

## CRITICAL SYSTEMS THINKING AND BOUNDARIES<sup>1</sup>

By the early 1980's questions were being raised about the ethics of the perspectives being taken. It may all be very well to map relationships and it may be fine to acknowledge that there will be different perspectives on those relationships. But those activities are not neutral – someone somewhere decides which of these are most important.

But some questions arise out of this. To what extent does the adoption of one perspective exclude other perspectives? What are the consequences of this? Who decides which perspective is dominant? These decisions and power relationships effectively determined the “boundaries” of a systems inquiry. Boundary setting is important because it decides what is “in” and what is “out” – and thus who gains and who loses from the perspectives being taken.

Let's look at the implications. Consider a piece of work you have recently completed.

How did you establish what was in or out of the scope of the work (ie which *interrelationships* were relevant)?

How did you establish what standpoint to take? (ie whose or what kind of *perspectives* were relevant)

Who (people) or what (ideas) benefited from those decisions and who or what was disadvantaged by those decisions?

Did you address processes of marginalisation preventing the inclusion of key interrelationships and perspectives? If so, how?

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<sup>1</sup> With the assistance of Martin Reynolds

## Boundaries and Critical Systems Heuristics (CSH)

The systems theorist and sociologist C. West Churchman had been arguing in the 1970s about the ethical decisions surrounding boundary setting when constructing systems viewpoints. Churchman was concerned about how boundary judgements often have the effect of exacerbating existing social injustices by excluding or marginalising important viewpoints. In other words our choice of what comprises the system (and especially its fundamental purpose) determines what comprises the environment. Thus as soon as you take a particular systems perspective on a situation there are implications for what lies outside that perspective.

There are two major implications, one ethical and one practical.

The ethical implication is that your choice of system could "harm" those who (or what) lie in the environment. From an ethical point of view, you have an obligation to investigate and assess whether you want to mitigate that harm.

The practical implication is that those "harmed" may respond in ways that undermine the purpose of your chosen system. You will thus want to investigate this and explore possible strategies to prevent that undermining of purpose.

Churchman and especially his student Werner Ulrich suggested you can address these issues through a process called "boundary critique". They identified two key boundaries to critique.

The first boundary is between the system and its environment. There will be people and ideas in the environment that will be harmed by the system. There is an ethical and practical need to investigate the tension between the system and this harm. A very simple way of exploring these issues is to divide "customers" in soft systems methodology into two groups "beneficiaries" and "victims", and allowing them to include ideas and things as well as people.

The second boundary is between the system as it is currently defined and the system as it ought to be defined. There is an ethical and practical need to investigate the tension between the *is* and the *ought*, the *descriptive* and the *normative*. Again a simple modification to soft systems can highlight this critique.

However, in the early 1980s Werner Ulrich developed an heuristic to help explore these issues with much greater depth and precision than could be achieved using soft systems.

The heuristic organises the components of a system and its environment into four main categories.

1. MOTIVATION - the system achieving what to whom?
2. CONTROL - decision-making power over what?
3. EXPERTISE - what knowledge and understanding harnessed?
4. LEGITIMACY - what makes this the right thing to do?<sup>2</sup>

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<sup>2</sup> Midgley G et al. Scoping The Potential Uses Of Systems Thinking In Developing Policy On Illicit Drugs. Drug Policy Modelling Project Monograph 13  
[http://www.turningpoint.org.au/research/dpmp\\_monographs/res\\_dm\\_monographs.htm](http://www.turningpoint.org.au/research/dpmp_monographs/res_dm_monographs.htm)

Each category has three components, the first is a “what”, the second a “who” and the last one tending to “problematise” the other two. This latter component promotes reflection and critique. The heuristic thus looks like this<sup>3</sup> :

### **Motivation**

- **Purpose:** what is the purpose of the system?
- **Beneficiary** ('client'): who is the client or beneficiary of the system
- **Indicators of success:** how will you know if the purpose impacts on the beneficiaries in the intended way? What issues arise from the use of *these* indicators?

### **Control**

- **Resources:** what resources are necessary to achieve the system's purpose? (e.g., financial, physical, natural, human resources, social capital)?
- **Decision maker:** who controls those resources to enable the system to achieve its purpose?
- **Decision environment:** what important factors might be outside of the decision makers' control, and thus pose a “threat” to the system? What are you going to do about this?

### **Expertise or Knowledge**

- **Expertise** (guarantor attributes): what kind of formal and informal expert skill-sets or relevant knowledge will ensure the purpose is achieved (e.g., formal technical and disciplinary skills, facilitation skills, and other relevant experiential, non-formal and professional skill-sets)?
- **Expert** (or designer): who is involved with providing necessary skills to ensure or 'guarantee' that the system can succeed?
- **False Guarantee:** What aspects of “expertise” and “expert” might create an unrealistic or false “guarantee” or sense of security that the use of the expertise and experts will enable the purpose of the system? What are you going to do about this?

### **Legitimacy**

- **Emancipation (Victim) :** Who or what could fall victim or be negatively affected by the system? This could be marginalized stakeholders, future generations, non-human nature, or ideas associated with beliefs, values, morals, ideologies.
- **Witnesses:** who is representing the interests of the system potential or actual victims. particularly those interests that cannot speak for themselves?
- **World view:** What is the source of the tension between the standpoint of “system” and the negative effects of the system? And how can that tension be reconciled?

As if this wouldn't create enough debate and dialectic, the heuristic also creates a dialectic between the descriptive (what *is*) and the normative (what *ought* to be).

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<sup>3</sup> Actually the Heuristic looks slightly different. In the original version the first two items are reversed. I have switched them because Martin Reynolds suggests this order when working through the heuristic.

[Soft systems does something similar]. The 12 categories above were phrased in a descriptive sense (what *is* the situation we are viewing). To complete the heuristic we repeat the exercise in a normative frame – by switching to an *ought* set of phrases. (eg what *ought* to be the tension between the systems and its negative effects). Thus creating even more opportunity for evaluative inquiry and conclusions.

What you get out of this process is a deep understanding of the value or worth of the system, to whom and in what circumstances. In other words a powerful set of judgements of value or worth.

### Task

The table below is a way to record a CSH evaluation. Note the critique between “is” and “ought”. Fill in the table as much as you can using the information from the case study. The task is to start at “purpose” and proceed horizontally along the each row of the table. The process is progressive (eg “resources” are framed in terms of the resources needed, to ensure the measures of success as experienced by the beneficiaries in the achievement of the defined purpose)<sup>4</sup>

		<b>What</b> <i>Stakes</i>	<b>Who</b> <i>stakeholders</i>	<b>Key</b> <b>“problems”</b> <i>stakeholdings</i>
<b>Sources of motivation</b>		<b>Purpose</b>	<b>Beneficiary/ client</b>	<b>Indicators of success</b>
	‘is’			
	‘ought’			
	critique ‘is’ v ‘ought’			
<b>Sources of control</b>		<b>Resources</b>	<b>Decision-maker</b>	<b>Decision environment</b>
	‘is’			
	‘ought’			
	critique ‘is’ v ‘ought’			
<b>Sources of knowledge</b>		<b>Expertise</b>	<b>Expert</b>	<b>False Guarantee</b>
	‘is’			
	‘ought’			
	critique ‘is’ v ‘ought’			
<b>Sources of legitimacy</b>		<b>Emancipation</b>	<b>Witness</b>	<b>Worldviews</b>
	‘is’			
	‘ought’			
	critique ‘is’ v ‘ought’			

<sup>4</sup> Again note that in the original version of this table the “what” and “who” columns are reversed.

