

**Stream: OR/Systems Thinking for Social Improvement**

**Title:**

**Embedding Critical Systems Thinking in the Academy**

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Critical systems thinking aims to combine systems thinking and participatory methods to address the challenges of problems characterised by:

- large scale
- complexity
- uncertainty
- impermanence, and
- imperfection.

Systems thinking provides tools for dealing with complexity, in particular. It allows non-linear relationships, feedback loops, hierarchies, emergent properties and so on to be taken into account and critical systems thinking has particularly problematised the issue of boundaries and their consequences for inclusion, exclusion and marginalisation (see eg Midgley, 2000).

Participatory methods are predicated on the belief that relevant stakeholders must be involved in decision making in order to ameliorate uncertainty, impermanence and imperfection. In other words, those affected by decisions should have both the opportunity and the right to influence them, given that they have to live with the problems as well as the benefits that will inevitably arise.

A growing number of groups are practising Critical Systems Thinking or some variant of it.

Overall it would seem that the field is characterised by:

- relatively small research groups operating in limited networks, many outside formal academic institutions. Those operating inside Universities tend to be independent centres or an uncomfortable fit within a larger department, often in a business school.
- multiple small professional associations, which conduct relatively small-scale conferences and which have few links with each other. As well as those represented at this conference, these include the Association for Integrative Studies; the International Society for the Systems Sciences; the Society for Human Ecology; the International Society for Ecosystem Health; Action Learning, Action Research and Process Management; the Society for Values in

Higher Education; Council on Health Research for Development; and the International Association for Conflict Management.

- a growing number of journals, many that are newly established and some that are only being published sporadically. These include Issues in Integrative Studies, Systems Research and Behavioural Science, Ecosystem Health, Public Administration, Global Change and Human Health, and Integrated Assessment. There are no well-established high-impact journals.
- an orientation to consultancy work, which is in high demand especially from government agencies.

There seems to be considerable duplication and reinventing of the wheel and little cross-fertilisation of ideas between research groups and associations. In addition, the emphasis on practical consulting work leaves little time for theory and methodology building. Having multiple groups of small size means that there is disproportionate expenditure of effort on administration and for groups outside the academy a further disproportionate amount of effort goes into fund raising. The lack of an established peer-review mechanism operating through high-impact journals and large-scale conferences, coupled with the practical orientation towards consulting, means that the field is not particularly strong in terms of academic credibility.

*Why a specialisation and what would it look like?*

One area of debate centres on how Critical Systems Thinking should develop. Should it supplant existing disciplines or work in tandem with them? I argue for working with rather than replacing disciplinary specialisations, in other words harnessing and building on disciplinary strengths, not ignoring them. The disciplines have developed a wealth of theoretical, methodological and content knowledge. While the hegemony of the disciplines is a problem in terms of control of resources and structural barriers within universities, the limitations of the disciplinary approach come less from the disciplines themselves than from the lack of recognised ways to draw together the strengths of a range of disciplines.

In terms of how Critical Systems Thinking could develop, the discipline of statistics provides a useful analogy. Statistics has home base departments where theory and methods of statistics are developed and advanced. Statisticians are also found in other departments, eg departments of public health, psychology etc, where they contribute to the core work of those departments and where the problems tackled stimulate further theoretical and methodological development. Finally most researchers have some statistical skills. My vision is for Critical Systems Thinking to develop in the same way. In other words, to have departments of Critical Systems Thinking where theory and methods are developed, to have Critical Systems researchers placed throughout the academy and to enhance the Critical Systems Thinking skills of individual researchers. But there are also some important differences.

Critical Systems Thinking researchers need to be able to work across, as well as within disciplines, in tackling complex problems. Many universities have established

interdisciplinary centres and courses to tackle specific sorts of complex problems, especially in the environmental and health areas. The relationship between departments of Critical Systems Thinking and such centres will need to be worked out. The core issue is that universities need both departments or centres that develop theory and methodology for Critical Systems Thinking and those that tackle a range of complex problems and that theory, methods and practice need to be linked.

The second difference is that the field of statistics is much more advanced and coherent than the field of Critical Systems Thinking. Many of the components of Critical Systems Thinking are beginning to become well established within a different context. For example, negotiation is a key skill, and centres specialising in teaching and researching negotiation have been established both within and outside the academy. Another example is skills for developing and leading teams, which have become central to the research and teaching of business schools.

As well as the day-to-day functioning of Critical Systems Thinking, there is a pressing need to develop overarching and interlinked professional organisations that will both promote cross-fertilisation of ideas and raise the academic credibility of the field. A strong peer-review network needs to be developed, along with concomitant high-quality and high-impact journals. These would foster not only traditional academic outcomes, but would enhance and form bases of assessment and accountability for cross-disciplinary and cross-sectoral work.

*What does a Critical Systems researcher do?*

The development of theory and methodology and their practical application in tackling complex problems are the core tasks of Critical Systems researchers and these develop in tandem. It is conceivable that some Critical Systems researchers might focus more on the development of the theory and methods of the specialisation, while others would focus more on the application of Critical Systems Thinking skills to complex problems.

The areas of both practical application and theory and methodology building that Critical Systems researchers specialise in are:

- Scoping the problem, ensuring multi-disciplinary and multi-sector involvement, and making clear where the boundaries around the problem have been set and the implications of those decisions for inclusion, exclusion and marginalisation of stakeholder groups (see Midgley, 2000).
- Integrative functions, ensuring that different conceptualisations of integration are made apparent and that those most appropriate for the project in hand are chosen.
- Collaborative functions, ensuring that appropriate researchers and sectoral representatives are included, that their interests are accommodated, that different strengths are harnessed, that communication (including ‘translation’) mechanisms are strong, that conflicts are appropriately mediated and so on.
- Practical application in terms of policy or action, ensuring that those who can implement the research are part of the research process or kept closely in touch with it and that the political aspects of the research are dealt with.

Critical Systems researchers can play a number of roles ranging from project leaders, to team members, to project consultants, to investigating projects to collect empirical data on how and how well these functions are carried out.

### *The challenges*

Establishing a specialisation of Critical Systems Thinking faces a number of important challenges. One is constructing a coherent specialisation from ‘bits’ that are located all over the place, many of which now have their own traditions, such as negotiation and team building outlined above. The second is to get this specialisation accepted and implemented, both by those inside and outside the specialisation. Within the specialisation, many are doing well and are overcommitted and may not have incentives for partnerships. Outside the specialisation many may not see a need for these skills and may argue that they are “just” skills that any good researcher has.

A third challenge is to balance the incorporation and the transcendence of disciplinary specialisations. A fourth challenge is that many of the components of Critical Systems Thinking (although arguably not the area that is formally called Critical Systems Thinking) are most developed in the environmental area, so that consideration needs to be given not only to further enhancing the skills that have been developed in the environmental area but also to diffusing them into other areas.

Additional challenges are that Critical Systems Thinking needs to find suitable locations within the academy, locations where it feels a sense of fit and where it will prosper. It needs to be an exciting and rewarding area for research and teaching, to attract good people. The systems thinking and participatory methods aspects of Critical Systems Thinking often attract different personalities, which is one reason why integrating them can be difficult. Participatory methods also tend to have much lower status.

### **Reference**

Midgley, G. (2000). Systemic intervention: Philosophy, methodology, and practice. New York, Boston, Dordrecht, London, Moscow, Kluwer Academic/Plenum Publishers.