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## FROM RESISTANCE TO RESILIENCE: SYSTEMS THINKING ABOUT TRANSITIONS

Call to contribute to the journal *Acta Europæana Systemica* (AES), volume 9

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### 1/ THEME

Developed in parallel with the emergence of Cartesianism in the 17th century, the concept of *growth* associated with the idea of *progress* was at the heart of Western ideologies until the 20th century and still strongly guides actions at the beginning of the 21st century.

This conception of the world is based on the mythical account of the origin of the human species – initially very vulnerable – which would have emerged from environmental pressures during a long and difficult growth process through the development and improvement of social and technological systems.

Although the merits of growth must be recognized as an evolutionary engine of the hominization process and of the analytical approach as the main source of development of modern sciences, this unique and constant race to evolution now clearly shows its limits. The negative effects of excessive progress are now clearly identified in socio-ecological systems. Moreover, since the earth's resources are limited, the infinite growth desired is definitely impossible.

Since the 1960s, the international scientific community has regularly demonstrated the reach – or even the exceeding – of critical thresholds in different dimensions of reality. However, at a given threshold, progress within any evolving system seems to become counterproductive and lead to its collapse. So it is urgent to study with a transdisciplinary perspective, both the ongoing process of the collapse of our civilization and what could succeed it.

In the era of the Anthropocene, the human species' footprint on the earth's ecosystem is disproportionate and the functioning of civilization is of unequalled complexity, further aggravated by the exponential digitization of reality. The development of strategies to deal with the intensified occurrence of hazards has become very difficult (a natural disaster, a burnout, a blackout, a computer virus, an epidemic...).

Faced with the emergence of a potential disaster, the modeller first has the reflex of assessing the *vulnerability* of the system in a negative way and trying to strengthen the system's immediate *resistance* to the direct negative effects of the hazard. This method is effective for a simple system whose modeler knows how it works, but not for the modeling of a complex dynamic system. In this case, the modeller must integrate the influence of short-term negative effects on the system and positively assess its *sustainability*, or its long-term *resilience* capacity, against the more global effects of the hazard, which will at the same time increase the system's creativity.

Whatever the complex dynamic system observed (ecosystems, individual psyche, neurological networks, energy networks, smart cities, building automation, economic exchanges, human groups, data management systems, political organizations, etc.), systems thinking provides practical tools and theoretical models to model them with the aim of making them more sustainable.

But how exactly do we define the multifaceted concept of *resilience*? How can we practically and/or theoretically demonstrate the beneficial impact of systemic thinking and models on the *sustainability* of complex systems?

## **2/ IMPORTANT DATES**

1/ invitation to contribute	30/06/2019
2/ abstracts submissions (max. 300 words: <a href="mailto:damien.claeys@uclouvain.be">damien.claeys@uclouvain.be</a> )	31/08/2019
3/ notification of acceptance	15/09/2019
4/ finals papers submission ( <a href="mailto:damien.claeys@uclouvain.be">damien.claeys@uclouvain.be</a> )	30/11/2019
5/ publication of the <i>AES</i> n°9	31/12/2019

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**Nikitas ASSIMAKOPOULOS (HSSS), Pierre BRICAGE (AFSCET),** Damien CLAEYS (S&O), Claude LAMBERT (S&O), Gianfranco MINATI (AIRS), Francisco PARRA LUNA (SESGE), Andrée PIECQ (UES)

## **4/ THE JOURNAL *ACTA EUROPEANA SYSTEMICA* (AES)**

### **4.1. AES: A JOURNAL OF THE EUS**

*Acta Europeana Systemica* (AES) is the journal of the European Union for Systemics (EUS).

Founded in 1988, the EUS, aims at promoting European research and practice of systemics. The EUS is a community of national scientific societies. The EUS seeks to establish, through its network of companies, a favourable environment to the evolution of systemics (including its theoretical foundations, its methods and its implementation) and its diffusion, in particular by promoting transdisciplinary exchanges.

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World Organisation of Systems and Cybernetics (WOSC)  
The International Academy for Systems and Cybernetic Sciences (IASCYS)  
International Federation for Systems Research (IFSR)

### **4.2. GOALS OF THE JOURNAL AES**

The main objective of the journal AES is to promote systems thinking by providing keys to understanding the complexity of reality. Its mission is to promote the emergence, communication and deepening of systemic thinking.

The existence of the journal AES is necessitated by the realization that the complexity of the society in which we live exacerbates the need to find the tools, methods, an epistemology that allows to understand the functioning of the phenomena around us and able to act.

The journal AES is a place of reflection and exchange that confronts multiple practices, training and systems research. It supports in particular the approaches inter/pluri/multi/trans-disciplinary, openings to cultural diversity, field experiences and references to theoretical work.

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### 5.4. AUTHOR INSTRUCTIONS

The journal AES uses working languages: French and English. Nevertheless articles in other European languages can be included, to the extent that they are accompanied by a summary result in at least one of the working languages.

Authors wishing to contribute to the journal can use the following template: [Template](#).

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