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## **Sixteen Related Crises and the Limits of Civilization in the 21<sup>st</sup> Century**

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### **Background**

Civilization is a whole greater than the sum of its parts. The added value for civilization is generated by relations amongst its parts, the elements of civilization. As these elements function, they influence other elements bilaterally. Thus, a growing population increases the pollution of the environment. This speeds the exhaustion of strategic resources. Devastated environments then increase yet further the depletion of strategic resources. Sixteen crises of the 21st century are explored and their multilateral influences and relations considered in an attempt to enhance our understanding of the direction civilization is now taking.

### **The Centrality of Crises in the Early 21<sup>st</sup> Century**

One central and founding crisis is the crisis of science; it's the level of this crisis that sways the future of civilization. Science is a measure of the current power of the human mind, the motor of civilization. The great acceleration of current civilization took place in the 16<sup>th</sup> century when theoretical science began to develop in physics and chemistry. Today, the sciences of economics and the other social sciences overall cannot or do not want to explain the effects of what is called "globalization." Without this research, actions undertaken by politicians, business people, and professionals must be based upon common sense. But common sense is incapable of explaining what is going on in civilization, a complex phenomenon.

The crisis of science leads to the crisis of education, which is "blind"; it is not based on any up-to-date scientific foundations. Badly educated graduates cannot be wise politicians, business people or journalists (hence, a media crisis). The crisis of the media misinforms the general public and thus lapses into a cultural crisis. The cultural crisis exacerbates all the remaining crises. The crisis of religion erupts by ignoring the population crisis, a serious, dangerous crisis-making factor of civilization. These crises constitute the recognizable core of the overall current crisis of civilization.

The crises of the Civilization Death Triangle (caused by the interaction of the population, ecological and resources bombs, all connected) are long-term ones. Everybody talks about these but nothing is ever done about them; life goes on. Even so, these crises will determine the coming collapse of what we can call automated civilization.

In addition, there are also mid-term crises. These follow from the core of the current crisis of civilization. Such crises include:

- The crisis of technology (now overwhelming culture),
- The crisis of super-capacity (it is not true that the sky is the limit),
- The over-communication crisis (too frequent empty talk),
- The crisis of wars (terrorism), and
- The crisis of administration (ineffectual and too expensive).

Finally, the crisis in food production is ubiquitous: current, mid-term, and long-term.

### **How These Inter-related Sixteen Crises May be Eliminated**

Where do we start? In order to minimize these inter-related crises, unfortunately one needs to tackle all of the problems at the same time. This is obviously a very difficult task and it is not really known whether it lies within human powers. To put it in plain terms, we propose to enhance the intellectual capacity of man. People can do away with the complex crisis processes.

To enhance knowledge and wisdom is a mission to be undertaken by science and education. Unfortunately, it is evident that neither science nor education takes responsibility for the plight of civilization. Even the term “wisdom” very seldom features in academic terminology; the very topic is treated as something light-hearted at all levels of education, including graduate education.

From 2009 to 2012, I was professor and director of the Center for the Sustainable Business Practices at a major American college. We had 5,000 students and were a part of one of the biggest American business colleges (25,000 students), with a few dozen doctoral programs. The center wanted to introduce the topic of sustainable business to its curricula.

The committee of faculty who teach graduate students accepted the strategies of teaching business so conceived. However, the committee of undergraduate faculty members refused to introduce this subject into lectures. They even refused to acknowledge in the minutes that the motion had been proposed and had not been passed. I resigned from heading the Center and the new director ironically and proudly assured the professors who had gathered at his first presentation that they would not deal with improving the curricula with this type of issue. Nobody protested. Is this not a crisis of education? The professors at that college are rather passive, and this is no different in other colleges; they are as if chained to the business textbooks of the 1950s through the 1970s, the heyday of business and the era of *Pax Americana*.

