Syntropic Economic Theory and Solution of the Global Crisis

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Abstract

Solution to the current global crisis is undoubtedly linked to the creation of new economic theories that would allow the transition to a new model of sustainable development of civilization. Nowadays we are witnessing a failure of economic theory that has been dominant for the period of the industrial age.

The economy was seen as a mechanism and the economic theories were in this way adapted. In the information age economy works as an living organism. In living organisms entropic processes that are associated with the past are balanced with syntropic processes that are focused on the future. Syntropy must therefore be the central concept of economic theory in which the economy is viewed as a living organism.

Syntropic economic theory has the potential to become a dominant and defining for the formulation of policies and strategies that allow overcoming the current global crisis. The economy as an organism, the economy as anticipatory system and a new understanding of wealth and its role in society will be dominant in the creation of the theory of syntropic economics.

Economic theory therefore awaits big paradigm leap that will change fundamentally the current form of human society and civilization.

Introduction

Solution to the current global crisis is undoubtedly linked to the creation of new economic theories that would allow the transition to a new model of sustainable development of civilization. Nowadays we are witnessing a failure of economic theory that has been dominant for the period of the industrial age. Mainstream economic theories are not further valid for understanding the permanently changing economic environment. Economic policies and strategies formulated on the base of these theories are sources of growing worldwide instability of economy on both global and local levels.

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Syntropic Economic Theory for the Information Age

The emerging information age is connected with paradigm shift also in economic theory. In the industrial age the economy was seen as a mechanism and the economic theories were in this way adapted. In the information age economy works as an living organism. The main paradigm shift also in economic theory is therefore the shift from mechanistic paradigm to holistic paradigm.

Understanding the economy as living organism and not mechanism is the core to understand the emerging global economic structure also as the main principles of functioning of this global economic structure. The key to understand how the economy is functioning in the new global environment is the concept of syntropy and its implementation to emerging economic theories.

In living organisms entropic processes that are associated with the past are balanced with syntropic processes that are focused on the future. Syntropy must therefore be the central concept of economic theory in which the economy is viewed as a living organism. Syntropic economic theory has the potential to become a dominant and defining for the formulation of policies and strategies that allow overcoming the current global crisis. The economy as an organism, the economy as anticipatory system and a new understanding of wealth and its role in society will be dominant in the creation of the theory of syntropic economics.

On the Threshold of Syntropic Stage of Human Evolution

American futurist and great visionary R. Buckminster Fuller described the transition from entropic stage of human civilization to syntropic stage of human civilization. The current entropic stage of human civilization is entropic because of its primarily orientation toward the profit and making money and the transition is connected with human mind because mind is primarily connected with syntropy, with creation of new, with organizing and with overcoming entropy.

According to R. Buckmister Fuller as he wrote in Critical Path:

"Humanity has now reached that critical moment of potential transformation of humans´ affairs from class-two evolution to class-one evolution" (Fuller 1981). R. Buckminster Fuller highlighted that class-two evolution is entropically selfish and class-one evolution is syntropically cooperative (Fuller 1981).

"The drive to make money", wrote R. Buckminster Fuller, "is inherently entropic, for it seeks to monopolize order while leaving un-cope-with-able disorder to overwhelm others" (Fuller 1981). Mind on the other side is according him essentially anti-entropic (Fuller 1981).

R. Buckminster Fuller understand life and also a man as syntropic parts of the Universe with his syntropic function to support the life on the Earth together with support of regeneration ability on the Earth as he wrote in Critical Path:

"By and large the function of life on the planet is designed to be syntropic – to impound radiation, conserve it, and use it to produce further functioning in overall support of the syntropic integrity of eternally regenerative Universe. The tendencies of many human beings

- wanting to cultivate the soil, to care for the animals, the drive of artists to create, of artisans to build, of inventors to invent and develop time – and trouble-savers for others – are all manifests of the designed-in syntropic propensities of humans. The generous, compassionate propensity of humans is primarily syntropic. The selfish are "entropic". In order to keep Universe regenerative Nature has placed human beings on this planet for their syntropic functioning" (Fuller 1981).

The shift from entropy to syntropy is therefore essential for creating global economic system based on the principles of sustainability.

