THE NEW IDENTITIES OF THE PHYSICIST: CYBORG-PHYSICIST AND POST-PHYSICIST

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Abstract

There have been a lot of discussions on the definition of the Complexity Science as well as Cyborg Science. In the last couple of decades many attentions have been devoted to the influences of these two fields of science on the social sciences too as “the science of all sciences”.

Additional to this, postmodernism now leads the complicated life and reconstruction in simulation world. With all the identities deconstructed, no one can claim that the identity of physicist will be left out and not lose its structure.

In this paper we will describe the new identities of the physicist, namely “cyborg-physicist” as simulacra and “post-physicist” as *zuhur*. We shall discuss differences of these identities in Complexity Science and Cyborg Science under the guidance of the simulation theory called “Disorder Sensitive Behavioral Dynamics of Human Beings”. Their roles will be considered also in contemporary educational system.

Keywords - Contemporarily education, cyborg science, complexity science,

1 FROM NON-LINEAR SCIENCE TO POST MODERNISM

Modernity as an ideology limits the complex human dynamics of society with paradigms which are related to the ideas of modernization. According to vision of modernization (enlightenment), disordered human dynamics as reality can not have any contribution to sustainable development of the modern science as well as the society. Name of enlightenment of the society, modern educational methods are isolated from the disordered human dynamics too. Meanwhile, modern educational methods as modern science declared complexity, disorder, chaos, uncertainty, coincidence and surprise as the enemies of modernity domination over the world.

From the 1960’s, the chaos theory have proved that Newtonian mathematical technology (calculus) had limited applications [1]. This revolution opened the way of the non-linear science to shake hegemony of modernity on educational methods too. Metaphorically computered paradigms such as simulation theory, complexity, coincidence, self-organization and surprise became significant [2]. The modern simulation mechanisms in educational system such as progress, optimism, rationality, absolute knowledge in science and in society rapidly started to lose power. Increasing number of social and psychology scientists and philosophers, called post-modernists, began to criticize the project of modernity (enlightenment) while being well equipped with Western education [3].

Modernity always saw enlightenment and modern education as the most imposing and glamorous constitutions and used them openly in its border expansion projects without any hesitation. Today, while all the identities given by the modernity are in erosion, one can not claim that intellectuals, scientists and educationalists will stay away from the deconstruction metaphor and not lose the identities that they had gained possessions with. Particularly, one need to ask ironically [4]; will the reformation of a scientist’s and an academician’s body show such divergence as in the example of an invading USA soldier in Iraq vs. the resisting suicide bomber? Their bodies represent the same technology with the digital equipment and the bombs they carry. The American soldier shows predicted physical behaviors under the influence of camouflaged simulations of saving humanity, bringing justice and peace for humanity; the concepts which he believes to be his possessions (ordered simulation). And resisting suicide bomber shows behaviors of chaotic awareness to protect her/his land that comes from a culture and tradition that due to historical facts did not play any role in forming modernity (disordered simulation) [4].

2 FROM CYBORG SCIENCE TO CYBORG SCIENTIST

To become the winner of the Cold War both USSR (East) and the USA (West) spent a lot of money and used their potentials to support especially high-cost science research (big science [5]) in order to prove each other their powers under the umbrella of providing national security. After the Cold War, due to this fast progress in science, the process of globalization accelerated in the World through "New World Order" projects with high technology in communication and it has given a new vision to the political configurations in education, research and science as well, while changing a major part of the concepts in the evolution of education and research, the state, the scientific societies, the international scientific collaborations, the schools, the universities, the scientific publications, etc…

On the other hand, around the first 2000's "Cyborg Science" [6] which claims computer as a solo paradigm, is nominated to overcome the problems of global education as well as global science with high technology. According to this, Cyborg Science as the umbrella of big sciences, will support people changing their outlook on social, economical and political problems they are facing. New relationships between science /technology and society via education will be established by Cyborg Science through international, scientific and educational collaborations. As it is also highly noticed in this conference, one can realize many signs that the science community point to the beginning of Cyborg Science. But Cyborg Science can be also exploited by "the major powers" to foster their own militarist, economical, political and cultural interests rather than solve the global problems of the world, like energy, food and ecology.

Unfortunately, our World has unlimited energy sources such as wind, nuclear and solar. As long as this energy production increases to achieve the phase equilibrium, it will be unavoidable for proportions of machinery to increase so rapidly that it accepts the human being within the cyborg (machine-like body) non-existent. For this reason, modernity have transferred the developmental methods and technological projects of forming a cyborg-like being (cyborg scientist), as well as the control of a cyborg's communication and behavior to Cyborg Science. It can be also questioned; what are the programmes of Cyborg Science that are beneficial to regional peace? Will developing countries possibly succeed in preserving their own scientific and cultural traditions trough Cyborg Science?

One can presume that cyborg scientist's emergence as simulacra will play a more important role in the change and transformation of Cyborg Science; especially in times when the human body becomes more machine-like. Education systems as ordered simulations (Jean Baudrillard's type, [7]) had once developed to control human beings. Today, the simulation mechanism of the education system is started to be replaced by consuming dynamics dependant on globally marketed high technology (Cyborg Education).

