Systems Practice:
How to Act in a Climate-Change World

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A book is but a reification at one moment in time of the product of much joint activity (participation) and the realisation of this makes a mockery, somewhat, of the concept of 'author'. That said, a book is also an act of responsibility – in this case for what I say and do.

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Preface

I invite the reader to engage with this book as a work in progress. My invitation arises because I have come to understand that systems practitioners benefit from appreciating that their practice is dynamic and in transition. It is never complete. Though this book will be printed, thus reifying my understandings at a moment in time, my own systems practice continues to develop.

The writing of this book has been carried out at a time of significant personal, organisational and societal upheaval and transformation – a situation that has been an emotional roller-coaster and a test of my own juggling praxis.[1] Included in these changes has been the reorganisation of academic groupings at The Open University which now means that Systems is part of a much larger grouping within a new faculty structure. Despite these changes a positive development has been the significant investment that The Open University (UK), or more specifically the new Faculty of Maths, Computing and Technology, has made in a new MSc programme in Systems Thinking in Practice. This book is a product, in part, of that investment. It is also this initiative that, to a large extent, has determined the conceptual boundaries within which I have written and composed.

As a result of the investment made by The Open University in the new MSc, four new books including this one have been produced. One is devoted to the individuals who are generally recognised as systems thinkers [2]. This work presents a biographical history of the field of systems thinking by examining the life and work of 30 of its major thinkers. It discusses each thinker's key contributions, the way this contribution was expressed in practice and the relationship between their life and ideas. This discussion is supported by an extract from the thinker's own writing, to give a flavour of their work and to give readers a sense of which thinkers are most relevant to their own interests.

[1] What I mean by juggling praxis will be explained in later chapters.

Another book is devoted to the main methodologies that have been developed by Systems scholars and are often deployed as part of systems practice [3]. In this book the five methodological approaches covered are:

1. System dynamics (SD) developed originally in the late 1950s by Jay Wright Forrester
2. Viable systems method (VSM) developed originally in the late 1960s by Stafford Beer
3. Strategic options development and analysis (SODA: with cognitive mapping) developed originally in the 1960s by Colin Eden
4. Soft systems methodology (SSM) developed originally in the 1970s by Peter Checkland
5. Critical systems heuristics (CSH) developed originally in the early 1980s by Werner Ulrich

These two books establish two of the boundary conditions for my own book. I do not dwell greatly on the pantheon of individuals who are recognised as some of the main systems thinkers, though I do ask the question: how did these people come to do what they did? Secondly, I do not spend time explicating some of the main systems methodologies though, through an explication of 'systemic intervention' (Chapter 12), I attempt to create a bridge to the material in Reynolds and Holwell [3].

This book will deal with a simple logic:

1. What are the situations where systems thinking helps?
2. What does it entail to think and act systemically?
3. How can practices be built that move from systemic understanding to action that is systemically desirable and culturally feasible?
4. How can situations be transformed for the better through systems practice?

The book is introduced in Part I against the backdrop of human induced climate change. This and other factors create a societal need, I argue, to move towards more systemic and adaptive governance regimes which incorporate systems practice. I consider how systems thinkers have chosen to characterise situations that they have encountered and where systems thinking offers both useful understandings and opportunities for situation improving change in Part II. I will argue that how we see a situation, and thus how it is engaged with, are critical first steps and that this is a dynamic heavily dependent on the history, and thus understandings, of the practitioner. For this reason I explore the history of the practitioner (as a biological and social person) and their unfolding relationship with complex situations. My inclusion of the practitioner as a human being means that, unlike many former Systems texts, this book is not methodology led. Particular understandings coming from second-order cybernetics, one of the many systems traditions, will inform aspects of the book.

The systems practitioner referred to in this book is anyone managing in situations of complexity and uncertainty – it is not a specialist role or that of a consultant or hired 'intervener'. Thus the book is structured so as to build a general model of systems practice. Because thinking and acting systemically is a form of practice,

just as say playing a piano or being a nurse (nursing) are forms of practice, and because there are many ways of thinking and acting systemically, I first provide a conceptual model of *practice* in general. I follow this by focusing on systemic practice in particular and then invite you to use these conceptual models to look at your own practice as well as the practice of others.

In Part III, some of the main factors that constrain the uptake of systems practice are considered. Three very accessible approaches to systems practice, viz., systemic inquiry, systemic action research and systemic intervention are then introduced. I conclude in Part IV by looking critically at how systems practice is, or might be, valued at levels ranging from the personal to the societal. I do this in part by looking at the claims we can make about effectiveness and by exploring different forms of evaluation.

