

Systematic Policymaking with the Institutional Policymaking Framework

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Abstract

One of our most pressing needs in creating a more sustainable world is the explicit development of holistic policy. This is becoming increasingly apparent as we are faced with more and more 'wicked problems'—the most difficult class of problems that we can conceptualise: problems which consist of 'clusters' of problems; problems within these clusters cannot be solved in isolation from one another, and include socio-political and moral-spiritual issues (see Rittel and Webber 1973).

This paper articulates a methodology that can be applied to the analysis and design of underlying organisational structures and processes that will consistently and effectively address wicked problems. This transdisciplinary methodology—known as the institutional policymaking framework—has been developed from the perspective of institutional economics synthesised with perspectives from ecological economics and system dynamics.

Substantive and lasting solutions to wicked problems need to be formed endogenously, that is, from within the system. The institutional policymaking framework is a transdisciplinary, discursive and reflexive vehicle through which this endogenous creation of solutions to wicked problems may be realised.

Wicked problems

Continuing to seek solutions to 'tame problems' when we face 'messes', let alone 'wicked problems', is potentially catastrophic hence fundamentally irresponsible. (King 1993)

Rittel and Webber (1973) were the first authors to use and define the term 'wicked problem'. Since then it has been applied to describe a range of issues (natural resources in particular), with Wolfenden (1999) stating that typical examples of wicked problems include urban design, social policy and environmental problems, and King (1993) applying the term to the American nuclear industry.

Rittel and Webber in their original work (1973) describe two types of problems, 'tame' problems and 'wicked' problems. Ackoff (1974) expanded upon this to describe 'messes', an intermediate type of problem. Kesik (1996, adapted by Wolfenden 1999:37) developed a similar typology for classes of problems, named 'Well Defined', 'Ill Defined' and 'Wicked' problems.

Tame problems are solvable through analytical methods, and as such are amenable to reductionist problem solving approaches. King (1993) states that this type of problem has been the 'forte of science for several hundred years'. They may also be called convergent problems; the more the problem is studied, the more different answers tend to converge towards a single correct solution. Some examples are alphabetical sorting, analytical geometry (Kesik, 1996, cited in Wolfenden 1999), development of a vaccine for smallpox, or analysing the chemical components of air pollution (King 1993). Typically, a mono-disciplinary approach is most appropriate for tame problems (Wolfenden 1999).

'Messes' consist of 'clusters' of problems and problems within these clusters cannot be solved in isolation from one another. A range of systems methods have been used to solve 'messy problems'; the understanding of the interactions between the parts is as important as the parts themselves. Such methodologies are appropriate because they are non-linear and explorative in nature and develop solutions in an iterative and evolutionary way (Wolfenden 1999). Some examples of messy problems include automobile congestion, water pollution (King 1993), architectural design, and management systems (Wolfenden 1999).

Policy makers by-and-large have difficulties coming to terms with messy problems. Sterman (2002) addresses this problem when he says, 'Thoughtful leaders increasingly recognise that we are not only failing to solve the persistent problems we face, but are in fact causing them'. There seems to be an underlying inability of traditionally trained leaders, managers and policy makers to understand and come to terms with problems other than tame problems. King (1993) offers some insight into this situation when he suggests that 'messes offend our sense of linear logic, the linear syntax of our language, and our continuing belief in prediction'. Typical mental models that our political leaders use are, largely, unsuitable for the resolution of messy problems. Political leaders seem to be called upon by their constituents to 'make tough decisions', to 'take the reins', to 'solve the problems'. Such approaches

are perfectly applicable for tame problems, but inapplicable for messy or wicked problems. Indeed, as King (1993) suggests,

Politically, messes require top and middle managers to relinquish traditional authority and forms of control, something most are loath to do. More disturbing, in turbulent times people often feel insecure and threatened, turning to those who offer reassuring but simplistic answers.

Rittel and Webber (1973) coined the term 'wicked problems' to refer to the most difficult class of problems that we can conceptualise. Applying the typology of problems explained here, they may be thought of as messy problems that have had their boundaries expanded to include socio-political and moral-spiritual issues (King 1993).

Such problems call for a new approach, and more particularly for an approach which goes beyond the typical mono-disciplinary, multi-disciplinary or even inter-disciplinary approaches. To deal with wicked problems a transdisciplinary approach is most appropriate, and institutional economics and ecological economics are two communities of practice that have claimed significant contributions to such approaches.

Integration of Institutional Economics and Ecological Economics

Institutionalist policymaking is a vehicle through which the reflexive and iterative integration of institutionalist economics (IE) and ecological economics (EE) can be accomplished. This integration of IE and EE has been argued for by Radzicki (2003b) and this framework facilitates this integration.