R. Buckmister Fuller published several books and documents about transition to syntropic stage of human civilization and he described main principles of Spaceship Earth´s economy and society in his books Operating Manual for Spaceship Earth (1969), Critical Path (1981), Synergetics (1975), Grunch of Giants (1983), Intuition (1972), And It Come to Pass - Not to Stay (1976), Education Automotion (1962), Utopia or Oblivion – The Prospects for Humanity (1969), Ideas and Integrities (1963) and documents of World Design Science Decade. We can see within these books syntropic role of design in creation of new patterns of human society and civilization.

Emerging Theory of Syntropy

The theory of syntropy is described in books of such authors as Luigi Fantappie, R. Buckminster Fuller, Albert Szent-Geörgyi, Ulisse Di Corpo, Antonella Vannini, Guy Dauncey, Mario Ludovico and others.

The fundamental work about syntropy of Luigi Fantappiè we have only in Italian language with no english translation. Therefore the main source for using this Fantappiè´s book are books and articles written by Ulisse Di Corpo and Antonella Vannini. They published several books as Introduction to Syntropy, The Law of Syntropy (2011), Syntropy – The Energy of Life (2005), Retrocausality – Experiments and Theory (2011), Supercausality and Complexity – Changing the rules in the study of causality (2011), Origin of Life – Evolution and Consciousness in the light of the law of syntropy (2011) and others. They published also several fundamental articles on the theory of syntropy in various journals. From the year 2005 they are editors and main authors of Syntropy Journal with main topic, which is the theory of syntropy.

As wrote Ulisse Di Corpo and Antonella Vannini "Luigi Fantappiè described concept of the syntropy as the opposite to the entropy in the year 1942, when he published the book Principles of a Unitary Theory of the Physical and Biological World Based on Quantum Mechanics and Special Relativity" (Di Corpo, Vannini 2009). In this book, according to Ulisse Di Corpo and Antonella Vannini, "he showed that retarded waves which diverge from causes located in the past, are governed by the law of entropy (en = apart, tropos = tendency) and correspond to mechanical and chemical phenomena; while advanced waves, which converge towards causes located in the future are governed by a law symmetrical to entropy, which Fantappiè named syntropy (syn = together, tropos = tendency)" (Di Corpo, Vannini 2009).

Methodological Grassroots for Syntropic Economic Theory

The economic theory is the same subject of the evolution as all the other scientific fields. The main stream of the economic theory is the dominant source of the current global crisis of our civilization. The main reason of such state is non-reflection of the societal evolution by the main stream of the economic theory.

The economic theory of main stream is the industrial age economic theory and the ongoing global civilization transformation is connected with the search of the information age economic theory. The main shift in the economic theory therefore will be the transformation of the economic theory on the base of the information age paradigm.

The solution of the current global civilization crisis is interconnected with the creative design of the new syntropic theory of economics. Such theory can support the shift from the entropic character of the current industrial age economy to the new syntropic model of the information age economy.

We have the appropriate methodological tools for such syntropic model of the information age economy in the works and in the theories of R. Buckminster Fuller, Luigi Fantappie, Albert Szent-Georgyi, Guy Dauncey, Erwin Schrodinger, Ilya Prigogine, Isabelle Stengers, Ossip K. Flechtheim, Robert Rosen, Judith Rosen, David Bohm, F. David Peat, Nicholas Georgescu-Roegen, Alfred Korzybski, Eric Chaisson, Jonas Salk, Fritjof Capra, Gunter Pauli, Hazel Henderson, Alvin Toffler, Heidi Toffler, Barbara Marx Hubbard, Antonella Vanini, Ulisse Di Corpo, Mario Ludovico, Leon S. Fuerth, Bela H. Banathy, Elisabet Sahtorious and many others.

The evolution of the economic theory can lead to the new understanding of our rapidly changing economic reality. We can understand the ongoing transition to the global civilization and solve the emerging problems via new understanding of emerging global economic reality.

The new syntropic economic theory can make possible the overcoming the struggle between individual economic theoretical schools and also can make possible to create the base for the unified economic theory.

Characteristics of Syntropic Economic Theory

The new syntropic paradigm of economic theory aims to redirect the economic system towards the future and to overcome the present split in economic theory, establishing in its place a unified economic theory.

