

## SUSTAINABLE DEVELOPMENT AND THE GREAT CRISIS OF THE XXI<sup>st</sup> CENTURY

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**Abstract.** *The human society needs a long term sustainable development and the scientific debate focuses on whether it will require an increase or a decrease of the economic growth, in order to ensure a better balance between the economic, social and environmental factors.*

*The world population is expected to reach 10 billions of inhabitants by the end of the century; it will require food, clothes and housing for everybody, as well as education, health care which are not envisageable without an equal access to resources and to the economic activity the basis of which is the energy. The option for alternative sources of energy is to be made now, while their costs are unfortunately very high, otherwise the costs will be even higher later on.*

*Demography, Economy, Energy, Environment, these are the four major and unavoidable chapters to be considered when a sustainable development is projected. Various scenarios are being made: increase or decrease of the economic growth, increase or decrease of the energy consumption, economical ecology and ecological economy etc. One should not omit to include into the analysis – impossible mission – the impact of the politics, geopolitical factors, scarcities, religions or ethnical conflicts.*

*The author goes through all these issue controversies while drawing a panorama of the XXI<sup>st</sup> century.*

**Keywords:** Sustainable development, crisis human society, world

### I. Sustainable development, an integrating and (possibly) saving concept

*Sustainable development is empty of scientific content.*

Assen SLIM

This process, defined at the beginning of the '80s, as „sustainable development” in francophone expression (*développement durable*) or „sustainable development” in Saxon expression (*sustainable development*) synthesizes the programming and action system thanks to which the present generation of the planet manages to meet its needs without endangering the future generations. Assen Slim is one of the authors attributing to this concept the function of trying to face correct the unbalances of the present development, aiming at realizing a

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harmony between the economic, social and ambient dimensions so that a global viability of the entire system is reached in the long run.<sup>2</sup>

This concept (nevertheless, the Romanian translation is poor) introduces a cross generation vision on development, at the same time enlarging the notion of capital. Starting from the classic triangle of sustainable development – economic, ecologic, social – one reaches the thesis according to which, in order to be sustainable in time, the development of a society involves tridimensional reproduction of capital: the classic economic capital, the ecologic capital consisting of all the natural resources inherited by a generation and the social equity capital that can be assimilated by to the integrating capacity of a collectivity depending on access to wealth and on the way it is allocated, a thesis also taken by E. Arnaud, A. Berger, C. De Perthuis, in a recent paper offering “practical guidelines” for sustainable development.<sup>3</sup>

In the beginning, there was “eco development” introduced in the scientific language at the Club at Founex (Switzerland), in 1971, where the thesis of conciliation of production of goods with respect for nature has been issued. Then, in 1972, Club of Rome, publishes its famous Report *Limits of Growth* which produces great sensation with their theory on “zero growth” (with reference to demographic growth) for saving exhaustible raw materials. The Brundtland Report thus stepped on the road open already by economists and scientists; Loïc Chauveau synthesizes the preoccupations of those beginnings under the slogan: “To produce for the entire world and protect the Planet”<sup>4</sup>.

The present tsunami of the global economy, initially framed with a non confirmed optimism, as a “2008 – 2010 crisis”, crowns with an undesirable logic the failure of an inadequate and unadjusted economic development, which while depleting the natural resources condemns to poverty the great majority of the population of the world. Thus, in the past 50 years of the XXth century, the world production increased six times while the world population multiplied (only) two times, inequity between and within nations has been accentuated, becoming a source of concern and potential conflict. 20 % of the world population consumes 80 % of the natural resources of the Planet, 2.4 billion people do not have access to basic sanitary infrastructure and nearly a billion people strive to survive with less than 1 \$/day.

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<sup>2</sup> Assen Slim, *Le Développement durable*, Le Cavalier Bleu, P.H., „Idées Reçues” Colecction, Paris, 2007, pp. 9 – 12.

<sup>3</sup> E. Arnaud, A. Berger, C. De Perthuis, *Le développement durable*, Nathan P.H., France, 2008. Here we find among other things, the origin of the concept attributed to the Raport “Our Common Future”, presented in 1987, by the former Norwegian Prime Minister Gro Harlem Brundtland, former President of the UN Commission for Environment and Development (1983 – 1986).

<sup>4</sup> Loïc Chauveau, *Le Développement durable*, Petite Encyclopédie P.H., Larrouse, Paris, 2009.

Globalization, such a convincing melody in the past decades, as the vertical raise of global exchanges and circulation of production factors, from movements from regional to global level and up to the “global state” have proved to be bringing and often creating displacements, unemployment, inequity growth, disturbances of financial markets, up to aggravating the environment and pollution.

Sustainable development conflicts with globalization, becoming even incompatible with it, a statement unaccepted by the followers of liberalism, although saddened and shaken by the ideologic reverberations of the present world crisis.

Thus, sustainable development is more of an action plan than a definition, states also Sylvie Brunel who does not hesitate to assimilate it with “the end of the ideology of development”. This is a new vision on the world; while development is perceived as being a synonym of development growth, regarded as indispensable for meeting the basic needs of the population, therefore, sustainable development introduces a new vision, ecologist and environmental, which emphasizes the necessity of taking into consideration the limited and renewable character of the Planet resources. The terms “planet” and “planet” become referential, as the Earth (Terra) is viewed as an interdependent system, in which long-term trends occur, many against systemic balance.<sup>5</sup>

Sustainable development brings up to discussion the very economic growth and its limits. It is the most comprehensive concept the economic thinking provided to collective reflection; sustainable development can be conceived only from the perspective of its impact on the world population, which makes demographic research a prerequisite for studies; food crisis, energy crisis have been the triggers for the new thinking, in the same way the same sustainable development may become feasible only through spatial, environmental planning, removing the risk and conflict factors; at the same time, no political and religious conflicts can be left outside the analysis, since the implementation of sustainable programs requires stability and harmony. It is the spirit of our research we are summerising in this essay, to be detailed more extensively in a future work.

Starting also from the undisturbing *Brundtland Report*, Yvette Veyret and Jacqueline Jalta suggestively mention that sustainable development is “neither infinite growth, nor primitive Eden”, but a compromise form between the concepts of political ecology militantism and those of the development economists proponents. “It is, therefore, a matter to reconcile, today and in future,

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<sup>5</sup>Sylvie Brunel, *Le Développement durable*, Ed. PUF, Paris, 2009, pp. 19 – 28. She shows, among other things, that the theories of “economic growth” have developed especially after the 2<sup>nd</sup> World War, reflecting the priorities of that period focused on development.

economic development, socio-spatial equity and rational use of the Planet resources”<sup>6</sup>.

Sustainable development does not have ready made solutions available; it is healthier to apprehend the concept “and a way of thinking on the world” and, from this perspective, the problems the world is confronted with are prevailing; sustainable development is also a way of correct and responsive identification of the present and future, with problems to be solved and contradictions to overcome. It is a complex association of the social, economic, and ecologic with a future projection, securing both the present and the future generations.

Neither the waste of resources nor their exhausting by the current generation by irrational consumption and lack of respect in the future, but equally not by preserving the future by condemning the current generation to stagnation and sacrifice.

The economic value of the environment together with an ecologic approach of the economy make possible, through the means of certain mathematic models, like those of Weitzman theories, regarding the “green GDP” to determine the future growth loss caused by the depletion of natural resources as well as to define and calculate more precisely the sustainability of a sustainable development.<sup>7</sup>

Numerous researchers and authors have established the “Research and Decrease” association and, in their work, they point out the limits of sustainable development or of the “green development” pleading for a “sustainable, equitable and convivial decrease” in the favour of which over 140 researchers from 30 countries, gathered at the International Conference on Decrease, have opened a new field for interdisciplinary research within which the search for new welfare indicators (GIP being unconvincing) intersect with those referring to a new psychological perception of welfare; Baptiste Mylano is one of the animators of this current of thinking.<sup>8</sup>

A prestigious supporter of decrease as premises for sustainable development and sustainability of development remains Nicolas Georgescu Roegen, promotor of his famous triad: *Entropy – Ecology – Economy* and founder of bio-economy as scientific system who, among others, joins Joseph Schumpeter, drawing the attention on “the confusion between growth and decrease”<sup>9</sup>. His opinions intrigued some great researchers, like the extraordinary Jacques Attali,

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<sup>6</sup> Yvette Veyret, Jacqueline Jalta, *Développements durables*, Autrement P.H., Paris, 2010.

<sup>7</sup> Philippe Bontems, Gilles Rotillon, *L'économie de l'environnement*, Ed. La Découverte, Paris, 2007.

<sup>8</sup> Baptiste Mylano, *Le décroissance économique: pour la soutenabilité écologique et l'équité sociale*, Ed. du Croquant, France, 2009.

<sup>9</sup> See Nicolas Georgescu Roegen, *La Décroissance: Entropie – Ecologie – Economie*, Ed. Sang de la Terre, France, 2008.

whose work we read, as far as we are concerned, with great admiration and who entered with N. Georgescu Roegen in a regrettable polemic.

