

Complex Resilience and Sustainability. Transdisciplinary Perspectives

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CALL FOR PAPERS

Any transdisciplinary conception of sustainability needs to avoid identifying sustainability and "Nature." In a complex, transdisciplinary understanding of sustainability (Nicolescu 2012), what is "natural" is not "Nature" necessarily. What is natural – and therefore sustainable – is an *attitude and behavior (not a goal or specific outcome) of creativity and self-limiting innovation, the occurrence of emergence, the self-organizing thrust of complex adaptive systems, and the aim of planetary preservation, including human life.* Thus, the idea of sustainability is closely related to the idea of resilience, that is, *the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop.*

This means that the binary bifurcation "nature-culture" needs to be overcome (Whitehead 1920) and sustainability and resilience analysis need to lead to a multidimensional project where humans are included but not placed at the center of inquiry, focus or interest. The anthropocentrism underlying the dominant ecological vision does not treat "Nature" as a community to which we belong but as an external ideal that must be pursued in order to save ourselves. This is the main ideological obstacle preventing the achievement of sustainability.

"Nature" is not "the other" in an increasingly urban world, but a new way of thinking about the sustainable integration of all sentient beings and the environment. What we call "environment" is always a mixture of nature and

culture. People and landscapes mold each other. Nature and culture resemble hydrogen and oxygen in water: together they create exciting new possibilities. Nowhere is this interaction better expressed than in cities.

This is a change in mentality and perception where findings from neurophilosophy (Churchland 2013) and so-called “neurourbanism” (Adli 2017; Pickett et al 2020) can contribute significantly. In part, it is a matter of thinking about the ideal of the city as a work of art. The idea of art as an autonomous individual form of expression (as opposed to crafts done in the name of a patron, be it king or church) emerged at the same time as the romantic notion of nature. In the romantic tradition, which includes most of the avant-gardes, art is directly related to nature under the guise of creative genius that supersedes academic conventions and other forms of external control.

City and nature, the urban and the non-urban, are very closely related to one another. Both are organized complexity (Jacobs 1961) and distant from self-regulating harmony. The concept of nature as an autonomous and harmonious set of internal self-regulating relationships that always return to harmony and balance as long as they are not disturbed by man or humanity is a misconception. Nature is, in fact, waste beyond measure.

Undoubtedly, right now, there is a black hole devouring a solar system that contains a planet with a rich ecosystem and that includes the emergent life of the intelligent octopus that will soon enter the space age and explore the rest of its solar system. Each season, the fish produce millions of off-springs with only a few survivors. Asteroids hit Earth, annihilating millions of species, and so on (Morton 2007).

The idea of nature as a harmonious, wise and self-regulating mother Earth mechanism resembles the idea of the capitalist market. Adam Smith framed the self-organization ecological principle around his concept of the “invisible hand” (Smith 1776). Neoliberal ideology says that the economy is a self-regulating system that always returns to balance and harmony. To intervene in this system means disturbing it and inviting disaster by not obeying the anonymous wisdom of economics.

The case is similar in ecology. Because nature is considered harmoniously self-regulating, any technological intervention in climate is viewed as a probable catastrophe (a subject of many environmentally-driven science fiction novels and films), which may be a reasonable proposition for another set of reasons.

Darwin does not celebrate the harmony of nature, but how small differences can suddenly turn into significant differences as a result of geographical drift and climate change (Darwin 1859). And also how all kinds of cross-species and cross-species relationships generate new vectors of becoming

that lead in totally amazing directions. Something very similar is what happens in the city as organized complexity.

By following the notion of “multiple success factors” (Grunert & Ellegaard, 1992), we contend that there are a number of requirements encompassing human capabilities, activities and behaviors that need to be met in order to achieve sustainable projects: environmental sustainability (sustainable infrastructure delivery and sustainable development zones); sustainability in design and planning; sustainability in management; institutional sustainability; and socio-economic sustainability.

Thus, any human project or undertaking can be defined as sustainable if it is planned and executed to account for the capacity, fitness, resilience, diversity and balance of its urban ecosystem. We take the view of sustainability (and resilience) as an organic process including environment, economy and community: form and efficiency (environmental factors in design, architecture, engineering and construction) as well as policy (urban plans and practices that explicitly aim at maintaining and improving the social and economic well-being of citizens).

This Special Issue will consider contributions with a focus on complex resilience and sustainability in human activity, related to the above ideas and with a transdisciplinary thrust, from a variety of perspectives:

1. Complex systems and sustainability
2. Neurophilosophy
3. Artificial intelligence
4. Urbanism – urban ecology and sustainability
5. Engineering
6. The Arts
7. Medicine, Health and Life Sciences
8. Law, Politics, Government
9. Architecture, Civil Engineering, Planning, Building
10. Social Science
11. Mobility
12. Smart Spaces, Intelligent Environments
13. Production
14. Energy
15. Media
16. Psychology
17. Education

18. Ethics (human, planetary, ecological)

19. Behavioral Sciences

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