

## A makeshift editorial

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In the first six editions of *Sostenible?* we covered various overlapping sustainability-related topics such as globalisation, biotechnologies and Agenda 21. In the seventh edition, published two years ago, we decided to discuss sustainability on a conceptual level. We began by attempting to understand the causes behind civilisation's current unsustainable environmental and social situation. One cause we identified was the fragmentation of knowledge produced by a mechanistic and dualistic approach to reality, which has ultimately led to specialisation in increasingly isolated disciplines. As a result, we have moved away from an overall conception of reality and reduced our ability to relate effects with distant causes. This might explain why we have lost sight of the long-term secondary consequences of some of our technologies, which have caused such phenomena as global warming and the depletion of the ozone layer.

This edition complements the previous one in this regard. As Edgar Morin points out in the first article, the complexity paradigm can overcome these and other deficiencies stemming from a reductionist view of reality and is therefore the most suitable approach to dealing with the problems of unsustainability, which require, among other things, a long-term global vision.

In his article, Morin discusses the belated appearance of complex thinking in scientific discourse and briefly reviews the various concepts that make up this worldview (this discussion also serves as an introductory summary of his thinking). In particular, Morin distinguishes between two visions of complexity, which he calls 'restricted' and 'generalised'. These two approaches to complexity differ in their use of mathematics (or lack thereof). In a way, this distinction is a continuation of the traditional division between the natural and social sciences. The boundary between these two concepts has faded, but it has also shifted towards the social sciences, some of which have begun using mathematical techniques to understand reality (for example, in the analysis of social networks).

The second article, by Andri Stahel, also touches on this topic. He defends the social sciences' tradition of not using mathematical techniques to examine certain social phenomena for which quantification would be the epitome of reductionism, even if it were based on a complex worldview. He does not deny the potential that mathematical techniques hold in the social sciences; he merely aims to restrict their use, since humans are inextricably linked to their senses—which are difficult (if not impossible) to quantify. As an example, he cites the importance of language in the configuration of human action and understanding, as well as dialectical thinking and hermeneutics. Towards the end of his article, Stahel insists that we need to overcome the isolation and monopolisation of the various disciplines in order to construct the sort of expanded complexity that Morin advocates.

The next article, by Àngels Canadell, tackles a similar topic. From a more philosophical standpoint, the author discusses the various components of the culture of sustainability (unseasoned readers may find the text somewhat difficult, but well worth the effort). She notes that, throughout the history of human thought, two major approaches to understanding reality have coexisted—although not exactly in peace. Each of these two approaches, analysis and synthesis, is associated with the dominant ability of one half of the brain. Canadell argues that, in order to construct an overall vision of human nature and the world, we need to strike a balance between these two approaches. In order to develop an adequate awareness of the era in which we live, she argues, we must take a broad view of time and study a wide range of fields. Complexity offers just such a framework—one which allows us to think in a non-exclusive manner, integrating aspects that both the classical sciences and philosophy had dissociated. Canadell's sustainable worldview implies interpreting and accepting a multidimensional, non-hierarchical universe that does not revolve around a single centre. Complexity recognises the plural, interconnected and dynamic nature of reality, where unilateral, monocultural solutions are impossible. According to Canadell, we need a new anthropology that sees the human species as part of a continuum encompassing all of the Earth's vital processes, which are the origin of our own ability to understand. She also argues that we need a new kind of education that conveys this integrated vision of *physis* and allows us to simultaneously reconstruct the interior and exterior worlds—both of which are necessary if the cultural change implied by sustainability is to advance.

The last article presents an example of how the paradigm of complexity is applied to the concept of sustainability. From this viewpoint, Josep Antequera analyses the difficulty of predicting society's future and shows how increased global connectivity and humanity's impact on planetary regulation make such a prediction all the more complex. He presents a hypothesis on how to transform the entropy generated by the current development model into social complexity and concludes by suggesting that cultural evolution will always be subject to natural selection.

As always, the journal concludes with a list of relevant bibliographic and Internet-based resources prepared by Miquel Puertas and Pep Torn of the University Library.

We hope that this edition of *Sostenible?* introduces non-specialised readers to the concept of complexity and what it can contribute to sustainability analysis.