RETHINKING OF THE SUSTANAIBLE DEVELOPMENT

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Abstract:

The article aims to bring a contribution to rethinking the development, to contribute to catalyzing the process of transformation at a meso scale in a sustainable direction, by putting in the head and hand of concerned people a new practical development theory and so to enable them to develop enterprising and innovative thoughts and skills to meet the challenges of enacting the building a new, sustainable civilization.

Objectives of this article: theoretical layer - develop a set of conceptual models, methods and techniques of future-studies, adequate to solving the problem of anticipative adaptation to the civilizational and bioshperic evolutions, at different spatial and organizational scales; applicative layer - identifying and specifying the architecture for facilitating the coupling between the strategic thinking and strategic action, centered on the challenges for passing towards a sustainable development in a short time; experimental layer - the objective of this part of the research regards the testing of a pilot experiment.

Taking into account that the actual global civilization is not sustainable, the article aims to bring a contribution to rethinking the sustainable development by putting in the head and hand of concerned people (especially strategic decision makers) a (new) sustainable and practical development theory and so to help and to enable them to develop enterprising and innovative thoughts and skills to meet the challenges of building a new, sustainable knowledge civilization/society.

This article tries to lay the foundations of a research project that will bring concrete results.

Key words: *development, challenge, anticipative adaptation, pilot experiment.*

Introduction

The current context, given by the major crisis of science in general, of socio-economic sciences especially, making and even more, of the development theories (Including the Sustainable Development ones), coupled with the first major crisis of the western globalized civilization type, impose us for various investigations of rethinking and re-conceptualization of the science as a whole.

Our article starts from the assuming, going beyond and integrating the conceptual and pragmatic layers of the latest developments in the social and human sciences in general, the economic-management disciplines especially, synthesized in the following turns and implicitly the challenges and major subsequent transitions:

- In the thinking (conceptual) layer: complexity tower; action research tower; cultural (ethical) tower,

- In the action (pragmatic) layer: ecological (territorial / geographical) tower; performativity-tower design; innovation-entrepreneurship tower;

Uncertainty, complexity, genuine complexity, growing complexity calls for action-research. Not merely action-research, but „the systemic action-research" or „the critical reflexive action-research", or even better „the systemic integral action-research" an/ or „network action-research". And for this project which deals with the future, we need also the concept of "anticipatory action research", obtained by integrating "foresight and/or future study with the action research" (similar to the Inayatullah, S. (2006) concept of „anticipatory action learning") [1].

"Cultural turn" is currently supported by analyzes that highlight the cultural conditioning of democracy and by the economic and political behavior dependence of the specified culture (institutional culture, political culture, etc.) and by a comprehensive understanding of culture. Culture has proved to be a force in society, at least comparable to the economy or technology and in the paradigm shift of the social sciences, the "cultural turn" accentuated.

The „ecological (territorial / geographical) turn" addresses both the negative aspects of pollution and climate change and the potentiality of the „geography of a territory". It demands also a shift toward sustainable forms of development.

Moreover, the territorial turn in the academic literature reflects the increasing attention being given to the regional scale (*meso* scale) in policy circles. Over the past two decades there has been resurgence in the roles and responsibilities ascribed to the regional scale, particularly in the context of a globalizing knowledge economy.

We agree with the researchers from the "Center for Environmental Innovation Design for Sustainability, Osaka University" [2] that "the meso level research shall constitute one of the emerging core fields in sustainability science and suggest that accumulation of knowledge through case studies be needed to enhance and verify theory, specific methods and approach necessary for advancing the meso level research in the context of sustainability science"

The performative approach - "performative-turn" - to economics (focused on the role of economic theory and calculative infrastructure in the social construction of markets) and the political perspective (that assimilates market emergence in a political negotiation process) also contribute to answers to the problem of how economic theories contribute to structuring economic practices and, thus, contribute to this subject. Also "semantic turn of design turn" considers, axiomatically for human-centered design that humans do not respond to the physical properties of things - to their form, structure and function— but to their individual and cultural meanings.[3]

Innovation in the vision of "innovation turn" becomes both the method of imaginative research in the domain/ space of possible and the tool to experimenting-testing in the virtual space/ domain of a simulation platform and/ or in cyberspace, as well as the prototype-machine in the real space of the new production plants.