3 FROM COMPLEXITY SCIENCE TO POST-PHYSICIST

In the last couple of decades "Complexity Science" as non-linear science is presented as the science of all sciences. It is considered one of an ideal candidate to study complex systems; from human cells to cancer tumours, from financial movements in stock exchange(money!) to global crashes in world market (petroleum!), from traffic jams (Istanbul traffic is good example!) to guerrilla actions (suicide bombers!). Because of that the computer is also a solo paradigm for the Complexity Science to study the phenomena which emerge from a collection of interacting objects. According to scientists who work on complexity [1, 8], a crowd is a perfect example of such an emergent phenomenon which emerges from a large number of interacting people (any collective action of humans in human system). And they specify the collective action such as; violent of actions of different groups of people who are fighting for control of the same resources, e.g. land or political power. Since the collection of objects in complex systems are competing for some kind of limited resource in an autonom system – for example, goods, water, energy or wealth, complexity researchers [8] want us to have a look at world history to realize that it is riddled with major events which have been driven by human crowd behaviour.

Recently I proposed a simulation theory ("Disorder-Sensitive Human Behaviors, DSHB" simulation theory) to be considered for the complex human beings and the society [4,9]. This theory suggests that the "chaotic awareness" as the reality principle of disorder simulations from a sensitively human being or from the collective action of such people for not only to be in power, also to protect their land, their tradition and their culture so on. The chaotic awareness for sensitively human being is a complex

system with agents; body (its possessions and representations), will (identity, spirit, quantum consciousness [10]) and external beings (culture, traditions and beliefs) and for society is the complex unification of such human behaviors. In this theory, emergence of disorder simulations (*zuhur*) [4] unlike images (simulacra [7]) do not happen with the concern of demolition, and while reacting to a reality, do not claim to have a continuous surreal contribution to civilization (the domination of modernity). The small differences in the reality principle of chaotic awareness will cause major unpredictable differences in disorder simulations. They are the essential (chaos edge) transformational dynamics not for the continuity of an emergence system, but for the replacement of a previous state by an unidentified structure.

The chaotic awareness that arises due to the impact of an emerging body on his surroundings acts as a source to the freedom dynamics of modernity's domination that has non-linearity within. Western civilization with its domination, contributes to the rise of personal movements which resist its global hegemony and/or formation of new civilizations. One can observe under the light of DSHB simulation theory that the techno-shaped force against human body can not be only evaluated as a clever control of the human body through media with global dominations or through alienation of the human being from self and nature.

For instance; how far the scientists and educationalists will resist the reformation and mechanization of their bodies by the thinking methods and scientific ethics that they have claimed to be universal since the time of Galileo? They clearly know that, with or without their will, their bodies have been already mechanized with the most illegitimate divergence, and in those bodies, genes of globalization and militarism have been rapidly increasing.

But DSHB simulation theory accepts this arising as a surprising emergence for the Western world, and informs us that the emergence of a scientist different than cyborg scientist (post-physicist [9]) is possible; Post-physicists who have non-linear science background, will not be the emergence (simulacra) of the ordered simulation (Baudrillard's Simulation) of Cyborg Science, which is the project of reformation and imposition of modernity's hegemony simulated by the informational systems of international research and exchange centers.

Today, anyone who refuse to be part of Cyborg Science that is formed to spread the new informational technology of hegemony and the unlimited energy production, who raise attention to wrongdoings of the hegemony with their acts, can be called as ancestors of tomorrow's Post-Physicists.

4 CONFLICTS BETWEEN CYBORG SCIENTIST AND POST-PHYSICIST

Already many scientists and academicians (cyborg scientists) from the west to the east, work to construct a bridge between the big (powerful) science and Cyborg Science and show scientific behaviors with the motivation of progressing in science, under the influence of camouflaged simulations of saving humanity and bringing justice and peace for humanity; the concepts which they believe to be their possessions. They (cyborg scientists) can be stated as "simulacra" with cyborg science at the virtual world that agrees with Jean Baudrillard's simulation theory [7]. Through Baudrillard's simulations, cyborg scientists will produce realities to cover up the hyper realities that camouflage their identities as scientists, which they will eventually lose. Their behaviors can be described as a hyper-reality; one which camouflages the true will (global technology) that is based on the reality concept of a modernist hegemony. These simulacras will remove the human being away from militarism, fast money exchange in the economy, big money consuming space and high energy experiments, and it will camouflage the reality of searching ways to replace the human being by a computer dependent "cyborg scientist". On the other hand, Cyborg Science will demand from them machines that produce greater energy in order to get stronger and to expand their global domination area further.

According to the theory of Baudrillard, scientists, who are not involved in the Cyborg Science, can not be "simulacras" as they choose vanishing. They can not be the hyper-reality of a simulation world, can not replace a reality in modern world, and can not contribute to the continuity of the big science in the simulation world.

