

THE NEW IDENTITIES IN PHYSICS

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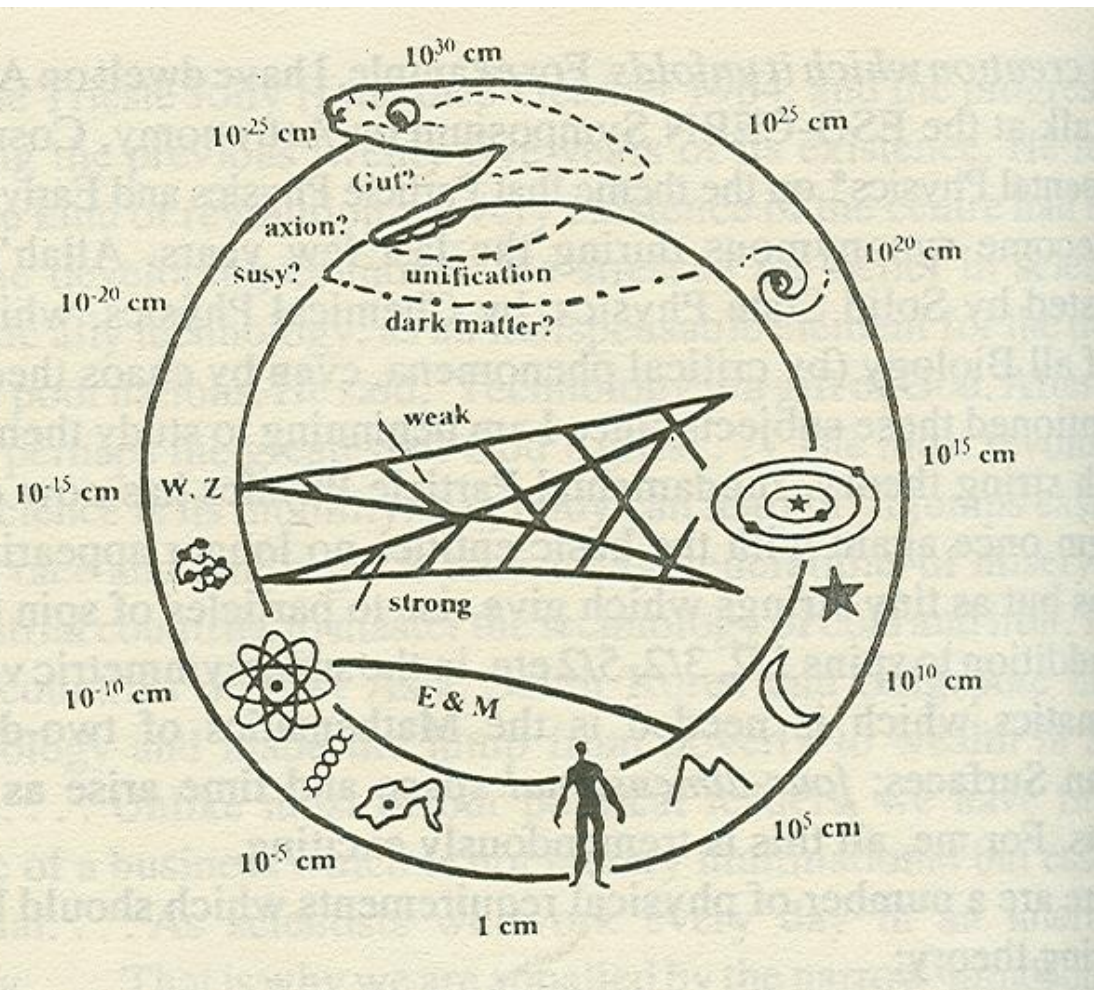
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IPM

