Contemporary Systems Thinking

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SYSTEMIC INTERVENTION

Philosophy, Methodology, and Practice

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Why Methodology?

Having outlined my own version of process philosophy in the first section of this book, in this second section I discuss methodology—starting, after these introductory few paragraphs, with an answer to the basic question, why methodology? I then move on, in Chapter 6, to consider the meaning of the term ‘systemic intervention’. I argue that all uses of method are interventionary, including scientific methods for structuring observations. However, systemic intervention is something more specific: it refers to intervention that embodies pursuit of the ideal of comprehensiveness. As absolute comprehensiveness is impossible (see the argument in Chapter 3), an adequate methodology for systemic intervention must facilitate considerations of issues of inclusion, exclusion and marginalisation by promoting reflection on boundaries. It should also allow for theoretical and methodological pluralism. An outline methodology for systemic intervention is presented at the end of Chapter 6, which is then fleshed out in subsequent chapters.

Following this analysis, in Chapter 7 I build on the boundary idea already introduced in the first section on philosophy in order to propose a normative (prescriptive) theory of boundary critique. This describes the essential relationship between boundary and value judgements made by human agents, and a systemic model of human conflict is presented that I have found particularly useful to inform reflections during intervention (see also Chapter 14).

Boundary critique gives rise to the possibility of embracing theoretical pluralism. This is because different theories imply different boundaries of analysis, meaning that choice between boundaries also involves choice between theories. The idea of theoretical pluralism is explored in Chapter 8, and it will be argued that, while universal standards for choice between theories cannot be devised, this doesn’t imply the deterioration of standards and a descent into absolute relativism. Chapter 8 will lay the foundations for a normative (prescriptive) model of interventionist learning that will be presented in Chapter 11.
Chapter 5

Why Methodology?

In my view, although boundary critique and theoretical pluralism are both necessary if we are to call intervention ‘systemic’, they are not sufficient by themselves. It will usually be important to develop an intervention using appropriate methods of engagement with other participants in the situation, beyond the discussion of boundaries and theories. In Chapter 9, the need for pluralism in the use of methods is discussed. This need is grounds in the observation that there is no one method, or set of methods, that can deal with all eventualities. Fortunately, a massive literature on intervention methods and methodologies has been produced during the 20th Century, providing a substantial resource for practitioners willing to embrace methodological pluralism. A short (and inevitably incomplete) review of this literature will be undertaken in Chapter 9, focusing in particular (but not exclusively) on methodologies and methods developed by the management systems community, and references will be provided to key texts to enable interested readers to conduct their own explorations and develop an appropriate armoury of methods of intervention.

Having established the need for methodological pluralism, Chapter 10 then goes into more detail, explaining a strategy for mixing methods during systemic intervention. Finally, in Chapter 11, I address three important arguments that have been raised against methodological pluralism: (i) that it is not theoretically coherent because different methods embody the contradictory assumptions of different paradigms; (ii) that it is not culturally feasible because academic research communities have vested interests in promoting single methodologies and methods; and (iii) it is not psychologically feasible because it requires too much intellectual effort from interveners. Interveners are said to have psychologically ingrained preferences and too little time to become proficient practitioners of more than a narrow range of methods (Mingers and Brocklesby, 1996; Brocklesby, 1997). In answer to these criticisms, I propose a model of interventionist learning about theory, methodology and methods.

However, let us start this section with a very basic question: why methodology?

5.1 Why Methodology?

In Chapter 2 I gave an answer to the question, why philosophy? That chapter was motivated by the need, as I see it, to counter the arguments of interveners who look down on philosophy and declare it irrelevant to systemic intervention. I argued that it is very relevant: both in substantive terms (philosophical analysis can reveal hidden assumptions embedded in methodologies and methods) and strategically (we should not accede the philosophical high ground to those who frown on intervention and favour supposedly ‘value-neutral’ science). In a similar manner to Chapter 2, this chapter answers the question, why methodology? It is aimed at three kinds of reader: those who like to keep their systems philosophy pure (untainted by discussions of methodology and practice); those who believe that a focus on methodology encourages purely ‘instrumental’ thinking (forcing thought into a strait-jacket dominated by a concern with the means to reach pre-defined ends); and those who believe it is acceptable to follow an atheoretical line, using methods simply as tools without any explicit methodology at all.

