

Visions for Sustainability N. 4: Beyond analytical perspectives

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Perspective: Theoretical vision

Fields: Earth life support systems - Economy and technology - Social processes and structures

Issues: Bio-geological equilibrium and ecological decay

In Paris, just a few weeks after the terrorist attacks that in mid-November 2015 shocked once again the western world, the 21st UN Conference on Climate Changes (COP21) took place, in an attempt to make the whole world agree to a two-degree target for global temperature rise. Some members of civil society claim that the reactions displayed in Paris respectively to the manifestations of global warfare on the one hand and to climate change on the other, are contradictory and not sufficiently ambitious, in their granting of justice and rights to a small percentage of the world population. In some way, both the COP21 'deal' on emissions and the warlike retaliations look at powerful technical responses as the only available means and fail to take a more comprehensive view which includes - among global endangerments - the very human practices that modify environmental and socio-economical equilibria.

For example, the use of fossil fuels for manufacturing or for automotive engines release CO₂ from the deep Earth in just the same way as industrial agriculture or intensive farming and fisheries. Likewise, agricultural workers from rural territories are pushed towards the already saturated routes of economic growth. The whole scenario of the Earth's disequilibria, which extends beyond greenhouse gases emissions, is of extreme concern. A shortfall in the regenerative capacity of the planet is also visible now for phosphorous and nitrogen cycles, together with the widespread distribution of toxic chemicals (amongst which pesticides make the largest share), and whose effects we only partially know. Meanwhile, the incalculable damage of warfare often brandished as an effect capable of guaranteeing security and control, is itself among the worst causes of the endangerments we face.

This issue of Visions for Sustainability seeks to propose a change of attitude by offering a variety of perspectives for dealing with what may appear as rather heterogeneous arguments.

A review of the nuclear power option, by Elena Camino and Laura Colucci-Gray, analyses the debate on atomic energy as a route towards a carbon-free world. The authors take the opportunity to offer a counter-argument to nuclear power by writing in reply to the study recently published by Qvist & Brook in PLoS/ONE, in May 2015. Camino and Colucci-Gray confute the promotion of "a large expansion of global nuclear power" by drawing on a wider set of interdisciplinary perspectives and sources to highlight the complexity of the issue, including social, political and educational implications, with the many contradictions and biases that are often involved.

Michele Cagol and Martin Dodman consider the relationship between the making and re-making of technological artefacts to promote sustainability, looking specifically at circuit bending. The authors reflect on the modification of electronic circuits commonly found in everyday appliances as an example of the necessary shift toward harnessing creativity and innovation in terms of re-thinking and re-using processes and products that are typical of human activity.

-Vitalia Kinakh reviews initiatives across higher education institutions designed to raise awareness of sustainability, in particular the efforts promoted by the Head of School of Dentistry at the University of Manchester to foster understanding of social and environmental sustainability among graduates. She also explores data about students' perception of sustainability and their awareness of the benefits for dental practices to go green. The debate encompasses education for sustainable development through examining the possible ways of delivering it within the current dental curriculum.

Francesca Andreatta, Chiara Bolognani, Caterina Robol, and Martin Dodman look at the provision of schooling in children's hospitals as an example of sustainable education. Since illness is often a cause of exclusion, the promotion of learning in environments that care for and cure children

is considered as a form of inclusive policy that promotes wellbeing as an integral part of a human sustainability paradigm. The characteristics of the hospital as a learning environment are considered and psychological and social factors addressed in terms of fostering resilience for a healing process in which learning plays a vital role.

Finally, Elena Camino, Lidia Larecchiuta, and Massimo Battaglia analyze the interconnections between environment, violence and nonviolence using a hypertext, accessible on the web, using data on the environmental impact of military actions and suggesting educational activities drawn from the perspective of nonviolent culture.

A special note in this editorial is for Svetlana Alexievich, Nobel Prize winner for literature, the first awarded to an author of writings devoted to living people. This issue of *Visions for Sustainability* contains no papers dedicated to her work, but we would like to emphasize the importance of the vision proposed by her oral stories, that allow the voices of people to tell the appalling, mishandled tragedies such as the defeat of URSS in Afghanistan, the disaster of Chernobyl and the collapse of soviet

economy, using a plain and direct language unique within such literature.

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