Jacques Lesourne brings a contribution regarding “the precaution principle” starting from the finding that the notion of sustainable development cannot be separated from the inherent risks of the “long term” dimension; in any uncertain situation one should choose the decision providing insurance against the worst catastrophe, the least damaging result. The author, according to his own confession, makes use of such an “example”, during his conferences: Next to the corpse of a suicider, a letter was found: “after having imagined all that could happen to me in the future and being aware of all the possible horrors, out of precaution, I decided to put an end to my life.” Interpreted in the right way, the precaution principle draws the attention on the limits of science and technology, at a certain point in time, on the limits of human knowledge that can determine decisions with disastrous consequences for the future generations, especially when these decisions have an irreversible character.<sup>10</sup>

## II. Demography and its shocks

*Unbalance between the rich and the poor is the greatest worst of any republic.*  
PLUTARCH

In the XIV<sup>th</sup> – XVI<sup>th</sup> centuries, the population growth was determined, essentially, by good crops and the absence of epidemics, and logically, the periods of wars, bad crops and epidemics marked drastic population diminishing; the plague epidemic has reduced the European population by a third, in France alone, 21 million inhabitants to 8 – 10 million. In year 1400, there were 350 million people living in the world and in year 1900, their number reached 550 million.<sup>11</sup>

The XX<sup>th</sup> century shows the world a picture which is at least challenging. From 2.5 billion in 1930, the world population reaches 5 billion in 1980 and 6.5 billion at the beginning of the XXI<sup>th</sup> century; In the past 30 years, the world population has grown by 2.4 billion people, by 60% respectively. The first topic for debate already comes up: till where this growth can continue? If we have to deal with super population, is this an obstacle against sustainable development? Is there a direct connection between the population density and environment and resources depletion? And, above all, how can an aging population rescue the Planetary patrimony and transfer it to the next generations?

<sup>10</sup>Jacques Lesourne, *Les crises et le XXI – e siècle*, Ed. Odile Jacob, France, 2009, pp. 92 – 93.

<sup>11</sup>Pierre Dockès, Jean – Hervé Lorenzi, *Le choc des populations; guerre ou paix*, Ed. Fayard, France, 2010, pp. 15 – 17.

Together with Yvette Veyret and Jacqueline Jalta we believe the international organizations forecasts and accept the hypothesis that the forecasts carried out in the 1980s will be confirmed and that during the XXIst century we will witness a **stabilization of the world population**, especially taking into account that towards the end of the XXth century the fertility rate per woman capable to procreate had decreased from 4.7 to 2.6; slowing down of growth is already a reality.<sup>12</sup>

It is expected that the world population reaches 10 billion inhabitants (a figure excessively rounded) by the end of the XXIst century, according to some estimations. The previsions are extremely controversial, to such an extent that even within the UN system, the figures regarding a decrease of the world population to 5.5 billion, respectively a billion less the present world population. A dominant idea spread by researchers is that we are witnessing a **demographic boom** which is to be blamed for most part of the modern civilization abuses and exceses: expansion of deserts, hunger, biodiversity decline, climate warming, pollution, etc.

At **developed countries** level two different situations are noted: a first category groups countries whose population is in cvasi equilibrium, with an average fertility rate slightly under the limit of generation renewing, estimated at 2.1 children for each fertile woman<sup>13</sup>, deficit covered by immigration, France, USA, Australia, Scandinavian countries amd a second category with countries like Germany, Italy, Spain, characterized by a slight decrease of population generated by the considerable diminishing of the fertility rate.

Radical changes have been produced in the **demographic spread on continents**. Europe, which concentrated a quarter of the world population at the end of the XIXth century, today holds only a tenth. **Africa**, on the contrary, grows from 8% to 18% in 2020, the African population being doubled by 2030; a level negatively affected by AIDS, especially among the sub Shara population. Also, sticking to the macro tendencies level, one notes the **unequal spread of population** as well as the accelerated growth of urban population. Aproximatively 70% of the world population is located in Asia, China, India, Japon, Indonesia and the Philippines; today, the population mostly rural, with densities up 600 people/km<sup>2</sup> China's fields and in Java, but with urban crowds, megapoles having more than 5 million inhabitants like, Shanghai, Pekin, Calcutta, Tokyo etc.

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<sup>12</sup>See also Yvette Veyret and Jacqueline Jalta, *op.cit.*, pp. 40 – 42.

<sup>13</sup>The feminin population apt to procreate is considered to be between 15 and 50 years; to ensure the generation renewal it is necessary for 205 babies to be born of 100 women (100 girls and 105 boys), but this figure is corrected by 210 births, taking into consideration feminine death before the procreating age. Yvette Veyret and Jacqueline Jalta, *op.cit.*, p. 40.

In other parts of the world, the population is less dense, with a few populated centers the Nile Valey, Guinea Golf shore, in the North – East of the USA; in exchange, entire ares with very reduced density are situated in Central Asia, (Kazahstan, Siberia), especially in Rusia, as well as in the tropical forests in Congo and Amazonia and, of couse, in the great deserts of Sahara and Kalahari, like in North Canada and Greeland. Today, over 40 % of the world population lives in cities, and the **XXI st century is anunnounced to be predominantly urban**, having an urban population of over 60% in 2025 and more than 30 cities having more than 8 billion inhabitants.

Among population, resources and sustainable development **complexe, evolutive and interactive actions** are being established. In 1994, the Cairo Conferenceon demography has introduced for debate **the overpopulation theme**, associating it to the notion of “optimal demographic” or “D bomb” calling for urgent measures to resque poor countries. And today the researchers are still confronted with the difficulty of defining the overpopulation, an action that would involve fixing a limit that if surpassed would mean that the population is too numerous; what would be the criteria, if we take into account that there are regions where a few inhabitants per km<sup>2</sup> could be too numerous with regard to the available resources (Arctica, desert regions), whereas there are areas, like Holland, where high densities allow a better use of resources and environment. Therefore, the debate remains open.

As far as the **population-resources relationship** is concerned, starting with the XVIIIth century, beginning with Malthus, many researchers have pointed out the distorsion between demographic growth and resources; a report regarding “the nations’ ecologic impact” concludes that the workld population supercedes already by 20% the planet providing capacity to meet the needs.<sup>14</sup> Saying that there are too many people on the planet and that there should be less, opens the door to policies, actions, and attitudes at least controversial.

Nor the population **density and environment depletion** cannot be determined in a directly proportional ratio. The analysis will have to include the way of life, type of economic activities, (polluting or not), energy consumption, culture, skills; there are many situations where, on the contrary, poverty is responsible for rnvironmental depletion, like the case of emergent contries, which, accessing to development, become great energy consumers and important polluters.

At the end of the XVIIIth century, Malthus noticed with legitimite concern that the natural and economic limits of population growth (the English and Euopian continental population grew fast, the fertile lands were limited, the output were decreasing), in an exponential dynamics, while the agriculture production

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<sup>14</sup>Quate from Yvette Veyret and Jacqueline Jalta, *op.cit.*, pp. 44 - 45.

bearly grew in arithmetic progression. Ever since, every 20 – 30 years, the Economist Club, lead by Pierre Dockès and Jean – Hervé Lorenzi<sup>15</sup>, appreciate that the debates on demography come back to the present, it is exactly what happens at the moment, especially under the circumstances of the present global economical crisis.

The XXIst century demographic evolution is a process having many unknowns and multiple possible scenarios, each of them being favoured by a certain combination of the causal factors. The researchers already agree that it can be confirmed that certain **places** will mark the demography of this century.

In year 2000, the global economy was dominated by six great group of countries: SUA, UE (15 members), India, China, Japon and the South – East Asia group (Singapore, Malaysia, Indonesia, Thailand, South Coreea and Taiwan). In GDP termens, these countries were totalizing 73% of the global production and 57% of the population. The rest of the world, including South America, Africa and Eastern Europa de Est, reprezented 27% of the world production and 43% of the population.

At the horizon of 2040, the most predictable spectacular phenomenum, the most alarming one, according to Robert W. Fogel<sup>16</sup>, will be Europe’s relative decline, having the same comparison basis, respectively 15 members, due equally to economic stagnation and modest GDP increase.

In the case of developed countries, the demographic growth went “hand in hand” with the economic growth, USA being the most eloquent case, where the population grows from 10 billion inhabitants in 1830 to 305 million inhabitants in 2010, having an extremely strong immigration: 20 million Europeans emigrate between 1870 and 1920.<sup>17</sup> Demographic expansion and economic development evolved interactively and supported each other.

The relationship demography- development occurs, spectacularly, in the economic evolution of China and India, strongly emergent countries. In China’s case, the figures are impressive. The Chinese GDP could reach, in 2040, 123 billion dollars, respectively three times the world production in 2000; the individual income is estimated for 2040, at 85, 000 dollars, respectively double of the predictions for Europe and overcoming India and Japon. At the basis of these predictions, submitted in their turn to certain unavoidable constraints and uncertainties, there are two factors, both in connection with demography: massive transfer of agricultural population towards insustry and services, and even more important, quality of labour, which is increasing, due to extended schooling;

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<sup>15</sup>See Pierre Dockès, Jean – Hervé Lorenzi, *op.cit.*, pp. 16 – 20.

<sup>16</sup>Robert W. Fogel, *Les chocs*, in *Le Choc des populations*, Pierre Dockès, Jean – Hervé Lorenzi (coord.), pp. 23 – 26.

<sup>17</sup> *Ibid*, p. 67.