**10 October, 2012,
Teheran, Iran**

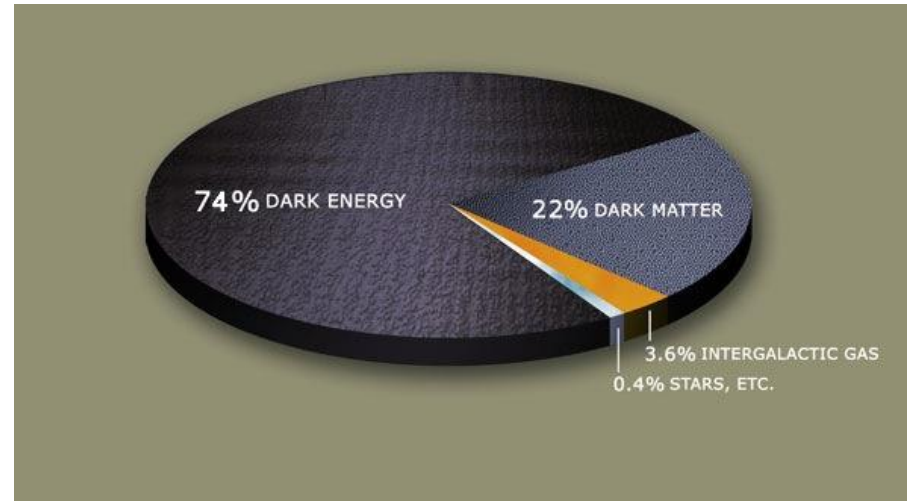
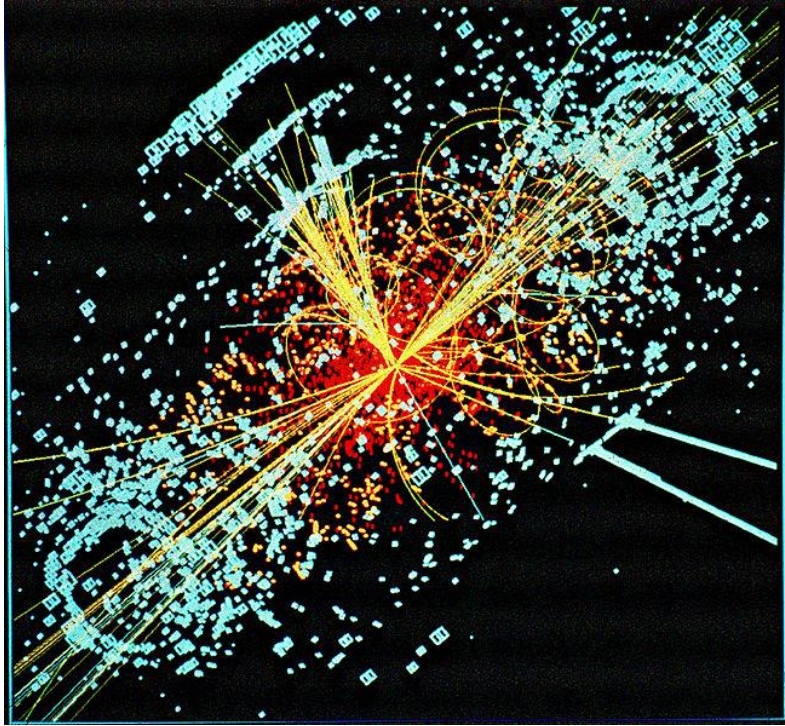


- Buildings of modern science and education are to be reduced to: simplicity, rationality, newness and unity and experiment.
- Modernity (enlightenment, FRE) limited the behaviors of human dynamics of society with paradigms via education which were related to the ideas of modernization.
- Educational methods (FRE) declared complexity, disorder, chaos, uncertainty, coincidence and surprise as the enemies of modernity and they are isolated from the disordered human dynamics.



1. The manipulation of quantum physics (western)

Questions!