But, the post-physicists will be emergence (*zuhur*) of the disorder simulations (DSHB's Simulation) in science, mostly in trans-disciplinary non-linear science. They are going to be interested in complex

human behaviors, mostly emergence (*zuhur*) in collection of interacting people in a region like Middle East, where the reality principle stands excluded from modernity and has disorder-sensitive dynamics, fed by the non-Western culture and tradition.

The manifestation of the post-physicist [9] is written with the aim that scientists first of all as non-linear science researchers will not be emergence of the concern of the exclusion from high energy international research, such as the CERN experiment which is camouflaged by the virtual simulation of finding "god's particle". And they will not participate in schizophrenically uncertain experiments for the global technology and energy domination. It is not manifested emotionally, with the expectation of scientists who will achieve freedom from global threat of Cyborg Science, be in search of new ways in all areas, and devote themselves to honesty with humanity and perversion with modernity, without any hesitation. The manifest, with the DSHB simulation theory, could be considered post-utopic text in salvation of the humanity as well as being a critic of the science world of the future.

It can also be stated from DSHB simulation theory that one of the most attractive and most fruitful geographies where the emergence of post physicists (*zuhur*) is possible among the non-linear science researchers is the Middle East. However, it should not be understated that ordered simulation mechanisms of Cyborg Science, camouflaged by the simulacra of academic work, are also placed in this region The number of scientists and intellectuals in this region, will even loose their ability to be simulacras of the modern world, living with the difficulty of finding models that are built on the basis of simulation theories of enlightenment and knowledge of colonists that control the divergence and change the western civilization. How can it be possible for post-physicists to stay alive alongside the ones who, as the copies of cyborg scientists, work on improving Cyborg Science using the own realities of this region? It is definitely not possible to predict the outcome of this condition, today. But we know that this region, having the complexity (a collection of many interactions of cultures, political events and so on) whole for the emergence of post-physicists, also has one of the most versatile environments for them to stay alive.

5 CONCLUSıON

Cyborg Science and Complexity Science share some common features. In this new age Cyborg Science and Complexity Science as sciences of all science will conduct the "knowledge" to provide new raw material for the prosperity of mankind. But the "global revolution in science and education" is being defined and shaped by both cyborg scientists and post-physicists in different ways. To make the internationalisation, globalization and integration succeed, scientists in both science and educationalists have to release, time after time, high quality works in class or in lab and put on an enthusiastic and serious show at political venues.

Also, one of the first aspects of the costs of the industrialisation will be based on Science, is pollution (the hazards of radiation, the Green- House effect, desertification, etc.) which is rising fast. Another aspect is the actual gap between rich and poor countries, or a high standard of living imposed on people without food. It is quite important to realise that the world population can double to over 10 billions in mid of 21st century. Thus huge increase happens; one can imagine the state of the world and the problems it will face. In all global problems, the worst scenario would be the possibility that mostly Cyborg Sciences could be used by global powers for their own interests. Simulation mechanisms of global technology and communication (media) will contribute to the process of undermining cyborg scientist. One of the possible simulacras of this schizophrenic simulation could transform cyborg scientists that they mercilessly throw human being within themselves away. In this case Cyborg Science can never provide solutions to central search for peace, harmony and tolerance.

As we recently mentioned [4,9] post-physicists mostly from the Middle East where complexity with ethnically, culturally and historically interacted agents is still present, respond to the new global occidental projects that their people are facing or will face quite soon. Therefore they must be actively involved in efforts to build an international cooperation by following the main human characteristics of high education and scientific activities. The organisations, established by post-physicists will advocate the duty of scientists in taking responsibility for the consequences of their work that uses high technologies in research and education through both sciences. Such organisations can also initiate a period of everlasting peace for the people in this area.

It is announced by post-modernists that the modern world, in all aspects, has already started the process of destruction. All the identities as well as concepts given by the modernity in scientific and educational world will be also in erosion. However, I emphasize, referencing to my DSHB simulation theory that the destructions in the world will not happen only as the simulacra, which are the emergences of the ordered simulations with reality principle of western knowledge. According to my theory, emergences of disorder simulations with the reality principles of chaotic awareness (*zuhur*, in this case: post-physicist) will also play a major role in the destruction in the world.

The competition between *zuhur* and simulacra in the destruction in the simulation world has already started within the human, family, society, science, art and literature world, national and international constitutions. The most hostile of the conflicts between the *zuhur* and simulacra is the war of civilizations which has a global scale.

On the other hand, it is not going to be surprise that the conflicts between cyborg scientists and post-physicists in scientific and educational simulation world will play the central role in "clash of civilization". Since there is a potential risk of human homogenisation through a regional education or a global education, this competition could be able to change the world better, and improve the quality of life, but it is also true that it could have adverse effects on the world.

DSHB simulation theory states that it is hopeless for post-modernity to lead and to control the destruction in order to keep the western civilization in power. And Baudrillard's simulacra in simulation world that replace the reality, will not be sufficient enough for the sustainable progression of the scientific and educational world as well as western civilization. Referring to DSHB simulation theory, one can have hope for *zuhur*'s of long living disorder simulations with chaotic awareness, particularly of post-physicists in scientific and educational world, for the chance of creating a new world where all living things and humans within cyborg can live in peace.

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