ISSN 2633 1640

Volume 44(2) Winter 2023

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Editorial

SYSTEMIST

Publication of
The UK Systems Society

Published by the UK Systems Society

Registered office: Sidelands, Nutgrove Lane, Chew Magna, BRISTOL, BS40 8PU

Registered Charity, No: 1078782

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Editorial

Last autumn, the UK Systems Society held its International Conference on the theme 'Systems: Transition to a sustainable World'. The Keynote speakers for the event were Rodney Irwin, Chief Operating Officer (COO) and member of the Senior Management Team (SMT) at the World Business Council for Sustainable Development; and Ray Ison, Professor of Systems at the Open University and President of the International Federation of Systems Research. Despite some logistical problems, which necessitated moving the event to a different venue, a very successful hybrid-mode conference took place. This issue of Systemist comprises selected papers from the Conference, which the authors have chosen to develop further for publication. Four full papers are included. There is also a supplement containing the Abstracts of Conference presentations.

In considering the conference theme, it is necessary to consider what the features of a sustainable world would be. The term 'sustainability' is often associated in public consciousness with policies to conserve the Earth's resources, avoid polluting natural systems and curb the onset of global warming. However, the concept of sustainability goes beyond the physical environment. It is important to embrace wider dimensions that affect our ways of living. For many stakeholders in organisations, for instance, the most important of these dimensions is economic. If activities are to continue in the long-term, there must be surplus funds to sustain them. Organisational reporting systems have tended to focus on financial well-being for this reason. However, authors such as Elkington (1998) argued that they should go beyond this, to embrace a wider range of factors, which he labelled the 'Triple Bottom Line' of social, environmental (or ecological) and financial factors. Magee et al., (2013), going further, suggested an engaged approach to sustainability assessment, encompassing domains of economics, ecology, politics and culture. According to Perrini and Tencati (2006), a sustainability-oriented company is fully aware of its responsibilities towards different stakeholder groups, and adopts methods and tools that allow it to improve its social and ecological performance. Since 2013, there have been requirements in the UK for quoted companies to report on environmental matters, as well as financial, including the impact of the company's business on the environment, company employees, and social and community issues (Dept. Business, Innovation & Skills, 2012). Further guidelines on Environmental Reporting were issues by HM Government in 2019. After a considerable period of deliberation, the European Parliament has now passed the

Corporate Sustainability Due Diligence Directive (CS3D 2024). Any organisation above a certain size that carries on significant business within the EU will need to take this into account. EU member states will be required to enact compatible legislation. This does not, of course, currently include the United Kingdom but proposals have been put forward here to enact similar mandatory due diligence regulation. Under the Articles of CS3D, there must be meaningful engagement with stakeholders to implement policies ensuring risk-based human rights and environmental due diligence by the organisation. Organisations must identify and access actual or potential adverse impacts and, where necessary, prioritize potential and actual adverse impacts. They must take appropriate measure to prevent and mitigate impacts, and establish notification mechanisms and complaints procedures to be accessible by all potentially affected stakeholders (including trade unions, civil society organisations and human rights or environmental defenders). Periodic assessments will be required to monitor the effectiveness of due diligence policies/processes and measures taken to address adverse impacts. There is also provision that climate transition plans should be adopted and implemented in line on the Paris Agreement. The Directive is expected to be implemented over the period of the next six years.

Clearly, there has never been a greater need for Systems thinking to ensure that the multiple dimensions of sustainability can be considered in a holistic and collaborative way. The various contributions from delegates brought forth a range of different interpretations on the Conference theme, including those of the authors whose work is included here. The first paper, by Petter Øgland, is entitled 'Critical Systems Thinking and Sociological Paradigms' takes up the issue of organisational sustainability, and embraces a critical social science paradigm. It highlights how consultants typically work with top managers and representatives of the organisational elites when using CST in addressing, for instance, Total Quality Management. The author points out that this may make it difficult to stay within the paradigm, and that a consequent tendency to ignore the politics in the situation could make organisation even more oppressive than before. The author argues that the work should instead be run by internal CST consultants, whose deeper understanding of the political dimension and the experiences of less privileged stakeholders could bring about greater success.

The second paper, by Claudius van Wyk, is entitled 'Finding Clues to Barriers in the Interstitial Spaces between Systems Thinking, Edge of Chaos, and Holistic Perspective'. This author suggests that conventional approaches to Systems thinking may not be sufficient to address a transition towards sustainability. Using

an example from a South African context, he highlights a potential barrier in an inclination towards prediction and control that often accompanies application of ST. An epistemological framework embracing 'edge of chaos' is presented, which illuminates a delicate balance between the extremes of equilibrium and chaos, providing a fertile ground for engaging with emergence and coherent wholeness. Attention can then shift from connecting components towards an "intricate dance of processes", thus attempting to nurture regenerative cultures, rather than pursue 'solutions' to perceived problems.

The contribution from Andy Lane and Kevin Collins turns our attention to the exigencies of climate change and biodiversity loss and their impact on agricultural systems. They point out that agricultural policies increasingly acknowledge the tension between the economics of food production and the common good, generating an imperative for agriculture to become more sustainable. In their paper entitled 'Using systems diagrams to support multi actor collaboration in Agricultural Knowledge and Innovation Systems', these authors place a focus on the need for collaboration among actors and across national and organisational boundaries, and for Agricultural Knowledge and Innovation Systems (AKIS) to operate effectively at different levels. Reporting on from six Living Labs convened for the H2020 funded AgriLink project, they show how diagrams could be a vital tool to promote collective understandings, with implications for future policy-making.

Finally, the paper by Neil McBride – 'A Novel Systems Approach to Responsible AI Ecosystems' – focuses attention on Artificial Intelligence (AI) applications within complex digital ecosystems. Responsible deployment and use of AI requires an approach to ethics that addresses the systemic nature of complex interactions. A suitable systems approach for analysing and describing AI ecosystems is needed, in order to identify interventions and enabling ethical analysis/recommendations. The author examines the suitability of three classic Systems thinking approaches for this purpose, evaluating their potential and limitations. He goes on to propose an alternative (Deleuze and Guattari concept of the rhizome) that may provide a better platform on which to build a conceptual approach for understanding AI Ethics as an ecosystem. A case study is used to illustrate how such an approach may offer valuable insights for policy makers, including regulatory authorities.

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