However, before entering into the argument in favour of methodology, let me clarify some terminology—in particular, the meaning I ascribe to the term ‘methodology’ itself. I will then argue against both philosophical purists and those who believe that methodology enforces instrumental thinking. Finally, I will tackle the arguments of those who are prepared to separate methods from methodology, and use the former while discarding the latter.

5.2 Method and Methodology

Many authors use the terms ‘method’ and ‘methodology’ interchangeably, especially in the management science and operational research communities. In my view, this is rather unfortunate: in writings on the philosophy of science, and also in some of the systems literature (see, for example, Checkland, 1981), ‘method’ and ‘methodology’ have a distinctive meaning that can be most useful. A ‘method’ is a set of techniques operated in a sequence (or sometimes iteratively) to achieve a given purpose. A ‘methodology’ is the set of theoretical ideas that justifies the use of a particular method or methods. When an operational researcher says “I designed a new methodology to deal with this circumstance”, s/he is usually talking about a method, not a methodology (at least in the terms that both Checkland and I use). If one wanted to be cynical, one could say that this degraded use of the term ‘methodology’ is a symptom of the ‘dumbing down’ of operational research: treating methodology as method places the theoretical and political assumptions made in the construction of methods beyond critique.

Of course, methodology is not a wholly discrete area of study. There is often a blurring of the boundary between methodology and philosophy: some philosophical ideas may feed into methodology (and
vice versa). There can also be a blurring of the boundary between methodology and practice, in that practice is very often interpreted by interveners in the light of a particular methodology (Kornm, 1995a), and an intervention methodology that is not informed by practice would be strangely contradictory (practice, as I am using the term, is the practice of intervention). This blurring of boundaries is not a problem: it is partly why I believe it is necessary to cover all three fields of inquiry (philosophy, methodology and practice) in a book such as this, and show their inter-dependence.

One thing that all methodologies have in common, however, is a concern with the validity and/or legitimacy of methods. The term 'validity' is generally used by proponents of observational science: if a method is valid, it yields knowledge that reflects reality without known distortions or intervention by the observer. However, those (like myself) who believe that truly independent observation is impossible (see Chapter 6) tend to avoid the word 'validity' and talk about legitimacy. If a method is legitimate, it is viewed (by the researcher, stakeholders and/or other interested parties) as appropriate in the circumstances.

5.3 The Argument against Philosophical Purism

The argument for talking about methodology, and against philosophical purism, is essentially a moral argument. While I find issues of ontology and epistemology fascinating in their own right, I am also moved by my feelings when I encounter what I see as injustice and destructive greed: hunger in the midst of plenty; victims of preventable disease; the atrocities of war; abuses of human rights; unsustainable economic growth; the plunder of the rain forests; freedom and independence for the world's people; a reawakening of the earth through the movement for sustainable development. These issues move me emotionally as much as they do intellectually, and I am sure that the vast majority of readers share these feelings.

Given the scale of injustice, cruelty and greed in the world, and the complexities of defining them anywhere near adequately and in a manner with which others can agree, we inevitably ask ourselves, what should we do? We each have just one pair of hands, and limited time on this Earth. As distressing events are presented to us in discrete packages by the media (hiding the systemic links between issues), we tend to make our own priorities among 'worthy causes'. To an extent, systems methodology can provide an antidote to this kind of piecemeal thinking, although an issue-based practice is difficult to avoid given the complexities and sheer scale of some of the problems we face, the bounded nature of our understandings, and the need to keep intervention on a 'human scale' (giant projects tend to have many unforeseen side-effects).