China has made and continues to make serious investments in primary and superior education

In the case of India, we find the demographic factor again as support for an economic growth of 6 - 7% annually, beginning with 1996, making India an important actor of the XXI<sup>st</sup> century; the constraints and obstacles for a future development of Indian economy are also of a demographic nature: still high illiteracy (40% of the population), poor productivity of labour in agriculture (half of the Chinese), in the context where 2/3 of the Indian population is rural. To which political and socio-cultural constraints, as well as tensions between the Hindu and Muslim population, those between various ethnic groups and those generated by the caste systems add up.

At global level, it is estimated for the population to grow annually by 75 million inhabitants, in a scenario advanced by UN study, from which it results that after 1804 when the world population reached the first billion of inhabitants, the level of two billion was reached in 1927, after 123 years, then 3 billion in 1960, and then follows the **boom**, one additional billion every 12 – 15 years, until 2028, when the estimation is 8 billion, then 9 billion in 2054 and (according to the quoted study) after another 129 years, 10 billion inhabitants in 2183. A population which needs, living conditions, education, health care, leisure, transportation, infrastructure, an interactive relationship with the environment, social organization, those are compulsory components of sustainable development policies and programmes at all levels, from the local to the planetary one.

**The demographic shock** has essentially been produced, concludes Geert Noels<sup>18</sup>, last century, in the years 1970 – 1980; however, the shock **wave**, the economic one, has reverberations in the first decades of the XXI<sup>st</sup> century. It is not at all by chance that during those years, Club of Rome, of the 36 eminent scientists, launches an alarm signal, evoking the depletion of the planetary resources, directly inviting the public opinion to read again Malthus' famous theory.

The urban population of the world will grow at an average annual rate of 3.1% in the period of 2000 – 2030. The greatest number of urban population is in China; at the same time, this country has a low degree of urbanization, a situation similar to the one in India.

Beginning with Patrick Geddes in 1915 and then with Saskia Sassen in 1991, the concept of “world cities” occurs, subsequently transformed into “global cities”: New York, London, Tokyo, to which a group of three is added: Kobe, Chicago, Los Angeles, then Paris, Moscow, the Dutch center with Rotterdam, Utrecht, Amsterdam, Rhine – Ruhr center with Köln, Essen, Düsseldorf, Dortmund, then Shanghai, Calcutta etc.

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<sup>18</sup> See Geert Noels, *op.cit.*, pp. 53 – 55.

**The global city** is a control point in the world economy, strategic center for financial societies and for specialized services, production centers for high tech industries, and in the fourth place a market for the new products: “it is the global city, whose striking examples are New York, London and Tokyo”<sup>19</sup>.

**Urbanization, modernization and development** are indissolubly connected. A new concept of **sustainable city** occurs to harmonize the ongoing urbanizing process with the requirements of sustainable development; the same Jacques Véron states: “several major challenges will be taken; a new model of future city will be invented, careful with ecologic behaviour of its inhabitants,” in other words, a concept of <sup>20</sup>.

### III. Economy and its repeatable crisis

*In the period of crisis, the inventions, discoveries and great strategies are born.*

A. EINSTEIN

The first impression is that 2025 seems remoted, and then we quickly realize that we are only 15 years apart. On the other hand, we all realize that the first ten years of the XXI st century are gone too fast; this is an impression as well, nourished by the multitude of events that kept the world in high tension and threw a different light on the time passing: the terrorist attacks in the US in 2001, the war in Afganistan, the war in Irak, Presidential election two times in the US, Presidential elections in Russia, the shock of the first bankruptcies due to the crisis, then the other bankruptcies we became familiar with.

With and without crisis, but mostly with crisis, it is natural for the specialists in futurology to cast a glance on the next 15 years, which is actually happening. Alvin Töffler, regarded as the greatest world futurologist announced that he has already finalized a “draft of the future”<sup>21</sup>, as well as Thierry Gaudin, who belongs to another generation, not only that he has published two books already about “2100 Humanity”, but he also chairs the „Prospective 2100“ association, an international association engaged in the elaboration of over 12 planetary projects regarding the XXIst century.<sup>22</sup>

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<sup>19</sup> *Ibid*, p. 61

<sup>20</sup> The « sustainable city » concept is detailed by Jacques Véron, *op.cit.*, pp. 101 – 107.

<sup>21</sup> *DIPLOMATIE*, Hors Série no. 8, May 2009, p. 64, consider Alvin Töffler as the third personality in point of influence on the business world, after Bill Gates and Peter Drucker.

<sup>22</sup> *Ibid*, pp. 70 – 71.

Let us not be surprised that the very famous Investigation Agency, the C.I.A., itself has updated, in the past years, his report on the state of humanity in 2025, or the fact that the European Union consider it useful and necessary to mandate its Institute for Security Studies to elaborate a report regarding tendencies until 2025; these reports and the individual works of famous authors will be the basis for our relexions regarding a probable picture of the world in 2025.

In 1970, Club of Rome, an informal forum of world level personalities of that perios, has predicted – through analysis of trends, series, cycles, etc - that a systemic and structural crisis will hit the world at the beginning of the XXIst century, however, who still remembers, or to what extent the “world titants” took into account the warnings of the “wisemen”.

The years 2008 – 2009 brought the world economy a **real slow down of economic growth**. Within the world growth, twists, unimaginable a century ago, have been produced.

The evolution is special in Asia, where lives 2/3 of the world population: China and India’s share in the world GDP has grown from 3.2% in 1980 to 14% in 2007; in the same period, the GDP per capita has multiplied 16 times for China and 5 times for India. The same evolution is to be happening in Brasil where, the GDP per capita has grown 3 times, as well as in Russia.

This growing trend is accompanied by a strong regionalization tendency, especially in Oriental Asia, where interregional exchanges out of the total exchanges have grown from 40% in 1980, to 50% in 1995, reaching 60% in 2008 - 2009, deterring what experts call a **historic rebalance**, a **shifting from Western hegemony to policentrism**.<sup>23</sup>

The tendency of **globalization of commercial exchanges** has been translated by a growth of international trade, at a faster rate than that of the world GDP: Between 1983 and 2006, the vlume of the world trade grew by 4.9% annually, compared to that of the GDP, 2.7% annually<sup>24</sup>; in the same period, the share of Chinese exports in the world exports grew from 1.2% to 7.5%, respectively over 6 times.

**Globalization has attracted financierization**, on the background of the growing internationalization of capital, reflected by the increase in productive investment (foreign direct investment) and financial investment; in terms of direct investment there is a **reversal of flows** from South to North, as well as their regionalization, particularly in Asia, as mentioned above.

Out of the first 1,000 great world companies, 221 are located in emergent countries, with a corresponding share (20%) in cumulated stock exchange

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<sup>23</sup>See *Le Monde Diplomatique*, Hors Série, Atlas, Bruxelles, 2009, pp. 10 - 11; for China and India see the article from the same suppliment, pp. 52 - 53.

<sup>24</sup>*Ibid*, the article „Financiarisation rime avec mondialisation”, pp. 28 – 29.

capitalization; specialists have named it as **the boomerang effect of globalization**, namely the serious shaking of the North supremacy.

If until 2007-2008, relocation, in the strict sense of relocating already existing productions to other countries, represented only 6% (percentage of reduction in the total number of jobs), it is to be expected, in the current crisis, that this factor becomes very dynamic. Depreciation of bank assets, by several hundred billion dollars on both sides of the Atlantic, the bankruptcy of many financial institutions, volatility of securities, have been key factors in the collapse of stock markets in all world financial centers. Karine Berger introduces in equation the influences of the « third shock of the oil » which risks to be too easily forgotten because of the violence of manifestation of the the voucher's banking crisis.<sup>25</sup>

The increase of oil barrel price between 2007 and 2008 is of 70%, added to over 100% in the preceding four years. An oil shock is translated by a violent redistribution of wealth in the world, from the oil consumers to the oil producers; in point of dimension, the increase of the oil barrel price in 2008 compared to 2007, was the equivalent of a transfer of 700 billion dollars from the main 15 importing countries towards the main exporting ones. The figure is doubled when taking into account the growth occurring after 2003, which represents a transfer in that direction, of 2.4% of GDP, compared to 2003.<sup>26</sup>

And as demand for crude oil is rising fast in the countries - the engine of global growth - OECD countries plus China, India and Taiwan - the issue of energy independence, while the conflict arises acutely in Russian-Ukrainian gas supplies to Europe, make the concept of **energy security** compliment to that of energy independence, especially since the decline of oil production in Europe is inevitable and very soon, European consumption of crude oil will have to be 100% assured from import.

The problem acquires another dimension when viewed from the perspective of using oil as a political weapon. Here is the distribution of oil reserves in the world and their cost of production, in the following figure (see fig. 1).

Christian de Boissieu completes the picture of major tendencies in post crisis global economy related to the crisis phenomenon, with the important changes,

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<sup>25</sup> The price fluctuated in the second part of 2008, when the crisis started to determine a strong decrease of demand; the price per barrel, for Brent crude oil (the North Sea), for instance, de exemplu, decreased from 147 dollars in July to 60 dollars in November. See *DIPLOMATIE*, H.S., 8<sup>th</sup> issue, May 2009, p. 14.