A third boundary condition for this book is established by the fourth book, a reader that Blackmore [1] has created concerned with social learning systems and communities of practice. Her focus is on practice in multi-stakeholder situations that call for collaborative or concerted action within groups. My primary focus is on the "practitioner... in context" as well as systemic inquiry, systemic action research and constraints to institutionalising systems practice. Whilst the boundary between the individual in a context and a group as a whole is harder to demarcate and articulate than the boundaries that have been created with the other books, I am fortunate to have collaborated with Chris Blackmore for many years. This has enabled us to negotiate what we believe to be an appropriate boundary. Further aspects of my own research appear in Blackmore's [1] reader.

When planning this book, I decided that I wished to expose the reader to a range of ways of doing systems thinking and practice, not just my own. As my preference was to enable others to 'speak' with their own voice, I began to imagine this book as a type of hybrid. Throughout the text, I will be introducing 'readings' of published material by authors I regard as systems practitioners. For this reason when you first pick up and scan the book you may find it somewhat different in structure to others. In organisation, the book is a hybrid between a book and a reader. The latter is usually a collection of previously published work, brought together for some purpose, such as presenting the seminal papers in a particular subject area or the collected works of a particular author (e.g. [1, 3]). Unlike a reader, this book also draws upon material from my own research, teaching and life experience as well as work of colleagues and other scholars.

Thus the book is a combination of new work and readings from published works. The criteria for selection of these readings were:

1. The reading gives a good systemic analysis of a complex situation – and in the process enables a systemic understanding to be gained (this does not have to be a case where the author claims to be providing a systemic analysis)
2. They exemplify a range of types of practice in general and systems practice in particular – which move from understanding a complex situation, to systemic analysis, intervention, inquiry and process management
3. The examples are not gender biased in selection and reflect different systems traditions on the part of the authors

4. The situations in which practice is conducted vary and thus exemplify different contexts in which Systems can be used
5. They describe a complex situation where it seems obvious that some form of systemic action could have made a difference
6. The papers are written in a style that is accessible to the reader

As you read the book you will come to appreciate, I hope, that this additional material is designed to introduce different perspectives on what systems practice is, or might be. My own metaphor for the way I see and use this material comes from my daughter's practices of braiding and adding coloured 'extensions' to her hair. The material, which I will call 'readings', although they are actually 'doings', is designed to develop your practice in 'braiding'. The text in parts II–IV will create opportunities for you to braid this additional material with my arguments and concepts as well as your own experience.

You will find that, in my writing, I have a habit of moving between different conceptual levels. One of the skills essential to systems thinking and practice is being able to move up and down levels of abstraction.[2] In writing this book I have forsaken the use of in-text Harvard style referencing to aid the flow of the narrative; all chapters conclude with a set of references. I also provide extensive footnotes which point to sources and evidence for my claims. These also provide pathways for further exploration of the points being made. I draw on a range of systems concepts in the book and attempt to explain them when they are introduced.

The book has at least one major weakness for which I feel the need to offer an apology. The absence of a critical engagement with the French, Italian and German, possibly Spanish and Brazilian literatures on systems thinking and practice is an indictment of the Anglo-Saxon systems community in general and me in particular. Missing from these pages are reflections on the contributions of the likes of Edgar Morin, Jean-Louis Le Moigne and Frederic Vester. Edgar Morin, who was very familiar with the revolution in genetics initiated by the discovery of DNA, contributed to cybernetics, information theory and a theory of systems.[3] Le Moigne is known for his encyclopaedic work on constructivist epistemology and his contribution to a General Systems theory.[4] Frederic Vester was known as a 'pioneer of networked thinking, a combination of cybernetic and systemic ideas with complexity issues.'[5] There are also many others.

The gulf between systems practitioners in the different linguistic and cultural communities is unfortunately mirrored in the systems and cybernetics field itself. Whilst many are aware of this and working to rebuild relational capital between

[2]Key systems concepts that depict this are sub-system, system, supra-system or 'how', 'what', 'why' – the latter three are observer dependent and your 'what' could be my 'how' – which is one reason why it is so easy to talk across each other in meetings unless the level at which something is being discussed is clarified.

[3]See http://en.wikipedia.org/wiki/Edgar_Morin; Accessed 1 October 2009.

[4]See http://en.wikipedia.org/wiki/Jean-Louis_Le_Moigne; Accessed 1 October 2009.

[5]See http://en.wikipedia.org/wiki/Frederic_Vester; Accessed 1 October 2009.

disparate groups there has not been, to my knowledge, a recent synthesis that sets out intellectually and practically how a reinvigorated cyber-systemic praxis field might emerge at this time of significant societal need. I hope this work will in some way contribute to facilitating such a transition.

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