GUEST EDITORIAL PREFACE

Special Issue on the 2013 International Conference of the UK Systems Society

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THIS EDITION

Living In the 21st century, it is difficult for anyone to be unaware of the interconnectedness of 'things'. To take just one example widely covered in the Press, the Deepwater Horizon oil spill in the Gulf of Mexico in 2010 had far reaching consequences, causing extensive damage to marine and wildlife habitats, to the Gulf's fishing and tourism industries, and hence to the livelihoods of many people in the USA and Mexico. The subsequent White House commission reported that *"The root causes are systemic and, absent significant reform in both industry practices and government policies, might well recur"* (The Telegraph, 5 January 2011). This shows that there is a great need for effective Systems thinking, and that it is vital for industry, government, academics and practitioners to engage with one another. Society, which transcends any national boundaries, requires appropriate tools for systemic inquiry, together with both a spirit of collaboration and the political will for change.

In 2005, Pulitzer Prize-winning author James Martin endowed a new School in Oxford University, dedicated to interdisciplinary studies into global, 21st century problems (http://www.oxfordmartin.ox.ac.uk/). He identified a number of candidate 'megaproblems' in his work 'The Meaning Of The 21st Century' (Penguin, 2007). These included global warming, leading to climate change; excessive population growth, leading to over-demand for the Earth's resources; water shortages, potentially leading to war; deteriorating farm productivity, depletion of life in the oceans and the spread of deserts, all contributing to world famine; and use of extreme weapons by non-state agencies, by terrorist organizations, political or extreme religious groups or individuals. In modern times, academics have become to some extent blinkered in searching for 'scientific' answers to questions at the expense of metaphysical considerations, such as reflection upon the relations that 'things' in the experienced world bear to one another. We may forget to consider how we understand concepts such as, 'existence',

'causality', and 'dependence', while we are looking for instances and classifying them. Western scholarship has defined itself in terms of discrete disciplines, and academics have been encouraged to define themselves according to recognized disciplines – 'I am a physicist' 'My subject is economic history' etc. Now we need to pay greater attention to the 'in-between' zone – to interdisciplinary research that focuses on relationships, causes and connections.

Interdisciplinary research using Systems tools, techniques and methodologies can only be helpful in addressing real world problems such as those identified by Martin. However, there can be no progress if such tools are developed as theory within an academic domain, in isolation from the kinds of messy problems experienced by people in their daily lives and by professionals in their practice. There must be opportunity for feedback from practitioners within communities, businesses and government agencies on their use, usefulness and usability in practical contexts. Only in this way can we hope to create a productive learning spiral in which tools are developed, honed and perfected through reflection upon use. There is a continuing need for Systems research through engaged scholarship (Van de Ven, 2007) to take existing ideas forward and build on them so that they remain relevant to the kinds of problems faced by new generations.

The 2013 International Conference of the UK Systems Society took as its theme 'Systems & Society: Ideas from Practice'. The papers appearing in this issue are a selection from those presented at the conference, which exemplify ways in which Systems tools can be applied to increase understanding of complex problem situations of the kind described by Martin. Papers by Mackay, et al and by Moore, et al both show how Systems techniques can be used to address complex problems in use of scarce resources – rural land use and water management. Each exemplifies a different approach: one using soft, heuristic approaches to encourage and support collaborative community engagement and the other making use of harder tools from System dynamics to examine stakeholder perspectives and develop a problem-structuring framework.

The paper by Pulkkinen and Staffans also looks at sustainability, this time in relation to use of a built environment. The authors consider how an agenda of sustainability can be introduced as an intervention in continuing change within a pre-existing complex adaptive system. This, they pose as an issue of paradigm change that may need to be addressed in the wider theatre of world events. Finally, the paper by Masys deals with another of the megaproblems posited by James: that of extreme ideas leading to terrorist threats. He points out that Systems thinking can be used as a lens through which to see interrelationships and patterns of change over time. He uses Actor Network Theory to open up the 'blackbox' of 'terrorism' to examine the essence of radicalization processes.

All of these authors have taken up an interdisciplinary agenda in efforts to improve understanding of complex human problems. We hope to take this agenda further at the next UKSS conference (St Anne's College, Oxford University, 9-11 September 2014), which will take as its theme 'Systems ideas in a Knowledge Society'.

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Christine Welch is a Visiting Research Fellow in the Business School at the University of Portsmouth, UK, where she formerly taught Systems-related fields. Her particular area of interest is critically- informed approaches to inquiry and contextual analysis. She has published many articles, book chapters and conference papers in the Systems field and other related areas such as knowledge management and organizational learning, and has supervised a number of doctoral candidates in Systems-related topics. Christine has worked with a number of organizations in relation to Systems and organizational development and participated in delivering workshops on Systems approaches, through the Systems Practice for Managing Complexity network. She is a member of a community of practice of business improvement professionals that meets in Portsmouth Business School to explore and share approaches to process visualization and development. She has also led the Systems & Creativity team in the Centre for Enterprise, Research and Innovation in PBS. Christine is a Director and former President of the UK Systems Society and also a member of the American Society for Cybernetics, the Informing Science Institute and the British Academy of Management.