<sup>26</sup> The price fluctuated in the second part of 2008, when the crisis started to determine a strong decrease of demand; the price per barrel, for Brent crude oil (the North Sea), for instance, de exemplu, decreased from 147 dollars in July to 60 dollars in November. See *DIPLOMATIE*, H.S., 8<sup>th</sup> issue, May 2009, p. 14.

radical even, that will be occurring in international finances<sup>27</sup>, starting with the emergence of **new routes in international finances** on the background of **worsening of great international imbalances**. Regarding these imbalances, the observation made by Henry Kissinger, the former US Secretary of State, is more than interesting: "Any economic system produces winners and losers. If the discrepancy between the two categories becomes too great, the losers will get politically organized and will try to rearrange the existing system"<sup>28</sup>.

The world economy and finance will continue to organize around the **external deficit of the United States** and around the way of financing this deficit; it is significant that 5.3% of the GDP of the USA, respectively 700 - 750 billion dollars, come from gross investment and portfolio investment.

Another component of the future international finance is consolidation of the financial flow generated by **immigrant laborers** to their countries of origin; in 2007 the total amount of these transfers was 240 billion dollars, double to the one in 2002. The countries where the money exits from are mainly, USA, Saudi Arabia, Russia, Malaysia and the beneficiary countries are: Pakistan, India, China, Mexico, Portugal, Turkey, and Morocco.

The major concern regarding international finance and at the same time, a lesson learned from the 2008 – 2009 shock, is **governability** of these finances, their **transparency** and clean up their "opaque products", in the dark, complex products, subtly imagined and designed, which is actually related to the sale of mortgage debt high risk; products offered by the banks themselves, finance important actors, to some honest buyers, attracted by the enticing package, but dubious of these products, about which a group of renowned experts, of which Jacques Delors and Jacques Santer, ex-presidents of the European Commission, are not missing, neither Lionel Jospin, Former Prime Minister of France, Michel Rocard, nor Daniel Daianu, professor and former Finance Minister of Romania, agree with the necessity for an active and pragmatic policy against "mad" finances and their derived products, which have become "weapons of mass destruction."<sup>29</sup>.

Also in the international financial voucher, the next period will be critical to the future and the functions of the three organizations providing supervision (how and how much) at planetary level: The International Monetary Fund (I.M.F), this banker of the 185 Member States, Bank for International Settlements (BIS), considered the "Bank of Central Banks" and Financial Stability Forum (FSF) created G-7 in 1999.<sup>30</sup>

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<sup>27</sup> Christian de Boissieu, „Les nouvelles routes de la finances international”, essay published in *Le Nouvel Observateur*, Atlaséco, 2009.

<sup>28</sup> Henry Kissinger, article „The World in 2009”, from the *The Economist*, dec. 2008.

<sup>29</sup> See file „Crise financière”, *Le Monde*, nr. 381, dec. 2008.

<sup>30</sup> See Frédéric Lemaître, article in supplement *Le Monde*.

Among experts and analysts, there is a more “surgical” trend advancing the solution of **renationalization of banks**, as a component of a **New Financial Order**. They are on the opinion, like Paul Jorion that „ to resque the financial system, it should be put to hibernation“<sup>31</sup>, meaning by that real estate garnishment ban, freezing of CDS markets to halt new material uncovered real flows.

To complete a picture, somber enough already, with long term demographic predictions, illustrating the tendency of population growth from 6.5 billion inhabitants in 2008, to 10 billion in 2050, an inevitable growth which will attract, according to J. - M. Boussemart<sup>32</sup> „economic disturbancies hard to predict today“; in 2025 India will exceed China and will become the world most populated state, having to feed 1.6 billion inhabitants in 2050. “one good thing, one bad thing”: the average life expectancy (men and women) which is 67.2 years today will be 75.4 years in 2045 - 2050, probably this is good news, however this will make the total of the old population to be higher, in Europe from 23.5% at present, to 47.7% in 2050; in other words, finacing the elderly and the dependend will be a mojour challenge in the future years.

The financial crisis and global slow down of economic growth have changed the top of the world largest economies of the world by Gross Domestic Product (GDP) in dollars. Thus, recession will Astfel, recesiunea propel China in the second position in the world until 2010, in the detriment of Germany and Japon. However, the United States will preserve the position of the largest economy in the world, with an estimated GDP of 14 334 billion dollars in 2008, respectively 14 571 billion dollars in 2009, compared to 13 808 billion dollars in 2007, acordiong to a study of the Centre for Economics and Business Research (C.E.B.R.), British company companie for consultancy and macroeconomic analysis.

In 2008, the most notable changes in the top of the world largest economies are: China is ranked third shift, Germany's fourth down, and advance the position of France, ranked fifth at the expense of Great Britain. United Kingdom will be surpassed by China in 2010, which will become the second largest economy in the world. Canada, which amounted in 2007 to ninth position in the world with a GDP of 1436 billion U.S. dollars, fell to number 11 in 2008 and ranked 13 in 2009 due to a sharp recession.

In this context, Brazil and India climbed two places in the rankings. In 2007, Brazil was situated on the tenth place in the world and climbs a position a year in 2008 and 2009, exceedind Spain's GDP in dollars.

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<sup>31</sup> Paul Jorion, article in *La vie financière*, 3304<sup>th</sup> issue, Oct. 2008, p. 12.

<sup>32</sup> See Jean-Michel Boussemart, „Les prochains enjeux démographiques”, article in *Le Nouvel Observateur*, Atlaséco, 2009

#### IV. Sustainable development and food safety

*May you have open minds and noble souls.*  
Nicoalae IORGA

**“Food crisis is a planetary challenge”** – clearly states Jean – Yves Carfantan<sup>33</sup>; to continue, “this crisis is inherently related **other two major challenges** the world has to cope with at the beginning of this XXI<sup>st</sup> century – the **problem of energy and climate warming**”. Besides, we ourselves have a similar perception, a reason for which the next two chapters are dedicated to energy and environment, in other words the concept of food security, we will make reference to, cannot be circumscribed to the food question itself, being interactive with the two fields mentioned above.

“The world heads running towards hunger” cries the UN already. The price of food explodes; in cities, the food basket increases by 50%; famine revolts multiply in over 30 emergent countries like Egypt, Indonesia, Haiti, Nigeria; the world is in panic; Malthus is in fashion again; media headline in large letters: “Hungry Planet”; experts talk about “spiral of hunger”, confirming one of the greatest fears of the humanity, respectively, lack of resources, both in the energy and food field.

Being used so often, sometimes too often, the term, concept of **food security** is incomplete if it is not regarded through the perspective of at least two components: availability and accessibility.

As far as availability is concerned, the sense is obviously, that food has to exist physically materially, to be produced constantly, in sufficient quantities and in a convenient structure; every time this topic is approached, it is impossible not to mention the thesis comprised in the *Essay on population*, published by pastor Malthus in 1798, consisting in the theory on the impossibility, in the long run, to feed a population in strong growth, under the circumstances where natural resources (grow in arithmetic progression only) cannot keep the path with the exponential population growth.<sup>34</sup>

The experts, roughly agree that, **at planetary level**, the quantity of the good produced is sufficient for all humans. In exchange, strong variations are registered at regional, continental and even local level; Africa’s map alone shows, together with region with grain surplus (Zambia, Côte d’Ivoire, Cameroon) coexist region with strong deficit (Ethiopia, Nigeria, Zimbabwe). There are countries where

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<sup>33</sup> See Jean – Yves Carfantan, *Le choc alimentaire mondial*, Ed. Albin Michel, Paris, 2009, pp. 191 – 193.

<sup>34</sup> Sylvie Brunel, *Nourrir le monde, vaincre la faim*, Ed. Larousse, Spania, 2009, pp. 28 – 29, subcap. „Souveraineté et l’indépendance alimentaire”, p. 185.

within that region coexist surplus and deficit regions: Madagascar, Mali, Burkina, etc. At the same time, food must be **accessible**, respectively to give the opportunity to be obtained, through the perspective of purchasing power; from this point of view, **food insecurity** is targeting those who do not have the means to procure the necessary food, namely the poor; there is also another kind of inaccessibility, due to exclusion on religion, ethnic (Nigeria, Sudan) grounds where **malnutrition** of the populations occurs due to lack of access to food that exists, an aspect that is not necessarily related to extreme poverty.

In other words, **hunger** and **malnutrition** do not necessarily reflect. A physical lack of food, as long as this, once produced in sufficient quantities, it is not evenly distributed, at regional, national, community and even individual scale. To this, the above mentioned disturbances are added, when **penury is created**, for speculative reasons or when sau când "King's law" completed by **reduced demand flexibility** of agricultural products create strong anomalies on agricultural products and food markets.

Food security intersects, on an important common area with, health security, to the extent that a large number of existing diseases in the world today are related to diet, either in quantitative terms (undernutrition) or qualitative terms (malnutrition) and the list of diseases related to food and water is endless.

North - South cleavage applied to food security concept is expressed "grosso modo" by locating security in the North and insecurity in the South. Jean - Yves Carfantan drafts an action plan, in charge of both geographical sections of the planet, **a green script** with "what to do" and **a black scenario** with what happens "if nothing is done."<sup>35</sup>

**For the South**, the program is entitled "Revitalising agriculture". Its priority is sub-saharian area where the dependence on agriculture is the highest and the performance is the lowest; in this region, 7 laborers out of 10 work in agriculture, the agricultural production provides 1/3 of the national wealth and provides approximately 40% of export earnings, 91% of farmland is owned by small traditional, family farms, occupying 86% of rural population and work to ensure **family self subsistence**.