Still as a director, and within a Dean’s level task force, which I headed, I resolved to analyze whether we taught the right material in our curricula. The results showed we

did not: what we were teaching was hardly aligned with the contemporary challenges of civilization. The proposal to improve the curricula perished amidst academic inertia. The improvements suggested (see Table 1) followed a classic scope of *sustainability*: economic vitality, responsibility for the environment and social responsibility.<sup>1</sup>

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**Table 1.**

Examples of the Issues that were Recognized as Worthy of Inclusion in the Update of Business Knowledge and Wisdom in the Early 21<sup>st</sup> Century at an American College

**Main Foci:**

**ECONOMIC VITALITY  
ENVIRONMENTAL RESPONSIBILITY  
SOCIAL RESPONSIBILITY**

**Programs:**

**MANAGEMENT**

Global and local business  
Wall Street vs. Main Street  
Green economy  
Social costs of business

**FINANCE**

Growth-based business?  
Productivity vs. sufficiency  
Short-term versus long-term in decision-making  
Green economy  
Deep economy  
From shareholders to stakeholders  
A worker or a robot  
Outsourcing?  
Managerial Capitalism

**ACCOUNTING**

How to keep books to account for all costs of business  
The costs of the maintenance of the environment  
The social costs of business

**LOGISTICS CHAIN**

Outsourcing abroad  
Fuel for food  
Shipping too much food  
Walmartization  
Unmanned factories

## COMMERCIAL CODE

Lobbyists  
Environmental protection  
Do corporations have consciousness?

## ICT

The architecture of systems for a sustainable civilization  
The systems of controlling the balancing of business and the environment.  
Principles of sustainable automation, robotization and informatization.

## BUSINESS COMMUNICATIONS

Review of the examples of well-balanced solutions  
From *paranoia* to *metanoia* (changes)

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These suggested topics would transform the teaching of business, based on contemporary and emerging knowledge and wisdom, moving from the small picture to a bigger picture, but in relation to each other. It goes without saying that these topics far from exhaust the range of the necessary changes in business studies curricula. In other words the point is for business people to move from being “dentists” to being “dental experts.”

## The State of the Economic Sciences in the Early 21<sup>st</sup> Century

The current state of the economic sciences reflects the situation of the 19<sup>th</sup> and the 20<sup>th</sup> centuries rather than this century. Economic theories that proved workable in the past are wrongly extrapolated to today. They are being placed within a completely different civilizational context.

The worsening economic crisis of the Western Civilization (Europe and the USA) in 2008-2013 comes as a surprise to economists. There are no available economic monographs that would explain the causes of the current crisis and the methods of overcoming it. The theory of economics is out of touch with the current situation. Some Nobel Prize laureates are publishing popular rather than scientific books that set out to analyze the present economic crisis.

Economic theory has become an intellectual game, processed within itself, and so it has lost touch with reality, becoming irrelevant for people dealing with the economy. Academic economists have replaced the description of economic processes with mathematical definitions of social behaviors, where it is of utmost importance to retain the strict rigor of models rather than explain what is going on in fact.

This way of developing economic theory has been criticized by a line of Nobel Prize winners. The first to do so may have been Wassily Leontief (1906-1999), who noticed that econometric models were more important than data. In 1982 he wrote that professional periodicals were filled with mathematical formulas and every year economic theorists produced novel models and carefully researched their interdependencies in numerous situations that utilize the same set of data.<sup>2</sup>

Leontief was a practicing economist, and only later did he become an academic. He was the unofficial author of the first five-year plan in the USSR, which was based on the flows between industries. It was only after his escape from the USSR (1931) that he became a theorist, but for the plan -- which was based on input-output analysis -- he was awarded the Nobel Prize in 1973. His disciples at Harvard included the Nobel Prize winner (1970) Paul Samuelson, a founding father of modern American economic science.<sup>3</sup>

In 1997 Ronald Coase (b. 1910), another Nobel Prize winner (1991), complained that present-day economics was a theoretical system that was in the clouds and hardly connected with what is really happening. A further famous Nobel Prize winner, Milton Friedman (1976), noted in 2007, at the end of his life, that economics is increasingly becoming a branch of mathematics rather than an applied science.<sup>5</sup>

As was observed by the younger generation academic David Colander, in 2009, none of these warnings by the most prominent American economists have had any bearing on the way economics is taught in masters level courses in this country.<sup>6</sup> The British-American economist Mark Blaug (2002) put it succinctly: we have created a monster that is very difficult to stop.<sup>7</sup>

Protests by Nobel Prize laureates as well as wise economists are, unfortunately, ignored by Western faculties of economics, which keep teaching Neoclassicist economics, entirely mathematized and oriented towards just one model, the description of economic dynamics. Other approaches are censored and specialists rather than Neoclassicists are simply not hired by universities.