In order to show its success, innovation needs, at the level of macro-institution and at the level of culture, the emergence and development of entrepreneurial society. Through its nature, an innovative entity is a complex one, i.e., it has characteristics as multiple logics (contradictory rules); non-linearity (formal non-predictability); dynamic (it is not in balance); non-determinist (not completely at random); with open frontiers, but with great changes in behavior.

Thus in a more and more complex, globalized world, in a period of deep changes it is preferable, in fact it is necessary for the innovative-entrepreneurial action to be utilized for the imperative "to innovate in order to transform the present non-sustainable human civilization into a sustainable civilization based on knowledge".

Anticipatory adaptation

Within this vision and from a concrete perspective, in answering the above questions our project starts from the critical imperative of anticipatory adaptation to the civilizational and biospheric evolutions (such as climate change, biodiversity loss, etc.). This implies the use of analytical epistemology, experimental philosophy and reflexive pragmatism as essential tools for making the necessary choices socially feasible and so to rise the realism of the envisaged approaches aimed at triggering and accelerating the enactment of a transformative process towards sustainable development.

For more than 50 years, mankind consumes daily more renewable resources than what Earth can produce in the same day. The inverse correlation between the indexes of human development and the ecological footprints of the countries on the political map of the world points out that the *current* thinking *of growth and/or of development is obsolete* and favors unsustainable paths. It is clear that this situation cannot last indefinitely. Catastrophically or strategic programmed, mankind will undergo a restructuring of the development process towards a sustainable horizon.[4]

Can the world enter today on a path of development that is compatible with the ethic desire of sustainability given the conditions were at a global scale they do not manifest something of the volitional consensually nature and where at the meso scale (geographical, temporal, sectorial, cultural, religious etc.) energies and human abilities are integrated in the wake of ideas, interests, beliefs etc. with a significant degree of divergence or incompatibility?

If one does not realize, for example, an agreement to fix as global priority the financing of scientific research with a positive impact for the transition to sustainability, at levels that could permit, prudentially, a high acceleration of them? Or this is not done in useful time?

We can see that there is not sufficient confidence that the research will lead in useful time to finding new resources and new technologies to access untapped resources (such as deuterium, tritium or lithium- fuels of nuclear fusion) and/or exploiting technologies with increased operating efficiencies of the renewable and recyclable existing resources. The volitional aspect is essential.

To find more precise answers to the above questions, a pure theoretical argument is not sufficient, and the comparative study or the classical experimental investigation are no longer possible because of the uniqueness of the studied phenomena, which takes place at a terrestrial

scale and is unrepeatable, thus being impossible to copy, impossible to be "brought into a laboratory". And even if we could compare between many civilizations that are undergoing globalization or are in an initial state, it still would not be enough to take strategic decisions. The philosophical foundation of the perceptive vision and the interpretation of the analytic effort is a crucial factor in giving a strategic value to the efforts of scientific knowledge.

The unconflictual construction of volatile conceptualities necessary for the realization of desired sustainability involves communication, debate and negotiations at all scales and harmonization between all the subcomponents of the global system, on all directions of development: economical, institutional, political and cultural.

The answers will be according to the different cultural resources favorable to the open society and the universal values. It will pass through in a more or less perceptible manner, in the "post traditional society" which - on the differentiated scale - will have, at one end, the traditional adaptation of the world which is organized after new values, and at the other attempts to transfer will be end to this world "traditions" of corruption and inefficiency the which come from general history under the roof of "liberty". [5]

At the same time, to be able to grasp this social reality it is necessary to identify the horizons of integrative action, which affect the interrogation, the explanation and the interpretation of facts.

Also it is to be observed that "the state of the society we analysis taking into consideration the various conditions which leave a mark on it (" environment "), but also" the sense "of the system that it incorporates and the" autopoiesis " The which it achieves. Without prior agreement it is not possible to unravel future models and their possible future paths and the selection between them, based on rational foundations of those that is firstly acceptable in the willingness and those that is undesirable.[6]

Since we have Intentions and action in the field, the means of experimental thinking has to be considered and they will be used in our research. Also, techniques reflective of objectification through simulation in working groups (eg, think-tanks, panel discussions, focus groups, etc.) has to be considered and used in more sophisticated forms or, with "thematic processor architecture".