At the same time, it is necessary, as Jean-Yves Carfantan also proposes that in their turn, the Nordic countries to assume their responsibilities, without which it is impossible to secure the planet in terms of food. WTO Rules (formerly GATT) have been initiated in the context of agricultural overproduction obsessions (1986-1994) and essentially reflect the concerns of exporters to regulate competition and are not consistent with the agenda of concerns of least developed countries in terms of agriculture. From this point of view a new code of conduct is more necessary than ever.

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<sup>35</sup> See Jean - Yves Carfantan, *op.cit.*, pp. 197 - 234.

Descending at the regional level, the European Union will have to face the challenge of making the CAP (Common Agricultural Policy) an agricultural policy consistent with environmental and social factors and the direct aid without counterparty, to become a current tool, taking into account compliance with specifications; in the preservation of natural resources - The European Union initially enacted to protect agricultural markets, through Community preference and is required to open the future market more and more freely for third-country products: meat, sugar, rice, cotton, fruits and vegetables.

The world will be more and more aware of climate events with dramatic consequences: hunger, disruptions in supply, violence. **In the medium and long run**, food security of the planet will depend on putting into practice **new commercial rules** making exporting countries responsible, in parallel with international market **discipline** to prevent speculative phenomena - what the authors call the collective food security.

## V. Energy and its great challenges

*Disorder never relents by itself.*  
SENECA

Two spectacular growths are characteristic to the modern era: demographic boom and energy consumption. We discussed about the **demographic growth** in a previous chapter; between 1850 and 2000, respectively over 50 years, the world population multiplied five times, from 1.2 billion people to 6 billion. Regarding energy, in 1850 the world needed 50 Mtoe (million tonnes oil equivalent), non-renewable energy, and in 2008, consumption was 10 000 Mtoe, an increase of 20 times, as Alban Vétillard<sup>36</sup> also highlights and in this period time of about 150 years, man found all fossil fuels, then nuclear energy. In 1900 alone non-renewable energy consumption was 4-7 times lower than in 2000, energy leap has increased notably in the second half of the XXth century, due to the boom in consumption in Western countries.

The paradox comes from the fact that, although the world still has abundant energy, two great constraints matured, each separately during the XXIst century. Massive use of cheap **fossil fuel allowed** the humanity to make notable progress; unfortunately, these are in limited quantities on the planet and will become more and more scarce; first the oil, then natural gas, and, in the long run, coal. At the time, fossil fuel usage causes the increase of CO<sub>2</sub> emissions, increasing the concentration of this gas in atmosphere, creating the **greenhouse effect**. Thus, **the**

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<sup>36</sup> See Alban Vétillard, *Énergie, Climat, Développement: l'heure des choix*, Ed. L'Harmattan, Paris, 2009, pp. 17 – 18.

**first great challenge** consists in diminishing CO<sub>2</sub> emissions, in the short term, and in parallel, but having another timetable, gradual replacement of fossil fuels gradual replacement of fossil fuels to other energy sources which are not emitting greenhouse gases - this being, as confirmed by Christian Ngô, the econd biggest energy challenge of the century<sup>37</sup>.

The first great industrial revolution in the second half of the XVIIIth century was based on the transition from wood to coal, which led to the development of mining and steam machines. The second great industrial revolution occurred based on the **oil and electricity**. Anne Lauvergeon and Michel - H. Jamard felt that energy revolution will enter the world, the third revolution is different from the first two which were animated by a spirit of conquest (treasure, planet, space), that it is driven by a **spirit of conservation**.<sup>38</sup>

In the correct perception of the **relationship between energy and economic growth**, it is noteworthy that, at present, developed countries are less than **energovore** developing countries, the comparison with the common denominator the amount of energy needed to achieve each additional percentage of growth. Thus, **Russia** uses three times more than Europe, **China** needs 50% more than Europe and the U.S. consumes over 25% more than the European average, however, **Japan** is an example of **energy efficiency**, consuming three times less than Europe for a percentage of economic growth.<sup>39</sup>

Given that **energy plays a decisive role in achieving economic progress**, the cost of producing energy, its value added in industrial production, becomes of paramount importance. Experts calculate the energy dependence of the formula:

$$\text{ENERGY} = \frac{\text{Energy}}{\text{GDP}} \times \frac{\text{GDP}}{\text{Population}} \times \text{Population}$$

The first report gives the **energy intensity** and the second is the welknown GDP / capita.

This formula calculates the total energy demand as an indicator of energy intensity is neither sufficient nor autonomous.<sup>40</sup>

It is exactly this role of energy in economic growth that reveals the vulnerability of the latter, which has been exposed, in a peremptory and, unfortunately, catastrophic way by the energy crisis. This begins in 1973, with the four times increase of price per barrel of oil, decided by OPEC; the Western world was in the middle of the euphoria of the continuous economic growth after

<sup>37</sup> Christian Ngô, *Demain, l'énergie*, Ed. Dunod, Paris, 2009, pp. 21 – 22.

<sup>38</sup> Anne Lauvergeon et Michel - H. Jamard, *La troisième révolution énergétique*, Ed. PLON, Paris, 2008, pp. 23 – 25.

<sup>39</sup> See Geert Noel, *op.cit.* pp. 161 – 170.

<sup>40</sup> Alvan Vétillard, *op.cit.*, pp. 26 – 27.

the Second World War, when, all of a sudden, the increase of unemployment, inflation and, in addition to it oil prices, shook productivity theories postulates on economic growth that gained ground during the previous decades. Sylvie Brunel is on the opinion, which we share, that it is not by chance, that in 1974, the United Nations Conference on Trade and Development (UNCTAD) launched the call for the adoption of a New International Economic Order, fairer for the third world, around the principle of "Trade, not aid"<sup>41</sup>.

**Energy spiral**, divided into **three growth**: demographic, economic and energy needs (related to the first two) shows that the trend is toward a growing consumer of energy; it is not so much the reducing energy consumption in itself that is a condition, but reducing waste; and to reduce CO<sub>2</sub> emissions, the direct relationship is not to reduce fossil energy consumption emitting such gas. The task is of the "mission impossible" type, but which has to be made possible.

Nowadays, everyday the world population increases by 200 000 new inhabitants, respectively 200 000 new daily energy consumers<sup>42</sup>; this relation is interactive because, access to energy contributes, in its turn, to population growth. I have also mentioned that, about 2.8 billion inhabitants live on trãiesc cu 2 dollars per day and about 1 billion with less than 1 dollar, which bans about 1.6 billion inhabitants from having access to energy, with serious consequences on food, health and education; the only way for this population to get out of this poor subsistence situation is to develop economic activities, of familial type in the beginning, which involves demand of energy: the energetic spiral starts moving.

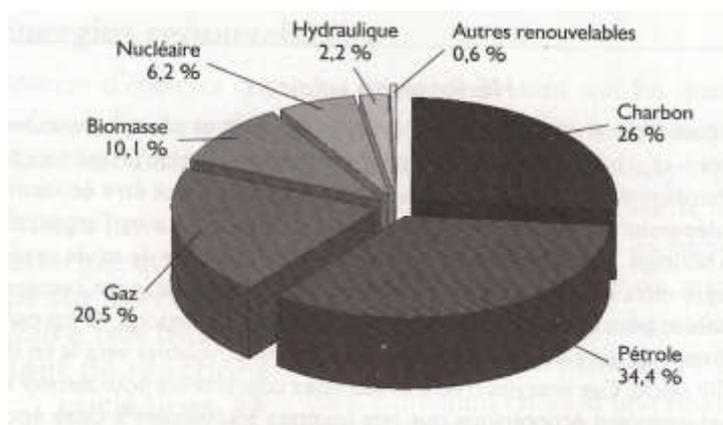


Fig. 1: Repartition of primary energy consume in the world, in 2006, among different sources of energy, after Christian Ngô

<sup>41</sup> See, Sylvie Brunel, *Le Développement durable*, pp. 24 – 25.

<sup>42</sup> Christian Ngô, *op.cit.*, p. 12

Renewable energy, presented above, is on land or in limited supply, so finite, **the stock energy** - oil, natural gas, coal and uranium - they are **renewable**, some self renewable and, as such, inexhaustible. Coal, oil and natural gas are **fossil fuels** "produced" by nature in millions of years and have intensively been exploited by the humanity for approximately 200 years; uranium is not fossil, but it is exhaustible.

Regarding **renewable energy**, we quote Christian Ngô, who masterly summarizes: "There will be as long as there is Sun, approx. 5 billion years, but the planet (Earth) will be undoubtedly uninhabitable long before that date."<sup>43</sup> In some developed countries, **wood heating** experienced a significant residential development due to high efficiency thermal power plants and requiring preconditioning as wood board (lighters).