-Dark Matter
-Dark Energy

- -Higgs Particle (God's Particle)
- -Standard Model (Gauge Theories)



2. The revolution in education: computers have opened the way VIA INTERNET to the...

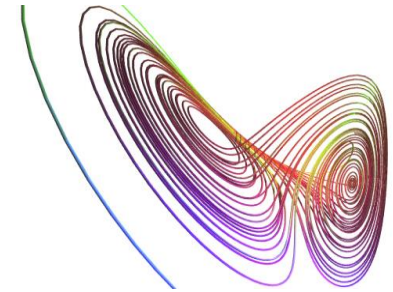
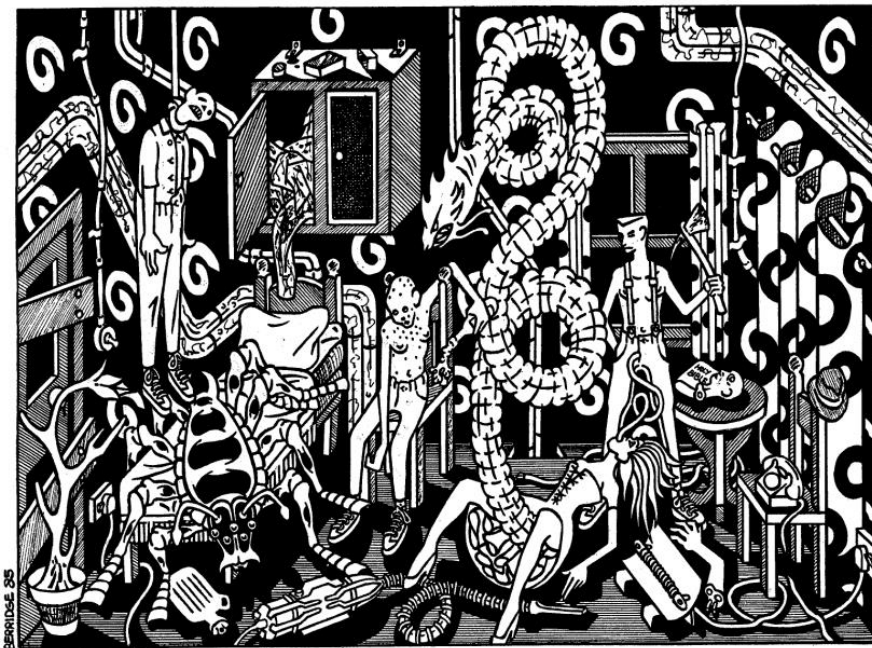


3. May'68 student events, against what? and started in many places as **the emergence of complexity...**



4. to have a look at the world from the moon, The birth of **environmental** philosophy and ecologist **movements**

- **5. COLD WAR**
- **One of the important fronts of the Cold War was the Science-Technology and Education.**
- **During 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) in order to prove each other their powers.**
- **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...**
- *S. Ziauddin, Thomas Kuhn and The Science Wars, Postmodernism and Big Science, eds. R. Appignanesi, (The Icon Books, United Kingdom, 2002); K. G. Akdeniz, Globalization in Physics and it's Role in South, in Proc. to the International Conference on New Technologies in Physics Education, eds, J.Huo and S.Xiang, Hefei, China, p. 221 (1999).*