Perhaps more importantly, however, we also have to prioritise moral action for the wider social good (beyond personal or family benefit) in relation to other forms of action, including action in pursuit of personal advancement, knowledge for its own sake, and pleasure more generally (these forms of action may be seen as moral or amoral depending on the context). It is in making these kinds of choices that I find it hard to justify philosophy purely 'for its own sake', turning one's back on issues of injustice and cruelty. Indeed, as I see it, the pursuit of personal pleasure (including that gained from pure philosophy) is hollow if no heed is paid to the needs of others: ultimately, we are connected through natural and social systemic relationships with those others, so can expect a negative reaction to purely selfish action. This reaction may not be direct, but may come in the form of 'systemic readjustments' which take place within the wider systems in which we are embedded. An example of a systemic readjustment is the latest phase of capitalist development in the West, which is requiring many workers to spend more and more time at work, and away from their families, so that industry can produce the material goods (beyond those

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54 The link I have made in this sentence between morality and feelings is not meant to indicate that morality should be seen solely in terms of the emotion of the individual. MacIntyre (1985) offers a strong argument against what he calls "emotivism": this is the use of a degraded understanding of morality, brought about in modern societies by liberal individualism. There are two aspects to the degradation: (i) moral decision making is seen solely as an individual rather than a community affair; and (ii) morals are seen as emotional commitments only, so the possibility of considering moral issues (through personal reflection and/or debate) becomes unthinkable. Nevertheless, in my experience, it is the case that feelings are involved in moral understanding—but that does not mean that the value of reflection and debate on moral issues should be neglected.

55 My own view of human rights is that they are not absolute, 'natural' or God-given. Rather, they are relative and subject to debate. However, minimally acceptable standards for the treatment of human beings can still be defined with sufficient rigour to enable legislation to be framed, and it is this legislation that gives meaning to the concept of 'rights'.

60 An example of a giant project which has ignored the side-effects of human misery, and environmental destruction in the name of 'industrial progress' is the decision to build the Three Gorge Dam in China (Zich, 1997). This is now under construction despite the fact that the Chinese government commissioned an evaluation from a group of systems practitioners of the likely social and ecological effects of the dam. The evaluation recommended that the project should not go ahead, but this finding was set aside by the government and was never made public (Midgley et al, 2000).
that are needed to maintain a sustainable and reasonably comfortable existence) that these workers and their families wish to acquire: in this case, short-term selfish acquisition (and pressure from employers when acquisitive motivation breaks down) leads to an impoverished quality of life when these workers eventually realise that they have little leisure time left to enjoy the fruits of their labour (Sachs, 1999). One does not need a mystical idea like Karma to understand this phenomenon: there are many systems theories that can help to explain these effects (e.g., Bogdanov, 1913-17; von Bertalanffy, 1968; Miller, 1978).

It seems to me that the philosopher who refuses to engage in applied philosophy is making a moral choice, even if s/he is unaware that this is the case: s/he is choosing intervention in narrow philosophical discourse over intervention in wider discourses with significant life-consequences—and personal gratification over all notions of the wider good. Philosophy becomes applied philosophy when consideration is given to the consequences for both discourse about change, and action for change. Methodology is one particularly important vehicle through which philosophers can apply their ideas: it is through methodology, which sweeps in philosophical reflection, that we can better understand how methods of intervention can be used to create and sustain valued personal, social and ecological change.

Lying behind this view is a theoretical understanding (explored in more detail in Chapter 7) that, in the case of human agents (together with the knowledge generating systems of which they are a part), boundary and value judgements are intimately connected. In other words, if excessive attention is paid to a narrow boundary of intellectual inquiry (philosophy), marginalising everything to do with methodology and practice, then (unsurprisingly) the values pursued by the philosopher are likely to reinforce this narrow boundary. Conversely, if a wider boundary is used, admitting issues of injustice, cruelty and greed (defined in terms other than the purely philosophical), then the values that it is possible to pursue will also be widened.

This moral stance is certainly not new to philosophy: for example, it was a cornerstone of the Pragmatist movement at the turn of the 20th Century. Authors like James (e.g., 1904), Pierce (e.g., 1934), Dewey (e.g., 1946) and Singer (1959) argued for a morally committed philosophy which, instead of pursuing a Grand Truth, viewed 'truth' as 'what works in practice'. However, theirs was not a naive notion of 'working in practice', but one which required a significant effort of inquiry to tease out the assumptions underlying what it means to say that something 'works'. While some (in my view justifiable) scepticism has surrounded a few of the claims of the Pragmatists—particularly the desire of Pierce to find a universal basis for validating knowledge in action (Rorty, 1989) and Singer's over-emphasis of the power of mathematics to solve problems (Churchman, 1987)—their basic argument that philosophy should have a practical face in a morally challenging world still stands. One such practical face is indeed methodology, where the meanings of methods of intervention can be explored.