There are also technologies that allow production of **electricity** from biomass. Referring to biofuels and their controversial development, we note that it is **Bioethanol**, a gasoline substitute, produced from sugar cane, sugar beet, wheat and corn. A transformation of engines (**Flex fuel**) allows feeding either with gasoline or ethanol, in Brazil, 80% of new vehicles are flex fuel.<sup>44</sup>

The other form of fuel is **biodiesel, diesel substitute**, and can be obtained from rapeseed, sunflower and soybean. In situations, **ethanol** or **biodiesel**, and let us not forget that we are talking about **agrofuel**; in other words, as Christian Ngô also states, we have to chose between eating or traveling.<sup>45</sup>

In industrial production, **first-generation biofuels** are obtained; ethanol is obtained from fermentation of cane and beet sugar or ethanol from wheat and corn. It is obvious that, as we have already mentioned, biofuels compete with **food biomass**. There are **second-generation biofuels**, which are obtained by industrial processing of wood pulp biomass, and one expects, a **third generation** based on **marine biomass**, especially of algae. The US Department of Energy has calculated that a large area, the equivalent of the Montana State, would be sufficient to cover the oil demand of The USA.<sup>46</sup>

However, Alban Vétillard mentions, in passing, the moral aspect of the matter, that driving a car using potential food, while people are starving in the world, and he demonstrates that biofuels can not save the situation anyway. Taking the example of France, solely to cover the oil necessary for transportation it would be necessary to use the entire French agricultural land to obtain biofuels.

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<sup>43</sup> *Ibid*, pp. 17.

<sup>44</sup> *Ibid*, pp. 51 – 52.

<sup>45</sup> See Christian Ngô, *op.cit.*, pp. 90 – 92.

<sup>46</sup> *Ibid*, p. 94.

In the example of France, solely to cover transport oil needs would require the use of biofuels of all agricultural areas of France.<sup>47</sup>

On the same line of thought, Anne Lauvergeon and Michel - H. Jamard<sup>48</sup>, mention the three billion additional people who will have to be fed by 2050, pleading for keeping the agricultural areas according to their initial purpose, orienting the discussion towards energy requiring less space, favouring nature and food.

Al Gore, an ardent partizan of alternative energy, pleads for biofuel obtained from **non food crops** to eliminate geopolitical and ecologic competition among food crops and fuel crops". He states that "first generation ethanol production is a mistake"; the population is very sensitive to the high water consumption in these plants that need drilling that are raising concern.<sup>49</sup>

The magnitude created by this phenomenon in the XXI<sup>st</sup> century was studied by IGSC (International Group of Studies on Climate), making use of high technology computers, resulted in an impressive number of hypothesis, which synthesized, enable the release of several trends<sup>50</sup>:

- In case the concentration is maintained at the level of year 2000, the temperature rise in the period between 2000 – 2100, could be situated around an average of 0.6<sup>0</sup>, a scenario considered to be highly improbable;
- For scenarios of economic growth based on technological progress and gradual development of energy resources without greenhouse effect gas emissions, the average rise could be situated, for 100 years, between 1.8 and 2.4 degrees;
- It looks more likely that the humanity will not succeed to maintain temperature rise within 2<sup>0</sup>C, which will aggravate the phenomenon.

The year 2100 maturing means, at demographic level, 7 – 10 billion, according to extreme scenarios; it is more likely that humanity can count for another additional 3 billion citizens on the planet. The GDP per capita starts from 5 000 dollars in 2000 to be multiplied four times, in a century; the starting point, our zero moment, also means a primary energy consumption where coal represents 26%, oil 39% and gas 28%, judged as being responsible for gas emissions and climate warmth.

**By year 2050**, the world energy consumption will grow, however this growth will have to intersect other two evolutions:

- The necessity to limit greenhouse effect gas emissions to maximum, which implies a reduction level of two times at least, or four times in the developed countries, in order to counterbalance the emissions growth in China and India;

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<sup>47</sup> See Alban Vétillard, *op.cit.*, p. 59.

<sup>48</sup> Anne Lauvergeon and Michel - H. Jamard, *op.cit.*, pp. 91 – 94.

<sup>49</sup> See Al Gore, *Urgence planète Terre*, Ed. Hachette, Paris, Jan. 2009, pp. 120 – 121.

<sup>50</sup> Jacques Lesourne, *op.cit.*, pp. 54 – 56 și p. 73.

- Gradual replacement of oil and gas whose reserves are depleting: for oil, analysts are expecting a peak oil” towards 2030 and for gas between 2050 – 2080; from an energy point of view, the successor is coal with its abundant resources, but which not only that does not resolve the problem of gas emissions, but it aggravates it, in the absence of a spectacular technology.

**The solution means transition, but transition does not mean delay** nor the return of humanity to his prehistorical caves, but – as Jacques Lesourne<sup>51</sup> also predicts – implementation of certain convergent actions:

- **Energy efficiency growth**, i.e. diminish the quantities of primary energy necessary for a given quantity of **useful energy** (building insulation, reduction of network losses, increasing efficiency of electrical appliances, changing lighting techniques);

- Capture and storage of **carbogenic gas** emitted by coal thermoelectric plants – we are talking about billions of tons, a humangous challenge;

- Development of **nuclear fission energy**, with its abundant resources and with use of the IVth generation of super generators;

- Gradual introduction of **renewable energies**: hidro, wind, solar;

- giving up **prices** that do not reflect costings and stimulation of companies to change their behavior;

- The issue of **biofuels** and their future (probably with the cu exception of ethanol from sugar cane in Brazil) because the present technologies are high energy consumers and “eat” large landareas.

However, all the above mentioned measures are to be imagined and realized only if humanity will have the capacity to protect this “orange peel”, **this planet Earth**, where there is **energy, food, water**, then soil, underground, minerals, navigation ways, forests and air even.

**Development of humanity**, intended to be **sustainable**, is unconceivable outside technologic progress, a progress that takes into account **regional ecosystems**, capable to answer the controls of an economic, social and environmental system of the planet. Humanity’s option for such a type of development is also facilitated by the fact that there is no other option: there is no way to go back, nor to stop the advance to progress; it is only up to the **world government** to take this challenge.

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<sup>51</sup> *Ibid*, pp. 72 – 81.

## VI. Humanity facing the ecological crisis

*The desire to put too much breaks the sac.*

M. de Cervantes, Don QUICHOTTE

References to environmental issues have been made in previous chapters and sections, to the extent to which they are related to the subject and the logic of this work and for the time, our aim is not to detail the "green" subject of the matter, but the search and identification of the locked springs of a performing society, to manage the results and consequences of its own development.<sup>52</sup>

The summary of this theme, from an ecological point of view, is admirably drawn up by Al Gore, in his work *The Planetary Emergency*, where he believes that global warming is a strategic threat. The concentration of carbonic gas and other molecules that absorb heat, increased by 25% after the Second World War. It threatens the planet's ability to adjust the amount of solar heat retained by the atmosphere and this increase of heat, in turn, threatens the balance of the general climate, which includes wind, rainfall, temperatures, sea currents and the level of sea and ocean waters.<sup>53</sup>

In other words - concludes Al Gore - the whole relationship between humans and their home planet has been altered, when our civilization - through the "ingredients" of his own development - came to affect its environment. Two key factors - are at the basis of this reality: increasing the "brutal" increase of the number of population, which has added, every ten years, the equivalent to China's population and accelerating scientific and technical revolution that has led, in turn, an unimaginable increase the impact of the society on the environment by burning, cutting, digging or moving components which are part of the very structure and balance of the Planet.

"World Population Growth" - expresses Claude Alegre and Denis Jeambar - "is terrorizing the whole world. And as the Earth's reserves are not infinite, we are inevitably doomed to widespread famine, ethnic wars, North - South wars and mass population migration"<sup>54</sup>.

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<sup>52</sup>See Nicole Gnesotto, Giovanni Grevi, *Le monde en 2025*, Ed. Robert Laffont, Paris, 2007, subcap. „La démographie”, pp. 17 - 32; subcap. „L'environnement”, pp. 85 - 104; subcap. „L'Afrique subsaharienne”, pp. 142 - 151. See Claude Allègre, *Ma vérité sur la planète*, Ed. PLON, Paris, 2007 si, de acelasi autor *De la pierre à l'étoile*, Ed. FAYARD, Paris, feb. 2007.

<sup>53</sup> Al Gore, *op.cit.*, p. 16.

<sup>54</sup> See Claude Allègre, Denis Jeambar, *La Défi du Monde*, Ed. FAYARD, Paris, mai 2008, pp. 25 - 28.

The mathematics theory of chaos explains how a large number of natural systems can learn profound changes in their way of functioning even if "their dynamic equilibrium" remains unchanged. When significant changes occur, the whole system swings to a new balance. In line with this theory, the relationship between human civilization and the Earth passes through an imbalance. "Everything has changed, except our way of thinking" - Einstein said on the eve of the nuclear era."<sup>55</sup>

This is the rational explaining "lack of performance of a performing society", nonaction in environment protection of the most economic productive society: this is the relationship with what we call another type of moral – the humanity to come to the rething its relationship with the environment, obtaining of a new balance, before the ecologic system of the planet loses its own balance. A Marshall plan to rescue the Planet is necessary and Al Gore is in charge with defining the strategic objectives and their structure, one of the objectives being "stabilizing the population of the planet"<sup>56</sup>.