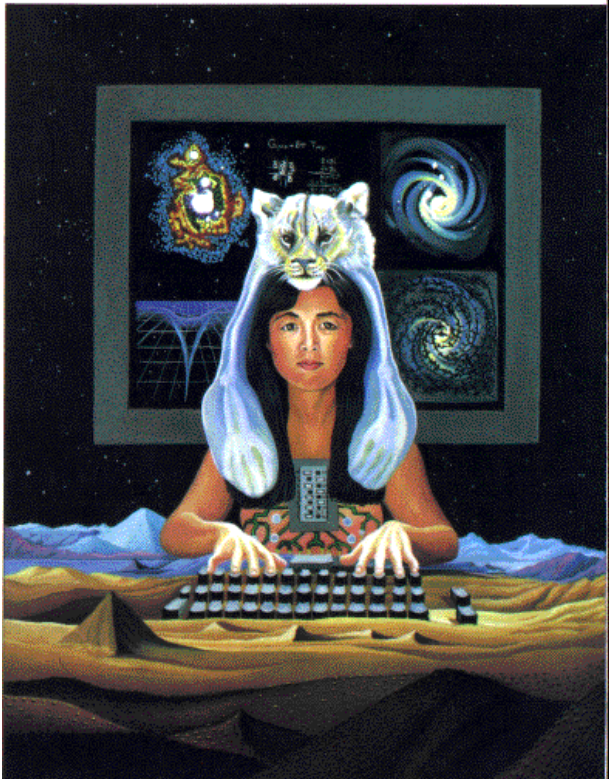


6. The chaos theory have proved that Newtonian mathematical technology (calculus) had limited applications.

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- The revolution of chaos theory led the way of the non-linear sciences (**post-modern science!**) such as simulation theories, complexity science and self-organization to shake hegemony of modernity.
- The modern simulation mechanisms (i.e. progress, optimism, rationality, absolute knowledge) in social and human sciences rapidly started to lose power.
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- **The formation of the body and mutual interactions are left to digital technological, communication mechanisms and coding the technogenetics of the body. (CYBORG)**





Deconstruction begins everywhere. All identities disappear. Linear simulation mechanisms (modern) such as othering, revolutions, utopias or orientalism are not **needed anymore.**

Non-linear and non-positivist movements begin to be defined in social systems as being important for finding new life (post-modernizm).

Post-modernists, began to criticize the projects of modernity. They claim that such studies have changed our worldview.

P. Anderson, The Origins of Post Modernity, Verso Books, London, (1998); P. Cilliers, Complexity and Postmodernism, London: Routledge, (1998)

IN NEW AGE: SCIENCE OF ALL SCIENCES

1. CYBORG SCIENCE

**2. NON-LINEAR SCIENCE
(Complexity Science)**

1. CYBORG SCIENCE

One can realize many signs that the science community point to the beginning of Cyborg Science and Cyborg Education.

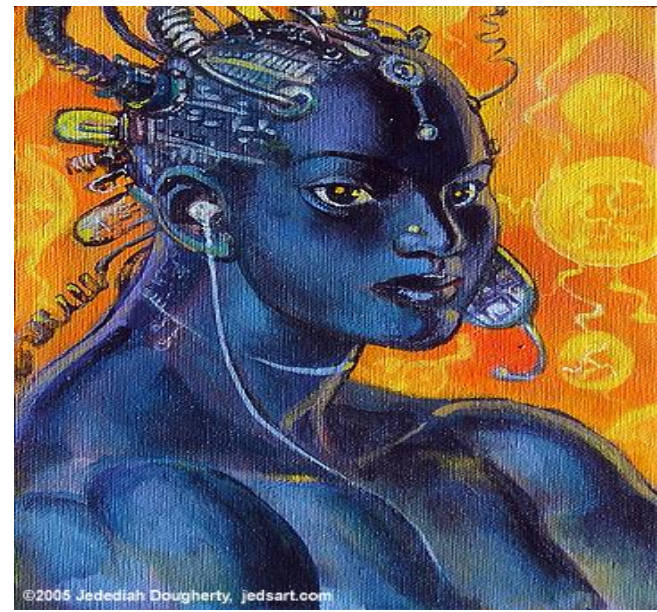
- Its fundamental character is to take the computer as paradigm?
- It is the unity of Nature and Social Systems (post-structural).
- There is no difference between reality and simulacrum (deconstruction).
- It is the heritage of both order and disorder with global modern information.
- It is the computarized form of westren knowledge and it is the memory of westren knowledge
- It has a “Big Science” scale; from macro universe to micro universe and it is high energy-dependence. It needs more machines and more energy.
- Paranoiac case.

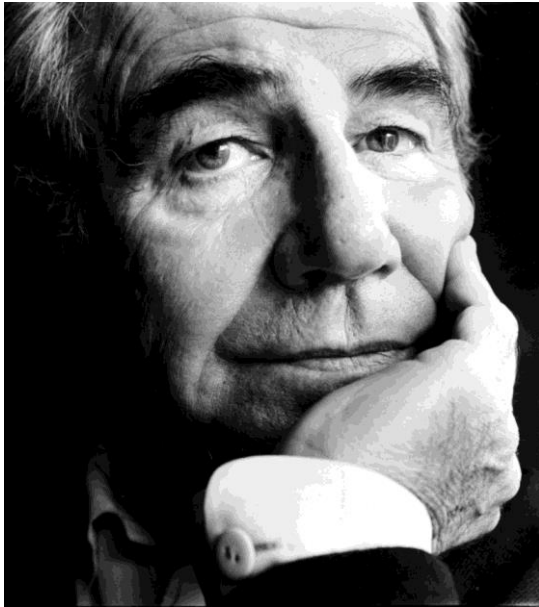
-P. Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science*, Cambridge University Press, New York (2002).