5.4 The Spectre of Instrumental Rationality

One argument against a focus on methodology and methods is that it encourages purely instrumental thinking. A number of authors writing in the 20th Century (e.g., Marcuse, 1964; Habermas, 1984a,b) have contrasted instrumental rationality (rationality harnessed in the service of meeting some pre-defined end) with practical rationality (which enables moral reflection and the pursuit of mutual understanding). Marcuse, for example, argues that a significant problem in modern capitalist societies is that instrumental rationality has become a dominant force, and practical reason has become marginalised. Thus, people are able to think seriously about developing the best means to meet their ends, but meaningful discussion of the ends themselves is downplayed or degraded (or even, in the discourses of traditional science, labelled 'unscientific' and put to one side).

Churchman (1970) strongly criticises mainstream writers in operational research and management science who are almost exclusively concerned with developing techniques for applying mathematics to the solution of discrete problems. Essentially, these operational researchers and management scientists provide managers with the means for solving problems without subjecting the ends they are pursuing to any scrutiny. Thus, they serve the political and organisational status quo, regardless of whether or not this can be morally justified—which is indeed the practice of instrumentality. However, Mvula (1999) aims the same argument at me. He suggests that, because I champion a focus on methodology, I encourage the reader to neglect philosophy and theory, which are equally important, and which take us beyond merely instrumental reason.

I have three answers for Mvula, and any others who might share his concerns. First, contrary to Mvula's assertion, I am explicitly interested in the development and use of theory (see Chapters 8 and 11). Second, because I argue in favour of methodological pluralism (Chapters 9-11), I am equally interested in methods for critiquing ends as I am in methods for meeting those ends. Therefore, the methodology I
am proposing in this book is specifically designed to enable change agents to transcend purely instrumental rationality. Of course, this is somewhat paradoxical in that I could be accused of instrumentally transcending instrumentality! This is where my third answer comes in. It should be obvious throughout this book that I am not only concerned with methodology, but wish to see it as an essential part of the trinity of philosophy, methodology and practice: like many other authors, I argue that we should indeed look "beyond method" (Morgan, 1983), but this should not imply the abandonment of methodology and method. Seen in relation to philosophy and practice, and incorporating a focus on the critique of ends as well as the development of means, I believe that methodology cannot easily slide into the instrumentality that Mvula (1999) and I both wish to challenge.

5.5 Arguments against the Atheoretical Use of Methods

Having addressed philosophical purists and those wishing to avoid instrumentality, we can move to the other extreme and ask why we should care about methodology and not just look, in an atheoretical manner, at which methods 'work' in practice. A superficial interpretation of the writings of the Pragmatists might lead one to do just this, but of course the Pragmatists were very keen to interrogate the meaning of any claim that something 'works', and present-day interveners can still learn a great deal from them (Brauer, 1995). The Pragmatists were in no sense anti-philosophy, let alone anti-methodology; they merely believed that philosophy should have practical relevance. In my view, it is a shame that the term 'pragmatism' has been degraded over the course of the 20th Century: in common use it now means practical as opposed to theoretical, whereas the original Pragmatists celebrated the fact that a good theory has significant practical implications.

Using the common, degraded understanding of 'pragmatism', several authors writing in the management systems literature (Jackson, 1987a; Flood, 1989a,b, 1990; Midgley, 1989b) have argued against atheoretical 'pragmatism' and in favour of a theoretically-informed approach to methodology (I will keep the word 'pragmatism' in parentheses to indicate that this is the degraded use of the term). 'Pragmatism' is defined by Jackson (1987a), building upon previous work by Reed (1985), as follows:

"The pragmatist strategy is to develop management science by bringing together the best elements of what may appear to be opposing strands [of management and systems thought] on the criterion of what 'works' in practice. Pragmatists are distrustful of theory, believing that the wranglings to which it gives rise distract attention away from management science practice... Pragmatists, therefore, do not worry about 'artificial' theoretical distinctions. They concentrate on building up a 'tool kit'.... Proven techniques from different strands of management science are employed together in the course of problem-solving if the situation warrants it. The choice of techniques and the whole procedure is justified to the extent that it brings results in practice" (Jackson, 1987a, p.462).