As things are, students have taken the matters into their own hands. In 2000 a movement was started in France, called "Post-Autistic Economics," protesting the uncontrolled application of mathematics in economics as constituting a goal in itself. They were followed by English doctoral students from the University of Cambridge, who created the group "Cambridge-27." They proposed making courses in economics open to diverse approaches rather than sticking to one research approach. Other countries followed, and the movement now has 10,000 members from 150 countries.

Neoclassicist economics rules in Poland, too. At least this is what it seems to be the case if you look at how the University of Warsaw works, where in the English-speaking

course *Developmental Economics*, the subject is in fact taught as if it were a branch of mathematics.<sup>8</sup> In the first year of the program, the lectures are mostly in a totally mathematized economics. In the lecture *Microeconomics* there were two different parts, one introducing the issue and the other, taught by another lecturer, presenting game theory. If one must mathematize economic operations at all costs, I would advise teaching line programming. This concerns the optimization of plans of production, services, and transport pathways (i.e., having goods supplied to shops).

The theory of line programming would shed some light on the arrangement of the sale of limited-availability goods (such as the tickets for the Euro 2012 soccer tournament), or on the organization of renovation work. Theory of games? Is the heuristic simulation of complex production plans *à la* Las Vegas (in an economy suffering from the surplus of production capacity) a foremost task of business? Nobody applies that in practice nowadays. Why, then, teach the theory of games in microeconomics to first year students, neglecting other, more up-to-date methodological approaches?

The Neoclassicist theory of economics maintains that its objective is to manage limited resources by way of the application of the capitals (means) created by man. This made sense once, when the theory was being created and when labor and resources were in abundance and the means to use them for human needs were relatively simple. The Industrial Revolution replaced human labor with machines, which boosted productivity on a scale that was incomparable to the period prior to it, when only manual labor was used.

What is critical now in terms of supplies is natural capital.

Once it was the fisherman who was critical in fisheries; now it is fish itself which is in short supply. Once an irrigation system was critical, as was its operation; now it is water, or the lack of it. Once it took a lumberjack to get timber; now it is trees that are running out.

### **No End to the Development of a More Productive Economy?**

If economics were to be adapted to our day, it would not place an emphasis on the development of the technical process in the replacement of human labor by machines in order to boost the productivity of goods or services. Rather the objective would be for the same output to be achieved by a decreasing use of natural resources.

This means that there should be a paradigm shift in the theory of economics. We must move away from the subordination of the ecosystem to economics and toward one where economics is subservient to the ecosystem. Alas, this is not happening even though the concept of sustainable development is gaining ground across the world.

In the years following World War II, Neoclassicist economics introduced the model of infinite growth (Solow 1956,<sup>9</sup> Stigliz 1969<sup>10</sup>). This model, it was believed, would lead to permanent growth in consumption and production thanks to our unlimited resourcefulness in developing the means of production. This model proposed that a “well-functioning market” would signal the shrinking of nature's capital and generate a technology to replace it.

This model means that a cook baking a five kilo cake can boost it to a 100-kilo one by an improved stirring method and by baking it longer in a bigger oven. Today a better way of stirring will not suffice and neither will a bigger baking dish, as there may be problems with the supply of flour and energy.

The Neoclassicist model was promoted to prominence in the 1970s when the limits of growth<sup>11</sup> were being widely discussed. It was being predicted that strategic resources might run out, but no scenario dealt with the huge concentration of agricultural and industrial production leading to a great rise in productivity and consumption. It went virtually unnoticed that this generated, as well, huge waste during production and consumption, all of which finally would lead to the destruction of the environment.

That is what has occurred, however.