- **2. NON-LINEAR SCIENCE (COMPLEXITY SCIENCE)**

- -Its fundamental character is to take the computer as paradigm?
- -to study complex systems; from human cells to cancer tumours, from financial movements (money!) to global crashes in world market (petroleum!), from traffic jams (Istanbul traffic is good example!) to guerrilla actions (suicide bombers!).
- It is the unity of Nature and Social Systems (post-structural). There is no difference between reality and simulacrum (deconstruction).
- -It is the heritage of both order and disorder with private (human) information.
- It is the computarized form of western knowledge and it is the memory of western-eastern knowledge
- It has a “Small Science” scale; from micro universe to macro universe and it is not high energy-dependent. Fasted computers dependence.
- Sizofrenic case



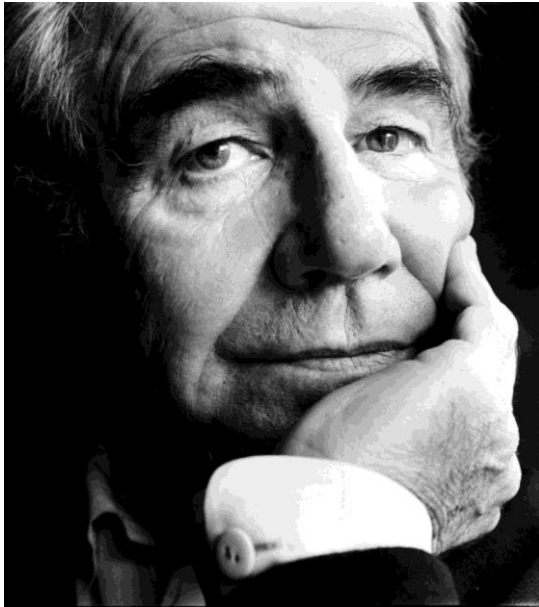


We are living in simulation world.

Jean Baudrillard

What is simulation in human?

- The world of human and whose life and behaviors, becomes more and more complex every day and it is simulated by under the storm of knowledge (media, tv, cinema, internet, governmental and non-governmental organizations, football, etc...).



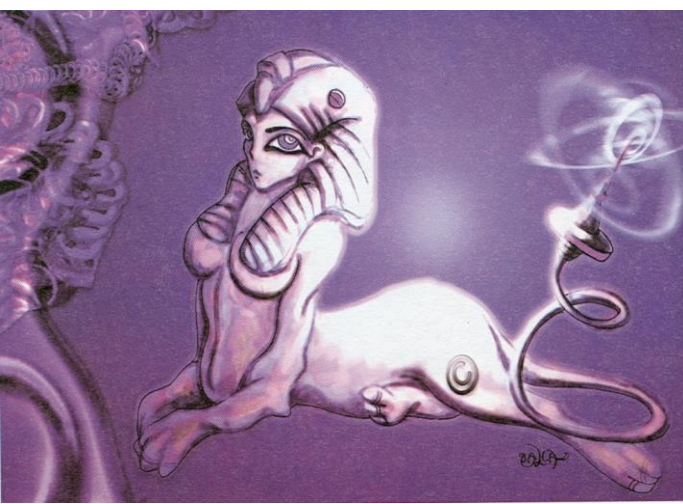
1. Baudrillard Simulation Theory

to critique human behaviours (in human and social sciences)
which is a metaphor from simulation technology in natural science.