For a future and necessary research

In this sense, within the purpose of the research, we have set three major lines of work (work packages) that will permit us to deliver the results of our research as a prototype with good societal value:

- On the theoretical layer: the objective: to develop a referential of conceptual models, methods and techniques of future-studies, adequate to solving the problem of anticipative adaptation to the civilizational and biospheric evolutions (such as climate change, biodiversity loss, etc.). This implies the use of analytical epistemology, experimental thinking and reflexive pragmatism as essential tools for making the necessary choices socially feasible and so to rise the realism of the envisaged approaches aimed at triggering and accelerating the enaction of a transformative process towards sustainable development.

• On the applicative layer: we start from the idea that the whole orientation process of the development towards a new sustainable route, can be seen like an anticipationary action-research, with loops of feed-forward, through which in the field of knowledge, the decisions and strategic actions bring an additional viable knowledge, obtained beside the from short term prognosis and also from specific research futures-studies. Starting from this, the objective of the research proposed by us is set on identifying and specifying the architecture for enacting the process of coupling the strategic thinking and strategic action, centered on the challenges of the passing towards a sustainable development in a short time

Moreover, associated to the objective of specificity and conceptual modeling in the research proposed we aim to identify the architecture of the info-infrastructures necessary for an efficient management of explicit knowledge and concrete strategic actions; not being able to be reduced to this, because in the course of action, regardless of the scale of this, some tacit components of knowledge intervene, which are incorporated in personal abilities.

• On the experimental layer: the objective is to test and implement a pilot experiment adequate to the conception and strategic management regarding the anticipating coupling of the development of a region at the processes of restoring the development towards a sustainable horizon from a regional level, in both possible situations: strategically piloted (desirable) or degenerative (undesirable).

The proposed research will consider an innovative mixt of methodologies with which to investigate fully the challenges mentioned before and that will allow in a practical scenario to find solutions that will facilitate (enable) the thinking and the strategic actions imposed by the challenge of the critical imperative of anticipatory adaptation to the civilizational and biospheric evolutions (such as climate change, biodiversity loss, etc. and their orientation and enaction towards a sustainable civilization. This implies the use of analytical epistemology, experimental thinking and reflexive pragmatism as essential tools for making the necessary choices socially feasible and so to rise the realism of the envisaged approaches aimed at triggering and accelerating the enactment of a transformative process towards sustainable development

This feature means to facilitate, in equal measure, both the reflexive side of the sustainability problem and also the participative side regarding the realization of the current changed situation, both focused on the local situation and also on the influencing the change at a supra-local levels. It also means the engagement in both sides from groups of persons with knowledge and experience of common life, of which philosophical folk is made to be a catalyst for change. In our research we will supplement the means of the current philosophy with those offered by the pragmatic and experimental philosophy (Knobe, Joshua & Shaun Nichols, Experimental philosophy), and also with specific instruments of the anticipatory action research (Inayatullah, S. 2006 - Anticipatory action learning:). It is noted that the improvement and harmonization of these means of theoretical approach and the practice of sustainability problem will constitute in themselves intrinsic objectives of research, besides those obtained in the following results with society value:

• A referential of conceptual models, methods and techniques of future studies, adequate for treating the problem of the anticipative adaptation to the transient situation of global unsustainability of human civilization to different spatial and organizational scales.

• Identifying the requirements for architecture, design, experimental implementing by establishing and testing a co-operative environment, with info-infrastructure of level 3.0 on the web, adequate for facilitating the coupling between the strategic thinking and the strategic actions, centered on the transition challenges of the sustainable development in useful time.

In a punctual manner, we will investigate the possibility of using as an adjuvant for conceptual modeling of simulation technologies with intelligent agents, thereby aiming to better understand the autopoietic issues involved by the process of injecting the strategic initiatives aimed at the sustainability at the global local scale and mezzo.

Conclusions

The problem of switching to a sustainable development is a crucial one, that has yet to find a resolution which requires more effort to associate the cognitive efforts at a global scale, regarding the analysis of the situation in due time at adequate geopolitical scales and regarding the adoption of a prescriptive philosophy widely excepted to be adopted and implemented as an ethical global norm. In this field with obvious strategic load, it is necessary that the thinking and knowledge are focalized adequately and synchronized with the transforming action to generate performance and progress in a short time, and on all levels of interaction with the environment: reactive, interactive and proactive.

In this situation, one can observe that a solution is to create environments and technologies to facilitate a fertile participation to the cognitive efforts asked by the resolution of global sustainable problem that will allow a very efficient transfer of the progresses from the fundamental knowledge towards the local strategic actors and a transfer, also very efficient, requests of knowledge from the local strategic actors towards the fundamental knowledge actors.

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