The main characteristics of the syntropic theory of economics include the following (Klinec 2012):

- Understanding that the economy is a living system, living organism and that all subsystems of the economy, along with economic organizations and institutions, are also living systems, living organisms.
- Reorienting economic theory and economic systems towards the future and futuring it by applying the concept of syntropy to economic models, economic systems and economic theories, and implementing long-term horizons to policymaking to produce a positive impact on economic reality.
- Understanding economic theory as a mental map and as a map of economic reality. All economic theories are only mental maps limited in the time and in the space. The plurality of humankind and not the struggle among them is the basis for a syntropic theory of economics.
- Understanding that economic laws evolve same way as economic reality is evolving. The basic law of the syntropic theory of economics can be the information age syntropic theory of value instead of the industrial age working theory of value.
- Creative design of economic theory is necessary for the design of economic solutions to the problems of global civilization and of local economies and communities.
- Understanding the global economy as a field. Disruption of the field in one area will lead to the instability of the whole global economy. The field theory of economy is key to understanding the current global crisis.
- Redefining the basic core of economic theory based on the theory of syntropy according to Luigi Fantappiè and R. Buckminster Fuller and implementing the concept of syntropy into our model of economic reality.
- Understanding civilization evolution as a change in civilization attractors. We can understand economic productive factors on the basis of such civilization attractors. The industrial age attractors were work and capital. The information age attractors are information and knowledge.
- Understanding the economy as an implicate order according to David Bohm with the hidden code of civilization being the main principles of civilization. The evolution of the economy is therefore simply part of the holomovement involving the whole of civilization.
- Understanding that the role of humans within the economic system includes being part of the collective body as well as individuals. The human can act as an individual or as a part or member of the collective body. It depends entirely on human free will.
- Understanding the role of ethics as the key element in all economic systems and also as a precondition for their appropriate behavior.

Economics as a Mental Map

The view of the partial economic theories and the economic theoretical schools as partial mental maps of the economic reality and as the fragmentary views of one undivided reality enables the view of economics as one science consisted of a great number and diversity of the partial economic theories, all of which have their own time, space, purpose and limits, and no economic theory is possible to be absolute in any time and any space.

The economic theory is not the economic reality as all theories are only the maps of the reality as described Alfred Korzybski in his works on general semantics (Korzybski 1995). Map is not the reality (Korzybski 1995) and economic theory is not economy itself. Each economic theory is limited in time, space and purpose.

The problem of mankind with economic theories is connected with understanding some basic economic theories as such kind of sacred texts together with the view of economics as kind of religion with eternal laws and invisible hand of market as kind of god.

Understanding economic theory as only mental map of economic reality can help us understand how economic theory is creating, what is it´s purpose and how economic theory is evolving.

We have to allow the plurality of economic theories with the limited area of their purpose. Economic theory therefore has to be a puzzle consisted of the individual economic theories with the possibility of the innovation or the change of the individual pieces of such puzzle.

Futurology and Anticipation

The extraordinary role in creation of anticipative thinking has the futurology as the science of the future. The futurology was coined in the year 1943 by Ossip K. Flechtheim and was designed by him as the opposite to ideology. In the ideology is only one determined future and in the futurology there are several contingent futures.

Ossip K. Flechtheim published several books and articles on futurology as science of the future as History and Futurology (1966), Futurologie - Der Kampf um die Zukunft (1971), Der Kampf um die Zukunft - Grundlagen der Futurologie (1980) and many others.

The science of the future has today various branches as futurology, futures studies, futures research, foresight, anticipation, prevision, scenario thinking and others.

Anticipative thinking has nowadays the great number of methods of futures thinking, futures studies and futures research. The most comprehensive publication on futures research methodology is publication Futures Research Methodology by Jerome C. Glenn and Theodore Gordon, which was created as part of activities of the biggest futures studies project in the world The Millennium Project. It were published three versions of Futures Research Methodology. The last 1300 pages Futures Research Methodology Version 3.0 consists of 49 groups of various futures research methods, methodologies and tools (Glenn, Gordon 2009).

Economy as an Anticipatory System

Reorientation of the economic systems towards the future is interconnected with the implementation of the long-term horizons into the economic models, the economic theory and also into the policymaking. Economy has to be transformed into the anticipatory system in the term of Robert Rosen. Economy as evolving system can be understand as a living organism with permanent transformation of its structure, organization, laws etc.