Reality principle is ordered (modern thought – western knowledge, human-sciences,..). Simulacra cover its own reality to be hyper-reality. They are dynamics of reconstructions in virtually world.

But, simulacra are already defined one by modernity and they can be predicted (order surprise) and they cover reality for the sustainability of modernity (post) and development of society (humanity).

Baudrillard Jean; *Simulacra et Simulation*; (Galilee, 1981)



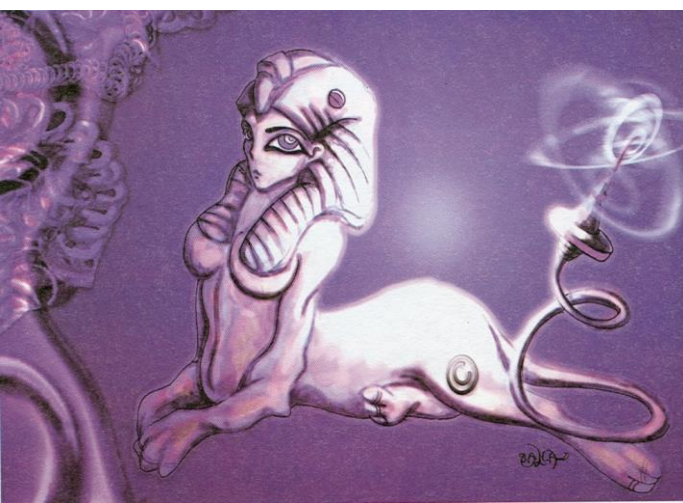
2. “Disorder-Sensitive Human Behaviors, (DSHB)” simulation theory.

In this theory the principle of reality is defined as the chaotic awareness of the complexity: (non-modernite forms-the complex human beings and the complex society.)

According to theory the chaotic awareness is also simulating by disordered-sensitive.

Emergence of this disordered sensitive simulations is ZUHUR. (Zahar?)

K. G. Akdeniz, Essays in www.gedizakdeniz.com and *Disorder in Complex Human System*, Proceedings of the Conference in Honour of Murray Gell-Mann's 80th Birthday Quantum Mechanics, Elementary Particles, Quantum Cosmology and Complexity, edited by H Fritzsche and K K Phua, World Scientific Publishing, p. 630-637 (2010)



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ZUHUR

is not-simulacra.

**Because: It is not already
defined as well as chaotic
awareness reality by modernity.**

**They are not predictable
(disorder surprise) .**

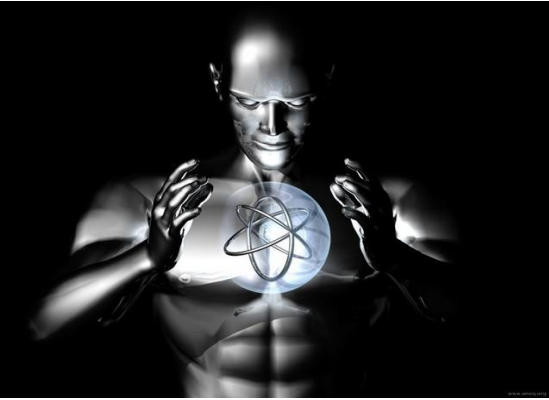
**They don't cover (no-care)
reality as hiper-reality for the
aim of the sustainability of
order (modernity).**

Deconstruction in “simulaton world” is conflict between simulakrs and zuhurs.

- -It is already started everywhere, every human system in every respects and in every scale. (in science, in social systems, in litaruture, in cinema...)
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- Global one is conflicts between civilizations.

One can not claim that scientists will stay away from the deconstruction metaphor in simulation world and not lose the identities that they had gained possessions with.