Here are some of the components of ecologic inbalance.<sup>57</sup> Global warmth made heat a frequent phenomom and has generated the physical, real, greenhouse effect; there has begun an accelerated destruction of the ozone layer, this ultraviolet radiation shield, diseases unknown until recently, bring a real risk of **pandemics** (AIDS, SARS, avian influenza), the result of strong natural mutations, **CO2 emissions**, the result of pollution, in its turn, result of industrial development will have to be reduced by 70% by 2050; **extreme weather events, changes in precipitation; the effects of drought, melting glaciers, rising of sea and ocean levels, temperatures change** affecting **the extinction of plants and animals** as well as many, many other consequences, one more disastrous than another, all leading to an "interactive imbalance" in the structure of which "rarities" are included: rarity of water, food, land, energy.

The solution is, according to Al Gore, a "second green revolution" which will be not only scientific, but equally financial, social and political.<sup>58</sup> Political will is not triggered unless in the context of a constraint or, equally, of a superior understanding, of a detachment from the political or election objectives, implying another culture, o new morality, beyond profit criteria, a morality that is not slow in colliding with the defining instruments of capitalist efficiency, profit, price, budget, etc...

<sup>55</sup> Citat de Al Gore, *op.cit.*, p. 31.

<sup>56</sup> Al Gore, *op.cit.*, p. 297.

<sup>57</sup> See Claude Allègre, Denis Jeambar, *op.cit.*, Tim Flannery, *Alerte rouge*, Ed. Heloïse d'Ormesson, France, feb. 2009, Frédéric Lemaître, *Demain, la faim*, Ed. Grasset, France, 2004.

<sup>58</sup> Al Gore, *op.cit.*, pp. 312 – 315.

For example, the action of **reforestation**, for regaining deserts involves the design and implementation of research programs for the selection of species, land preparation, watering seedlings, workforce training, supervision areas and all these are exclusively in the chapter of "expenditure" of a budget. Incidentally, climate warming affects even the tropical forests, the increase of CO<sub>2</sub> level leads to a proliferation of fast growing species at the expense of others<sup>59</sup>.

Until then, another process "takes advantage of the capital morals of money" – accentuated salinization<sup>60</sup> of lands, aggravating the impoverishment of farmers in the respective geographical areas, while the administrative, political and scientific authorities do not advance any solutions<sup>61</sup>.

## VII. Energy crisis, ecologic crisis, economic crisis

*Who wants to move the world, has to move him first. SOCRATE*

The coexistent character of these criss is suggestively illustrated in the scheme used by A. T. Bogdan, together with other possible, but not hypothetical, features: globalized, succesive, periodical, cyclic<sup>62</sup> (see fig. 3).

Energy is the "blood of progress" –says Al Gore – who regretfully finds out that the most frequent technologies for producing it, end up by emitting in the athmosphere gigantic quantities of polluting substances, especially increasing quantities of CO<sub>2</sub>.<sup>63</sup> The phenomenom is aggravating because energy quantities continue to increase from 11.4 billion tones oil equivalent in 2005, to 17.7 billion in 2030, with the "astounding" development of China and **India**.<sup>64</sup>

The coal demand will double, by 2030, determined especially by the two above mentioned countries who have, abundant quantities of this raw material available and make use of it for their development; in 2006, China built the equivalent of three coal energy plants every week.<sup>65</sup>

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<sup>59</sup> For details see Tim Flannery, *op.cit.*, p. 87. See, *Le nouveau raport de la CIA*, Ed. Robert Laffont, France, feb. 2009, subcap., „L'eau, nourriture et changement climatique", pp. 191 - 203.

<sup>60</sup> Claude Allègre, *De la pierre à l'étoile*, cap. „Eaux douces, eaux salées", pp. 373 – 374.

<sup>61</sup> Tim Flannery, *op.cit.*, pp. 114 – 115.

<sup>62</sup> Alexandru T. Bogdan, *Solutii pentru criza zootehniei, prin asigurarea independenței și suveranității agroalimentare durabile a României europene*, Academia Română, București, 2009, p. I.

<sup>63</sup> Al Gore, *op.cit.*, subcap. „Énergie", pp. 316 – 331.

<sup>64</sup> Charles Beighbeder, *La crise de l'énergie, est – elle une chance pour l'avenir?*, Ed. J. C. Lattès, France, nov. 2008, p. 16.

<sup>65</sup> Charles Beighbeder quotes from a report of the International Energy Agency (IEA) *op.cit.*, p. 17.

Charles Beighbeder<sup>66</sup> makes the difference, with pedagogical clarity, between flux energies (solar, wind, hidro, geothermal) and stock energy (coal, gas, oil) or fossil energies, (the author leaves out nuclear energy, on purpose)<sup>67</sup>. While the first energy family has resources available for billion years, stock energies have resources available only for some tens of years and it is exactly them who are the “most part” of the energy consumption, from the XVIIIth century.

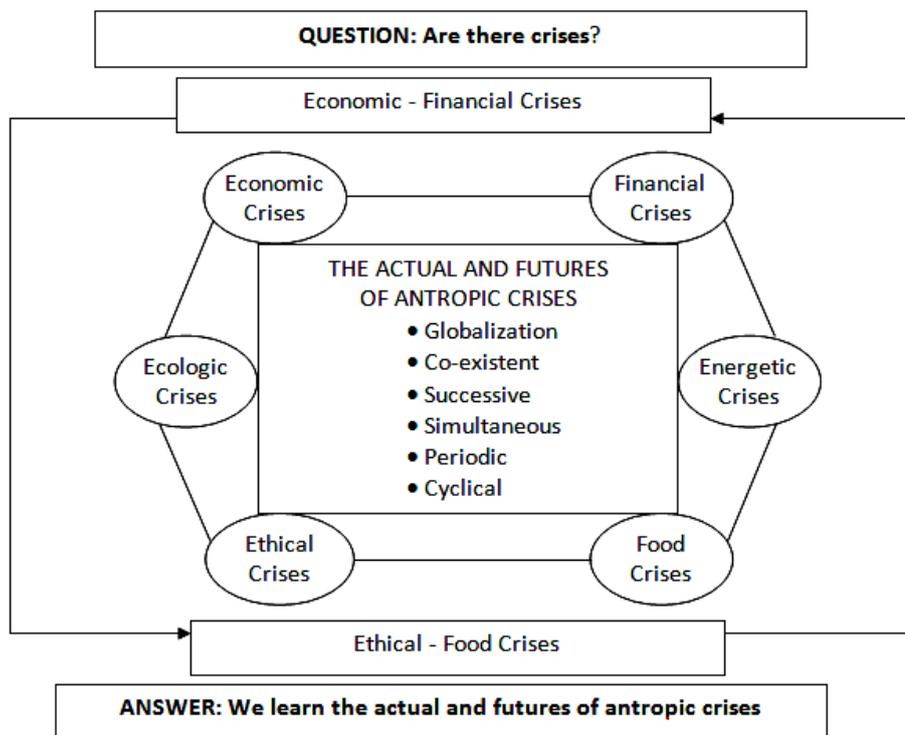


Fig. 2: What we can learn from the present economic crisis, after A.T. BOGDAN

Climate warming, depletion of fossil fuels and geopolitical risks, make an alternative energy strategy<sup>68</sup> to be vital - a huge responsibility for political leaders.

<sup>66</sup> *Ibid*, p.18.

<sup>67</sup> *Ibid*, p. 123. He is not the only author who believes that nuclear energy – alternative energy – is the object of a separate strategy, being a “state business”, related not only to energy security but also to the military one.

<sup>68</sup> See also Emilian M. Dobrescu, *Renewable Energy– Economic, Social and Ecologic Efficiency*, Sigma P.H., 2009.

And now all the focus is properly drawn by Beighbeder Charles who even gives us conclusions for this small chapter: "You can not expect our economy to recover from the financial crisis, in order to think and act boldly for the future of the planet."<sup>69</sup>

"The end of oil" or "the beginning was post petrol era" or "third oil shock" are just some of the expressions, some book titles that set the idea that the global economy should be reconsidered in order to identify **alternative solutions**; these solutions in themselves are not our objective here, but rather **the effort** and the **change in thinking** that would make them possible.

The world decision makers are confronted this time, again, with a dilemma that is difficult to be resolved: operating with determined budgets and, in most cases, limited, they have to chose between combating the crisis or the current crisis, including the present financial crisis, and allocating more and more significant resources to resolve "long term " crisis, like the energy and/or ecological crisis; as a result, the last onces are permanently postponed, and get with difficulty to the top of priorities on the agenda of national budgets. Further on, the same ideas, **alternative energies** become the privilege of the rich and when these become profitable over time, such as Edison's light bulb, the breakeven point will be so fierce that the gap between rich and poor countries will aggravate, and the **overlapping crisis** condition will become permanent and will be aggravated. A new type of world solidarity is necessary in the field of energy reasearch and implementation, but this implies **change of thinking, another morality at the basis of the future world order**.

As if the energy crisis, solely, was not an enormous challenge, energy's character of "daily bread" for industry, makes energy to be frequently used as a political weapon and energy security become an important national security component.<sup>70</sup> The battle for gas pipeline in Europe gives an elloquant and a good enough example, if it were the only examply, but unfortunately, it is not the case.<sup>71</sup>

<sup>69</sup> Charles Beighbeder, *op.cit.*, p. 19. See also Tim Flannery, *op.cit.*, chap. "Solution", pp. 217 – 243; Claude Allègre, Denis Jeambar, *op.cit.*, p. 54, p. 59, p. 62; Alex. Adler, *op.cit.*, p. 168.