Economy as the anticipatory system has to deal with the cause located in the future which are the new attractors forming the economic, the social and the civilization systems. Leon S. Fuerth created the concept of Forward Engagement (Fuerth 2006, 2007, 2009) which is oriented toward the implementation of the long term horizons into the policymaking and can be the tool of reorientation of the economic systems towards the future.

In the year 2013 he published with Evan M. H. Faber the publication Anticipatory Governance (Fuerth, Faber 2012, 2013), in which they presented the vision of Anticipatory Governance for implementing the long term horizons in the policy making.

The implementation of the long term perspectives into the policymaking is one of the 15 global challenges of The Millennium Project (Glenn, Gordon, Florescu 2010). The 15 global challenges were selected by the panel of experts in the year 1997 and the last version of the report 2012 State of the Future, in which are included also the global challenges, has more than 10 000 pages on CD.

Syntropic Theory of Value

The core problem of industrial age economics was the source of economic value a and how this value was realized on the market. Working theory of value was dominant in the mainstream economic theories of industrial age from Adam Smith, David Ricardo and Karl Marx to the time of first emerging of information age economic structures in the third part of 20^{th} century. Some visionary thinkers as Daniel Bell, Peter Drucker, John Naisbitt and some others asked in their books and publications for creation of information or knowledge theory of value.

Understanding the economic laws as evolving similar as the economic reality is evolving can incorporate the aspect of the dynamics and the irreversibility in the economic theory.

The basic law of the syntropic theory of economics can be the syntropic theory of value. During the industrial age the dominant law of the economics was the working theory of value, which was the subject of the discussions between the various economic theoretical schools.

The concepts of entropy and syntropy and their implementation into the economic theory can help the creation of the syntropic theory of value as the main anti-entropic law of syntropic stage of human evolution. The information is the main source of the value in the information age instead of the work as the main source of the value in the industrial age. In syntropic stage of human evolution all syntropic activities will have the value in the sense of economic value.

According to syntropic theory of value the value is creating by all anti-entropic activities including non-market economic activities with syntropic economic impact today as also in the future.

Economy as an Implicate Order

The view of the global world economy as one undivided whole, the view of this economy as implicit order and the view of economic development and the globalization process as holomovement, with using the theory of wholeness and implicate order, which was created by David Bohm (Bohm 1980, 1995), can help us to understand the processes of the globalization and their impacts on the individual countries and their economies.

David Bohm created and described the theory of the holomovement, the implicate order and the explicate order in his books Fragmentation and Wholeness (1976), Wholeness and the Implicate Order (1980), Unfolding Meaning (1985), Thought as a System (1995), and others. He proposed there the concepts of the holomovement, the implicate order a the explicate order.

In his book Unfolding Meaning David Bohm characterized his new concept of order:

"The proposal is that the holomovement is the basic reality, at least as far we are able to go, and that all entities, objects, forms, as ordinarily seen, are relatively stable, independent and autonomous features of the holomovement, much as the vortex is such a feature of the flowing movement of a fluid. The basic order of this movement is therefore enfoldment and unfoldment. So we´re looking at the universe in terms of a new order, which I´ll call the enfolded order, or the implicate order" (Bohm 1985, 1996).

David Bohm described here what means the word implicate and what is the principle of holomovement:

"The word "implicate" means to enfold – in Latin, to fold inward. In the implicate order, everything is folded into everything . But it´s important to note here that the whole universe is in principle enfolded into each part actively through the holomovement as well as all the parts. Now this means that the dynamic activity – which is fundamental to what each part is, is based on its enfoldment of all the rest, including the whole universe" (Bohm 1985, 1996).

Understanding the economy as implicate order according to David Bohm with the hidden code of the civilization in form of the main principles of civilization can show us how the hidden code of the civilization, described by Alvin Toffler (Toffler 1990), is changing our economy, society and civilization.