Of course conflicts between simulakrs and zuhurs will be in science and education world too:



Baudrillard Simulation in Cyborg Science:

Simulakr is **CYBORG SCIENTIST**

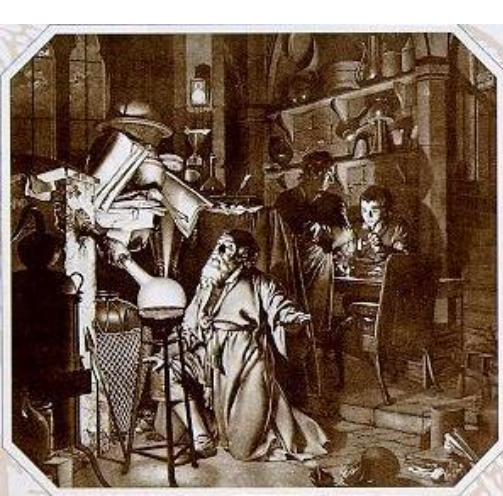
Modernity have transferred the developmental methods and technological projects of forming a cyborg-like being (cyborg scientist), as well as the control of a cyborg's communication and behavior to Cyborg Science.

- One can presume that cyborg scientist's emergence as simulacra will play a more important role in the change and transformation of Education (Cyborg Education); especially in times when the human body becomes more machine-like.

- **CYBORG SCIENTISTS**

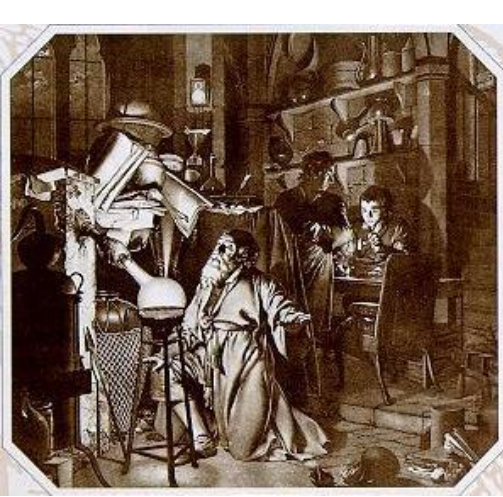
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- **Already many scientists as simulacr in Cyborg Science from the west to the east, work to construct a bridge between the Cyborg Science and Cyborg Education.**
- **Their behaviors can be described as a hyper-reality; one which camouflages the true will that is based on the reality concept of a modernist hegemony.**
- **These simulacras **CYBORG SCIENTISTS** will remove the human being away from militarism, fast money exchange in the economy, big money consuming space and high energy experiments and they will camouflage the reality of searching ways to replace the human being by a global technology dependent world.**
- **BUT; what are the programs of Cyborg Science and Education that are beneficial to regional peace? Will developing countries possibly succeed in preserving their own scientific and cultural traditions trough Cyborg Science (Big Science)?**



- DSHB SIMULATON THEORY IN COMPLEXITY SCIENCE:
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- ZUHUR IS POST-PHYSICIST
- DSHB theory also informs us that the emergences of disorder simulations with the reality principles of chaotic awareness in scientific and educational world (in ME) can be different than cyborg scientists.
- They will come together as communitarian form.
-

G. Akdeniz, *Post-Physicist Manifesto*, Istanbul University, Journal of Sociology , 15 , p. 31-41 (2007) www.gedizakdeniz.com



- **post-physicist**
- According DSHB simulation theory, (*zuhur*, in this case: post-physicist) will also play a major role in the destruction in the scientific and educational world.
- Post-physicists 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 sensitive-disorder dynamics, fed by the non-Western culture and tradition.

G. Akdeniz, *Post-Physicist Manifesto*, *Istanbul University, Journal of Sociology* , 15 , p. 31-41 (2007) www.gedizakdeniz.com

- **CONFLICTS BETWEEN CYBORG SCIENTIST**
- **AND POST-PHYSICIST**
-

- **According to the theory of Baudrillard, scientists who will be not involved in the Cyborg Science- Cyborg Education 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 post-physicist will not participate in schizophrenically uncertain experiments for the global technology and energy domination. 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 scientific and educational world of the future.

- **K. G. Akdeniz, *The New Identities of the Physicist: Cyborg-Physicist and Post-Physicist* Proceedings of the World International Conference of Technology and Education (WICTE-2010), Beirut-Lebanon (2010).**

conclusions

complex utopia?

deconstruction in simulaton world via conflicts between *zuhur* and *simulacr*, is already started everywhere in every respects and in every scale. It will appear in all forms of human systems; family, society, religion, science, art and literature world, national and international constitutions.