<sup>70</sup> The CIA Report, commented by Alex. Adler clearly talks about energy geopolitics, as a component of general geopolitics; Alex. Adler, *op.cit.*, p. 176.

<sup>71</sup> The recent Agreement signed by semnat Turkey, Bulgaria, Romania, Hungary and Austria regarding the Nabucco gas pipeline is meant to offer the European countries more independence as far as Russian gas is concerned, and to be an alternative to "South Stroom" pipeline, connecting Gazprom to ENI, the Italian giant of hydrocarbons, through Bulgaria, Albania, Macedonia, to Adriatica; Serge Enderlin, *L'après petrole a commencé?*, pp. 84 - 87; there is one "little problem" left, we should add: the " Nabucco" countries found the necessary political will but they have to find the necessary real and sufficient sources of supply with non Russian gas, probably from the Caspic Sea, the B.T.E. (Baku – Tbilisi – Erzurum) pipeline.

“Energy Geopolitical Strategy” – the CIA report demonstrates that we are not talking about metaphoric formulations. As long as “oil era” lasts, the increase of the course of this raw material will provide Iran and Russia the resource to strengthen their national capacity and to increase their power at world level; it is a phenomenon that will inevitably produce, even at a level of less than 100 dollars per barrel.<sup>72</sup>

“**The Post Oil World**”<sup>73</sup> will register considerable changes regarding the force repartition, by the release from “gas and oil domination” at the level of years 2025 - 2030: **Saudi Arabia** will be strongly affected and the Royal House will have to get used to – which is not easy at all – reduce their exorbitant expenses; in **Iran populist** politics will cease to exist and profound reforms will be necessary, which will weaken the influence of governmental elite clergy; **Irak** will focus on considerable investments in non oil fields; the **Gulf countries** already direct their **sovereign investment funds** towards favoring non energy fields; **Russia** will probably be the greatest loser, having its economy mostly centered on oil and natural gas; **Venezuela, Bolivia** and **other petropopulist regims** will lose their political “fuel”; without Venezuela’s support, **Cuba** will be obliged to carry out reforms similar to China. A different world indeed is coming into sight, and this is “solely” due to giving up oil and gas.

This “post oil world” has two possibilities only, dares **to assert** Charles Beighbeder<sup>74</sup>: the first one is based on **economic decrease**, where “sobriety” would be more than a way of life, would be a philosophy; the second, the proposed to the future humanity, will be based on innovation, on the human and market capacity to adjust their principles, to make out from alternative energy and their economic feasibility, **the engines of a new sustainable development**. It will be a society where **science** will be able to transport solar energy from the Sahara to Europe and will make a **new industry** from CO<sub>2</sub> capture and storage.

### VIII. State and global governing

*The State can and must intervene.*

Leon WALRAS, 1875

At this turning point, the humanity finds out that we are witnessing the “last hours of liberalism”, this is the title of one of Christian Chavagneaux’s books, where he makes references speaking for themselves: the idea of the almighty market that was not to be disturbed by any public intervention, was an insane idea; the **idea that the market is always right was an insane idea**“, quoting

<sup>72</sup>See Alex. Adler, *op.cit.*, chap. „La géopolitique de l’énergie”, pp. 176 – 177.

<sup>73</sup> *Ibid*, pp. 178 – 180.

<sup>74</sup> Charles Beighbeder, *op.cit.*, pp. 85 – 86.

Nicolas Sarkozy here, or a little bit further: “ there is no doubt on the fact that this crisis produces a **change in intellectual climate** (s.n.) in Europa against classic liberalism of free markets favoring the state intervention “<sup>75</sup>.

It would be wrong to understand that the elaborating mechanism regarding the state intervention in economy means the return to the above mentioned concept, of state economy or socialist economy, the difference being essential; in the socialist economy the state intervened in its own economy – companies and institutions being public law matters – while at the moment the world is facing a new challenge, respectively with the elaboration of a brand new doctrine, based on policies and mechanisms making possible and also justifying the state intervention, making it compatible, a matter of public law in the financial and banking institutions of contemporary capital world (banks, insuring companies, etc.) which are subject of private law.

When Michel Guenaire<sup>76</sup> proposes to turn the page and to « terminate the liberal revolution », he refers to the economists’ main task, pointed out by John Maynard Keynes, in a Conference on November 06. 1924, at Oxford – « to make the difference between the agenda and the nonagenda of public power”; thus, it will be essential to clearly and professionally make the separation, between what the **State will do** and, especially **what the State will not do**. And the quoted author brings the following arguments to his thesis:”the State should comprise the institutions of an **efficient government**; starting from the State, one will have to restore the government’s capacity to intervene, with the aim to overcome the deadend represented by the economic liberalism, hostile to any public authority role.

We will have – says M. Guenaire further – to regain the **Place of the State**, with its fair place, with its optimal operational level, within each nation; at supernational level or at local regional level – at a “fair historical means”, through a correct definition of the national power frame “.

In a historic perspective, one will have to redefine the rational of being and the moral basis of the new world actors, in a moment of unpreceding crisis of such actors, of their state. “The book of the world to come after the liberal revolution will have to be written” – asks the same Michel Guenaire, a wish /imperative we also share, strongly, as the jump to the other extreme is equally dangerous, if not even more dangerous.

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<sup>75</sup> Christian Chavagneaux, *Les dernières heures du liberalism*, Ed. Perrin, France, 2009; the author quotes from Nicolas Sarkozy’s speech, in Toulon, Sept.25, 2008 then from Tony Barber, *Financial Times*, Nov.14, 2008.

<sup>76</sup> Michel Guenaire, *Il faut terminer la revolution liberale*, Ed. Flammarion, France, Feb. 2008, pp. 162 - 173.

It was necessary for the shock of the financial crisis to hit the financial-banking institutions on the great powers so that the head of states and international organizations to introduce system restructuring as a priority on their agenda; obviously, nobody looks back at the tens and hundreds of banks, insurance companies in small and medium size countries that have disappeared, the State having no right to intervene.

In their imaginary interview which was published, Bruno Colmant and Chantal Samson<sup>77</sup>, believe that „in the future *economia viitoare*, an economy that has to stay, and stays on the market, the State will have to place itself in a legislating logic, and at the same time protective. Market economy –they also say – is neither moral nor immoral, it is amoral”; what in normal rhetoric appears to be a speech on “ethics”, has to remain rhetoric, because in the economy and on the market, there has to be the triumph of laws, norms, sanctions, penalties, stimulents and tools, and the State is the one taking good care of their operation and elaboration.

Theories regarding the existence of real power centers, outside and above governments have left the stage of theoretical speculations or of literary and cinematographic productions, fed by a public success scenario, there have been imposed among credible hypothesis regarding “the invisible world government”, or the “absolute oligarchy”, “plotting” hypothesis, which would be at the basis of everything going on, in a major way in the world, and “*ipso facto*” of the present global crisis.

Many members of the Caste are also members of Bilderberg Group, the Forum in Davos, the Trilateral Commission, the Bohemian Club, they are the ones that are using the terms “greater world” or “the most powerful people in the world.” Former head of the U.S. Navy, John Lehman became famous with the words: “Power corrupts but absolute power is really nice”<sup>78</sup>.

From a reunion in Davos, or from his Gulfstream plane, the Caste member assures **global governing, fills in the institutional gap of globalization.**<sup>79</sup>

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<sup>77</sup> Bruno Colmant, Chantal Samson, *2008 l'année du Krach*, Ed. De Broeck et Lancier, Belgium, 2008.

<sup>78</sup> David Rothkopf, *La Caste*, Ed. Robert Laffont, Paris, March 2009, p.18; Regarding Bohemian Club (Bohemian Grove), a form of exercising power and influence through social life, see *Dossier Secret d'Etat*, 3<sup>rd</sup> issue, July 2008, pp. 40 - 75.

<sup>79</sup> David Rothkopf, *op.cit.*, pp. 291 - 294; the author suggests us to make the distinction between “*global government*” and “*global governing*” (*gouvernance*, fr.); we have used in this work the term “*governing*” (*gubernare*) to make the difference, when necessary, from government. Within the same context, see an inconsistency at Nicolas Sarkozy who, at the end of year 2008, was talking sometimes about “*governing*” (*gouvernance*), other times about “*global government*” (*gouvernement*), n.n., and later on to decide on “*governing*” (*gouvernance*).

And, we ought to add the fact that, the Caste poer is not mainifested through “Dictatorship”, but by tilting the balance, though influence, especially through influence, like a net landing on governments, palaces, parliaments and congresses, through the wiring using the same electricity, in the same direction, emitting from the same thinking tank, that of globalization.

Throughout history,, the idea of a global government was regarded as a betrayal of national identities, but, at the same time it is a reality taking revenge today when by globalization <sup>80</sup>, the economy, finances, trade, movements of people, services, capital, become more and more international and more and more global, while the governing prerogatives continue to be national. Here we can also see a dilemma, a challenge for the reform of the present system in order to clarify the problem of national solutioning (regional, in the case of Europe) of a problem that has become global, of international or supernational character; the institutions and specialists in all branches of international law will have a lot of work to do.

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