Alvin Toffler in his book The Third Wave (1980) described the hidden code of the industrial age Second Wave civilization also as of the Third Wave information age civilization. He wrote there:

"Every civilization has a hidden code – a set of rules of principles that run through all its activities like a repeated design. As industrialism pushed across the planet, its unique hidden design become visible. It consisted of a set of six interrelated principles that programmed the behavior of millions. Growing naturally out of the divorce of production and consumtion, these principles affected every aspect of life from sex and sports to work and war" (Toffler 1980).

Alvin Toffler described in the hidden code of Second Wave civilization the implicate order, which is unfolded to the explicate order different in various countries, but with the same roots of civilization´s hidden code or the implicate order of civilization. Alvin Toffler described the implicate order of the Third Wave civilization as the set of six guiding principles:
"What we see, therefore, is a set of six guiding principles, a "program" that operated to one degree or another in all the Second Wave countries. These half-dozen principles – standardization, specialization, synchronization, concentration, maximization and centralization – were applied in both capitalist and socialist wings of industrial society because they grew, inescapably out of the basic cleavage between producer and consumer and of the ever-expanding rolle of the market" (Toffler 1980).

The evolution of the economy is therefore part of the holomovement of the whole civilization. The interdependence of the global economic system and the synchronicity of the economic and societal changes in the individual countries as e.g. in the year 1989, can be understand via the concept of the holomovement and the processes of unfolding the hidden code of civilization in form of the implicate order.

Syntropic Order from Entropic Chaos

We can understand the ongoing civilization transformation with using Global Civilization Change Model (Klinec 2005). Global Civilization Change Model is designed on the base of holistic economic theory (Klinec 2005). The core of this model is the view of economy as a dissipate structure, which is dissipating energy, materials and information and creating a new structure of the society and the whole civilization around the civilization attractors in the form of economic productive factors as are soil, work, capital and information and which are determining for the structure and the profile of the economy, the society and the civilization during their evolution (Klinec 2005).

We can understand the civilization evolution as a change of civilization attractors which are identical with the economic productive factors. The change of such attractors in the information age is the main cause of the transformation of the whole civilization around the information and the information networks (Klinec 2005).

The industrial age attractors were work and capital. The information age attractors are information and knowledge. Therefore the new structure of global civilization is network-centric instead of industrial age hierarchic structure (Klinec 2005).

Field Theory of the Economy

We can understand the global economy as a field. The disruption of the field in one area is leading to the instability of the whole global economy. The field theory of economy is the key to the understanding of the current global crisis.

The global interdependence is the other view of the global economy as the global field. The turbulences on the financial markets, the security threats, the poverty, the climate change and

many other disbalances are the disequilibrium creating processes with global impact on the economies all over the world.

Ethical Roots of Syntropic Economic Theory

We can tracked the roots of all economic theories to householding, which was throughout the whole history based on the basic set of ethical principles and moral norms. The development of economic systems and economic theories was connected with changing economic reality and transformation of the household systems to economic systems containing also wealth creation and distribution, exchange and commerce, shopping and business. In era of the globalization householding worldwide was replaced by commerce and financial systems as the core of economy and economic theories were primarily connected with exchange of wealth instead of wealth creating and using by household or similar systems on all levels from global to local.

Ethical principles were wiped out from economic systems and abstract economic systems based on free market utopia was set as economic systems without ethics similar to machine and that was connected with dehumanization of economic activities on all levels.

As in the history most famous book about relationships between economy, economics and ethics by Max Weber The Protestant Ethics and the Spirit of Capitalism was replaced by kind of ideological book by Ayn Rand Atlas Shrugged, in which ethics has no place in economic activities. Atlas Shrugged is therefore presented as kind of economic literature contained the core of free market system without ethics and with no sign of ethical principles in economic systems and their functioning as a kind of machine.

Wiping out of ethical principles from economic theory is also connected with creation of industrial age ideology and understanding economy as a machine with a man as only a part of such machine with no human rights, but only source of profit making and profit orientation.

Good examples of entropic economic theories with destructive results in praxis are those economic theories and their application in praxis, in practical economic policies based on eliminating or wiping out the part of societal and economic structure as e.g. Marx´s theory of class struggle, theoretical roots of real socialism or communism with dominating ideology of Marxism-Leninism or economic foundations of Hitler´s system of national socialism based on racial struggle aimed to wiping out some races.