AND SCIENCE (*we all know neutrino physics*😊)

FOR EXAMPLE: CONFLICTS BETWEEN CYBORG SCIENTISTS AND POST-PHYSICISTS IN MIDDLE EAST (Big)

- It can also be stated from DSHB simulation theory that one of the most attractive and most fruitful geographies where the emergence of zuhurs (in this presentation is post physicists) possible is the Middle East.
- Ofcourse ordered simulation mechanisms of Cyborg Science and Cyborg Education, camouflaged by the simulacra of academic works and educational systems, are also placed in this region.
- The number of scientists-educationalist and intellectuals in this regions, will even loose their ability to be simulacras of the modern world?
- 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.

**Global one (conflicts
between *zuhurs* and
simulacrs)**

**is
conflict
between
civilizations.**

ME?



IS “ARAP SPRING” ZUHUR OR SIMULAKR?

***The rise of
communitarianism and
other alternative
movements from the
Athenian crises***

Nicholas Anastasopoulos

Architect,

co-founder of TREE (Take Responsibility for Environmental Efficiency)

Not For Profit organization

National Technical University of Athens



Collective "Seed bombing" events



People's Initiatives



Collective strawbale building



Syntagma Square
"Indignados"



Ecofestival at
Marathon



Public Assembly
Embros Theater



Ecofestival at
Istiaia, Evia



A "public" dinner in
Psyri neighborhood



The Navarinou
parking-turned-into-a
park initiative

IS "COMMUNITARIANISM" SMULAKR?



TEŞEKKÜR-MEMNUNEM

References

- [1] S. Ziauddin, *Thomas Kuhn and The Science Wars, Postmodernism and Big Science*, eds. R. Appignanesi, (The Icon Books, United Kingdom, 2002); K. G. Akdeniz, Globalization in Physics and it's Role in South, in *Proc. to the International Conference on New Technologies in Physics Education*, eds, J.Huo and S.Xiang, Hefei, China, p. 221 (1999).
- [2] P. Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science*, Cambridge University Press, New York (2002).
- [3] P. Anderson, *The Origins of Post Modernity*, Verso Books, London, (1998); P. Cilliers, *Complexity and Postmodernism*, London: Routledge, (1998)
- [4] K. G. Akdeniz, Essays in www.gedizakdeniz.com and *Disorder in Complex Human System*, Proceedings of the Conference in Honour of Murray Gell-Mann's 80th Birthday Quantum Mechanics, Elementary Particles, Quantum Cosmology and Complexity, edited by H Fritzsche and K K Phua, World Scientific Publishing, p. 630-637 (2010)
- [5] K. G. Akdeniz, *Post-Physicist Manifesto*, Istanbul University Sociology Journal, v. 3, p.15 (2007) and *The New Identities of the Physicist: Cyborg-Physicist and Post-Physicist* Proceedings of the World International Conference of Technology and Education (WICTE-2010), Beirut-Lebanon (2010).
- [6] M.M. Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos*, Simon&Schuster, New York, (1992) and N. Johnson, *Simply Complexity*, Oneworld Publications, Oxford (2007) and *Sociology and Complexity Science*, B. Castellani & F. W. Hafferty, Springer-Verlag Berlin (2009).
- [7] M. Mason, *Complexity Theory and the Philosophy of Education*, John Wiley and Sons, UK (2008)
- [8] F. Heylighen, P. Cilliers & C. Gershenson, *Complexity and Philosophy*, <http://arxiv.org/ftp/cs/papers/0604/0604072.pdf> (2006)
- [9] Robert Axelrod, *Advancing the Art of Simulation in the Social Sciences*, Japanese Journal for Management Information System, Vol. 12, No. 3 (2003).
- [10] J. Baudrillard, *Simulacra and Simulation*, University of Michigan Press, Michigan (1995)
- [11] D. Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature*, Routledge, New York (1991).