Flood (1989a) adds the following:

"The pragmatist may be seen as someone who has a systems tool bag...which...is used in an analogous way to cathedral building of old. The craftsmen were able to build complex structures using their own tool kit but had no idea why the thing stood up, why a beam fixed one way cracked but fixed another way did not. They only knew how to do it from the practice of trial and error..." (Flood, 1989a, pp.78-79).

These atheoretical 'pragmatists' have been criticised on a number of grounds. The following points have been distilled from the works of Jackson (1987a) and Flood (1989a). First, the trial and error approach means extensive and costly experimentation in the social domain. Theory is needed to develop understandings of why methods sometimes work and sometimes do not, so that people can learn more effectively from their mistakes. Second, 'pragmatists' without a common theoretical language find it difficult to pass their knowledge on to others—theory enables communication between practitioners and even across disciplines. Third, what may appear to 'work' in the short term might have disastrous consequences in the longer term: theory is needed to expand our understandings of what it means for a method to 'work'. Finally, because 'pragmatists' are not concerned with the terms in which methods 'work', their activities may unwittingly lend support to authoritarian practices—after all, methods often work, "not because they are the most suitable for the situation in which they are employed, but because they reinforce the position of the powerful, and implementation is therefore enforced" (Jackson, 1987a, p.464).

Of course, all these uses of theory—to examine the strengths and weaknesses of methods; to interrogate what it means for a method to 'work'; to differentiate the application of methods and the effects of authoritarian power relations; and to communicate insights to others—are all essentially methodological. I therefore suggest that engaging in methodological discourse is vital if a superficial and potentially dangerous form of intervention is to be avoided.
In this short chapter I have defined methodology as a set of theoretical ideas that justify the use of a particular method or methods. I have argued against philosophical purism on the grounds that turning one's back on the suffering of others in favour of 'pure' philosophical reflection is a moral choice, taken either wittingly or unwittingly—and one that is hard to defend given the embeddedness of all people (including philosophers) in wider social and ecological systems. I have also argued against so-called 'pragmatists' who advocate the use of methods as simple tools without methodological reflection: it is methodology that allows us to examine the strengths and weaknesses of methods, and to ask what it means for a method to 'work'. Having made the case for methodological inquiry, I will start my own methodological reflections in the next chapter with an examination of the meaning of the term 'systemic intervention'.

Having answered the basic question 'why methodology?', I can now begin to lay out my own methodological ideas, starting with a definition of the term 'intervention'. This will provide a foundation for bringing together, at the end of this chapter, the systems idea (the meaning of which was touched upon in Chapter 3) and 'intervention' in order to produce a definition of systemic intervention. Finally, it will be possible to present an outline of the systems methodology I have developed, that will be fleshed out in the coming chapters.

To give an initial definition of intervention, it simply means *purposeful action by a human agent to create change*. In discussing process philosophy in Chapter 4, I was keen to include non-human sentient beings as knowledge generators. However, in moving on to discuss methodology, I intend to set aside the activities of non-human animals and focus on human agency alone. This is not to say that the activities of non-human animals cannot be described as interventionary (they most certainly can), but it would be pointless to produce a methodology for non-human use. Methodologies are constructed using language. Therefore, the definition of intervention provided above should not be considered a *general* definition. Rather, it is a *methodological* one—specifically relating to human action alone.

Of course, even though we have now eliminated non-human animals from discussion, it should be acknowledged that what constitutes a human agent is not necessarily a simple matter to identify. Actions can be ascribed to a variety of possible agents: e.g., an individual person; a group; a team; a family; an organisation; a community; a nation; etc. Note that this list is very similar, but not identical, to the list of knowledge generating systems it is possible to define (see Chapter 4). It is therefore necessary to discuss the meaning

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\[61\] The difference is that each of the above are exclusively human systems, albeit ones which interact closely with non-human environments.