The struggle within system between parts or subsystems are basically entropic and the results are destructive ending with collapse of such systems as collapse of system of communism or system of fascism with deep irreversible impacts on development of economy and society.

Profit as highest value of current civilization is primarily source of destructive worldwide entropically functioning economic systems. As stated R. Buckminster Fuller profit orientation is main entropic principle of current entropic stage of human civilization. Syntropic stage of human civilization is achievable on different set of basic functioning principles oriented towards cooperation and co-creation instead of struggle and destruction.

In The Millennium Project lookout study Some Elements of the Next Global Economic System over the Next 20 Years in the year 2008 ethics was indentified as key element of such system (Glenn, Gordon, Florescu 2010). Within the next 20 years is great challenge for the humankind to transform current global system of casino capitalism to ethical market economy and to redesign the markets in the direction to be the servant of humankind instead of its current state as the main threat to human civilization. Ethical market economy is the other face of syntropic economic system, in which the ethics will be the key element.

Syntropic Economic Systems

At the the end of 20th century and at the beginning of the 21st century we can see emergence of several economic systems with the characteristics compatible with the syntropic economic theory. We can mentioned the Blue Economy of Gunter Pauli, Gross National Happiness GNH of Jigme Wangchuck or 6th Kondratieff of Leo A. Nefiodow.

The Blue Economy is the new business model developed by Belgian entrepreneur and visionary Gunter Pauli. Gunter Pauli published this new model in the year 2010 in the book The Blue Economy, which is also report to the Club of Rome.

The Blue Economy model is based on 100 innovations inspired from the nature. Gunter Pauli used for the Blue Economy ZERI methodology and part of this methodology is concept ektropy which is synonym to concept syntropy. It is mentioned in his article Twelve Axioms of Economics (Pauli 2013) which is part of broader article The Science behind ZERI (Pauli 2013).

Gross National Happiness GNH is new complex concept of economy, which is based on more comprehensive set of indicators of Gross National Happiness. This concept was developed by king of Bhuttan Jigme Wangchuck in the year 1972. The purpose of Gross National Happiness is to measure the quality of life as the happiness of citizens of Bhuttan. The concept of Happiness is similar to the concept of syntropy because we can stated that happiness is incompatible with entropic environment and compatible with syntropic environment.

German economist Leo A. Nefiodow published the book 6th Kondratieff, based on the the theory of long waves of economic cycles with period 50 to 60 years. The economy of 6th Kondratieff wave will be according to Leo A. Nefiodow primarily anti-entropic (Nefiodow 2006). We can characterized it as syntropic or as a syntropic economic system.

Dawn of the Syntropic Civilization

The threshold of new syntropic civilization is now visible and under the cover of bankrupting global industrial economic system as also the system of global casino capitalism we can see new patterns of emerging syntropic economic and societal systems, which are to replace the old unethical entropic economic and societal systems.

We can see the new emerging syntropic economic theory in the works of R. Buckminster Fuller, Hazel Henderson, Ernst. F. Schumacher, Helena Norberg-Hodge, Sara Parkin, Steven Gorelick, Barbara Marx Hubbard, Gunter Pauli, Ernst Ulrich von Weiszäcker, David Korten, Alvin Toffler, Heidi Toffler, Jigme Wangchuck, Karma Ura, Leo Nefiodow, John L. Petersen, Mark Anielski, Ulisse Di Corpo, Antonella Vannini, Guy Dauncey, recent reports, publications and concepts of Club of Rome and many others.

We can see the dawn of syntropic civilization, a world without struggle and destruction, a world of new humanity, a world of abundance, a world without poverty.

This new syntropic civilization will be also the big step to transition to space age stage of human civilization. The Spaceship of Earth has therefore be navigated with using of new manual of syntropic economic theory.

Conclusion

The design of the syntropic economic theory and the syntropic economic system can lead to syntropic class-one evolution in terms of concept of R. Buckminster Fuller (Fuller 1981).

The design of the syntropic economic theory is at a starting point and must be done by a great number and great diversity of economic thinkers from the whole world from various countries, but the speed of its creation is one of the main preconditions of changing the present direction of humankind toward a sustainable world and toward overcoming the emerging global crises.

Economic theory therefore awaits big paradigm leap that will change fundamentally the current form of human society and civilization.

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