Moreover, ethical issues such as animals' equal rights to coexist with people on the planet were not weighed. It is strange that such a limited model of economics should not have been amended and adjusted to conform to reality. Why does economics ignore a situation where the cost of destroying the environment is greater than the cost of producing goods for people? Environmentalists are now likening the dominant model of economics to a car that is running downhill without working brakes. Neoclassicist economists are unconvincing when they advise keeping the foot down on the pedal as there will surely be somebody out there who will discover the brake in the meantime.

Neoclassicist economics had taken for granted “the well-functioning market.” In fact, it is known that the market is controlled by big global business. Even governments are being controlled by big business. This is in practice rather than in theory, of course.

No wonder that the economists who have been trained along the Neoclassicist model encounter the forest and see no trees. The current structural economic crisis (called the Great Recession of America and Europe) cannot be explained by means of complicated mathematical equations.

The cause is that the economy of services in America and (particularly Western) Europe is saturated and too weak to generate economic growth and a demand for goods and services. Taking production away to Asia, and to China in particular, is abolishing the middle class, which used to be the driving force of the Western economies. The crisis



will go on until the middle class in the Western Civilization is reconstructed. This will not come about soon as global business will not let it happen and neither will the politicians who report to big business, so one should get accustomed to recession rather than wait for better times.

### **Unlearned Lesson of the Old New Deal**

The Keynesian model from the 1930s New Deal, which is often cited, was applied in a situation where the American economy was a *closed* system. Now the system is *open* and the stimulation of this economy best serves the economy of China.

Incidentally, it has been forgotten that there were two New Deals. The first New Deal, blueprinted by the businessman Bernard Baruch, gave a *carte blanche* to big business with a hope that they would create jobs, due to low prices. The opposite was the case – cartels were created, prices went up, demand went down and so did employment. It was only the second New Deal, strengthening the role of labor unions, that made salaries grow. Demand followed, with businesses growing. It was particularly strong from 1945 to 1960, when the United States reached its fabulous years.

Unfortunately, no politician discusses the episode or the reason. We do not hear economic scholars thus define the current problem of the Great Recession. There is no mention, in this context, of globalization being the main cause of the high unemployment in the Western civilization. Everywhere studies extol the glories of globalization, treated as inevitable and lasting. There is little recognition of the fact that the Internet as the driving factor of globalization is contributing to the disappearance of the middle classes in the Western Civilization, which invented it and is now using it to commit suicide. (In Poland this is less dangerous as Poland is a “mini-China” in Europe. This is only for the time being, though).

The practice of commending all the new techniques in the replacement of human labor with automated systems, based on robots and ICT, ought to be counted in the same category of economic unreasonableness: in universities, in the media and in society, too. The purpose of technology is not merely corporate profit (such as Apple's huge cash surplus and no will to share it with stockholders in 2013), spectacular as it may be, ignoring the social cost that will need to be paid once the plans and dreams of technologists come true and total unemployment follows. Science is silent and so are politicians. And then they are astonished that the Great Recession will not go away by itself. Simply manipulating interest rates is not enough. One needs to have a clear picture of the problem and do *indicative planning*, which France has been applying for years.

## Summary

- The great crisis of civilization in the early 21<sup>st</sup> century is made up of sixteen specialized crises, but their interaction is only exacerbating the great crisis, making it so complicated that the collapse of civilization might be triggered.
- The central crisis is the crisis of science, followed by the crises of education and population. The crisis of science means there are no intellectual foundations for the resolution of most of these 16 crises, let alone all of them. The crisis of education deprives people of sufficient knowledge, wisdom and qualifications to solve the crises and uphold a sustainable operation of civilization. The population crisis augurs great physical force that will devastate the environment and exhaust strategic resources.
- The Neoclassicist theory of economics is useless for the resolution of the contemporary economic issues and civilizational problems, too. Worse still, graduates actively involved in politics, media and institutions have lost common sense, which is evidenced by current economic practices and the suicidal financial system (based on gambling and going ever more into debt, as well as bonuses that are bigger than lottery winnings, payment guaranteed).

It is worth reminding ourselves of the words spoken by a great 18<sup>th</sup> century Polish educator, Stanisław Staszic: “Such will the republics be as is the education of their youth,” which can be generalized into saying that the world will be modeled after the education of its young people.

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