in the environment could require a new solution. Small

changes generate a spontaneous reaction: many of “new” situations occurred in the past, so the brain could review quickly one in its own “archive” and choose an already used solution. For instance: a person living alone would not think very long to prepare for breakfast the same what he prepared yesterday: a toast with spread and a coffee with milk and sugar. This solution is available in “archive” and was recently checked.

2.2.3. Creativity and Profession

The thinking process of professionals is formed during their study time and completed during their professional practice. The profession specific thinking process influences decisively the creativity. Let analyze some people with Identically Creativity.

Mechanical engineers are using daily notions like: performance, consumption, efficiency, specific weight, cost, optimization, and the like. When they are thinking about Creativity, they would consider all possibilities to improve these parameters.

Designers are using daily notions like: shape, color, nuances, comfort, customer feeling, and costs. When they are speaking about Creativity, they would modify some of these parameters in order to enhance the customer’s experience.

Marketers are working with notions like: customer value, competitors’ position, strategic positioning, price, and many others alike. For them, Creativity means to find a unique combination of product parameters, product price, and advertising actions which would ensure the highest possible revenue for his company in a specific market.

The Creativity worlds of these three professions

New idea appeared during working time	%
Brainstorming and similar activities	1
During breaks	3
At work	4
During tiring meetings	6
During boring meetings	10
Total	24

That suggests a more complicated structure of the creative process, which could be characterized through the following:

(a) Most ideas do not appear during the intensive, concentrated, conscious effort to solve the problem. A new idea is “born” later, at a time when the person relaxes.

(b) A new idea appears after a period of time: an “incubation” time – see Piirto - is required.

(c) It seems that in the time period from formulating a problem to the time when the solution is found, the brain is further working at the problem, even during the time when the person is not thinking or is not aware of it. It happens in the same way as other brain functions – breathing, digesting the food, growing tissue, etc.: unconsciously and automatically.

couldn’t be more different. It couldn’t be a more difficult task than to balance them. But the company’s success depends of a harmonious collaboration of these specialists and on synchronizing their Creative Efforts.

2.2.4. The Piirto’s Six Steps

Jane Piirto describes Six Steps to the Creativity top [2] as follows:

1) (acquire) Knowledge; 2) (develop) Curiosity; 3) (become) Interested; 4) Passion; 5) Dedication; 6) Professionalism.

2.2.5. The Piirto’s 7i

We already discussed the problem of Creativity differences between people. Jane Piirto identified the following features which characterize highly creative people: (1) Inspiration; (2) Imagery; (3) Imagination; (4) Intuition; (5) Insights; (6) Improvisation; (7) Incubation.

In the process of creation of Conscience Society we will be very interesting to analyze many of possibilities to achieve the performance of Natural Intelligence and Artificial Intelligence, and, especially, of Artificial Conscience using the intersection of “Piirto’s Six Steps to the Creativity” with “Piirto’s 7i features which characterize highly creative people”.

2.2.6. When and where Creativity Occurs

Statistical studies made in Europe [2] about creativity in technical and scientific field show that creative idea appear only seldom in the work place, but much more during free time.

New idea appeared during free time	%
During meals	3
During sport activities	4
While watching TV	6
During business trips	11
During holidays	13
Walking alone	28
During other activities	11
Total	76

2.2.7. How Creative People are Looked upon

What seems to be sure is the perception that creativity cannot be planed. To be creative takes time, the result cannot be foreseen and it comes unexpectedly. Creativity needs conditions which do not match well with planned activities- used extensively in management. Therefore it is difficult to integrate creative people in a team: they are considered – very often – as arrogant, stubborn, uncompromising, tenacious, and persistent. All these are qualities which allow them to follow their own pathway and to create a new idea, very often against an important resistance and against generally accepted opinions. But these qualities are very different from the qualities which are asked for in a harmonious team. One needs a total team dedication

to the final goal in order to integrate and support Creative People.

When the Creativity is working, the individuals, the team and the company hit success!

Conclusion.

Commonly used metaphors for **conscience** include the "voice within" and the "inner light". Conscience, as is detailed in sections below, is usually seen as linked to a morality inherent in all humans, to a beneficent universe and/or to divinity, is increasingly conceived of as applying to the world as a whole and as a main feature of conscience society, has motivated its numerous models, characteristics and functions for creating the Societal Intelligent Adaptable Information Systems in Conscience Society.

Academician Mihai Drăgănescu in community with such researchers as Moravec, Kurzweil, Buttuzzo, Broderick, and others analyzed the possibility to create the Conscience Society in the period from 2019 to 2035 years. In his essay [6] have been underlined: "... it is not possible for any kind of **Artificial Intelligence** (AI: electronic or in the future nano-electronic) to possess Intuition, Creativity and Spirituality without to resort to other structural natural elements, which reality become more and more plausible. The equality of Artificial Intelligence with Structured Natural Intelligence (AI = NIStructured) will happen, after a set of opinions of Moravec, Kurzweil, Buttuzzo, Broderick and a., in the period of 2019-2035 years. Some of researchers believe that in the moment, when will be obtained the equality AI = NIStructured, automatically such

electronic brain will possess the phenomenological properties of **Intuition, Creativity and Spirituality...**".

In this communication was discussed some steps of Information Era Societies' evolution and some features of Creativity as one of the basic notion of Natural Intelligence development and Artificial Intelligence creation in Conscience Society.

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