Ecological economics has been described as a methodologically pluralistic approach because it 'tries to integrate and synthesise many different disciplinary perspectives'(Costanza *et al.* 1991:3). Institutionalist policymaking (Hayden 1993; 1995) as a methodology can be pragmatically selected from an EE perspective as an appropriate methodological approach for policymaking as a framework within which policy can be made in an institutionalist (i.e. a holistic) way. This framework articulates many steps (detailed in Hayden 1993) in a complicated process that for most policymakers is implicit. As an implicit process, many policymakers are unaware of the underlying assumptions and perspectives they bring to the process. The explicit graphical form of the institutionalist policymaking framework is shown in Figure 1. In developing and implementing policy using this framework, one moves

roughly from the top left box to the bottom right box. Boxes either vertically or horizontally adjacent inform each other. Rather than being a linear, prescriptive approach, the process is intended to be iterative and reflexive, with progress in each part of the process reflected upon in light of progress in other part of the process. Boxes from left to right indicate the progression of the policymaking process. Moving from top to bottom indicates the level at which the phase is being tackled, from theory, to strategy, and then tactics. All three levels are necessary to make the complete process work, but no one level can be used in isolation to formulate holistic policy.

In applying the methodology of the institutionalist policymaking framework, the policymaker is given an opportunity to articulate explicitly their epistemological position (Figure 1, box 1). The importance of this phase cannot be reiterated strongly enough. A policymaker's epistemological position underpins all subsequent thinking and theories with regard to policymaking and decision-making, and all analyses begin with epistemology, either implicitly or explicitly. The importance of a constructionist approach from the point of view of developing the best approach to policymaking is also important (see Crotty 1998; Honderich 1995). Totally objectivist or subjectivist epistemologies may result either in the illusion that reality can be directly accessed by humans as totally objective observers (when in fact we are simply objectifying subjective truths), or in radical subjectivism and solipsism (Hayles 1991, 1995, 1996, cited in Binkley 1998).

An instrumental or pragmatic approach to policymaking in (Figure 1, phase II) is the approach that both IE and EE recommend as most appropriate, since they are problem-focused approaches (remembering not to confuse 'instrumental' and 'pragmatic' terms with 'instrumental rationalist' or 'Pragmatist', which are starkly different in their meaning (Honderich 1995).

Phase III of the institutionalist policymaking framework (Figure 1, phase III) involves reflection on and articulation of the ideology of the policymaker. All policymakers have underlying ideologies informing their decisions, because they are humans with underlying cultural values and societal beliefs (see Hayden 1995).

The underlying ideology seen as essential by Hayden (1993) is one that treats the world as a complex place displaying emergent properties; in relation to human affairs, Hayden uses the word Communitarian, meaning that human society is not a collection of unrelated parts, but displays complex, emergent behaviour. This

perspective is consistent with the perspective of EE, in which complexity is seen as a vital contributor to both natural and social systems (see van der Lee 2002; Grant *et al.* 1997; Stacey *et al.* 2000; Brooks 2005; cf. Gleick 1987; Bar-Yam 2000:1; Gell-Man 1994).

Having explicitly defined the position of the policymaker and having reflected upon the underlying assumptions and biases of that position, the stage is set for the appropriate articulation of the policy problem at hand; the phase of problem definition is defined from the perspective of wicked problems (Figure 1, phase I). The explicit definition of the problem as a wicked problem brings with it the powerful realisation that attempts to simplify the complex problem to common flows such as money in order to resolve it are totally inappropriate and to deal with the situation approaches that deal with multiple system components simultaneously are required.

It is not possible to reduce systems to simple money flows but flows of environmental and social capital must be included as well, and the economic system is only part of much larger socio-ecological system (see Costanza *et al.* 1997). It is arguable that wicked problems often arise when this fact is not foremost in the minds of policymakers. When economists insist on the use of money flows as the dominant concern, it assists in the conversion of our system from one in which government is the dominant governing institution to one in which corporations become dominant (Hayden 2003). Citizens within a democracy (largely) expect (rightly) that their elected government should be the dominant governing institution. When the situation that Hayden alludes to above occurs, it disenfranchises those citizens, and may lead to the development or exacerbation of wicked problems, as communitarian ideas are abandoned, to be replaced by attempts to maximize 'net present value'. Important in the definition of wicked problems is the EE concept of optimal scale (see Holling 2004; Kremen *et al.* 2000; Wolfenden 1999). Wicked problems often consist of nested problems, or problems within problems, and to effectively deal with such problems they must be addressed at the highest level possible, which institutionally often means State or Federal governments. Beyond these national institutions lie international institutions, and it may be that these higher levels may need to be addressed, including their beliefs, values and epistemologies. At whichever higher level is most appropriate, addressing an institution without addressing the underlying beliefs, and the cultural values and epistemologies that form those beliefs may be a fruitless exercise.

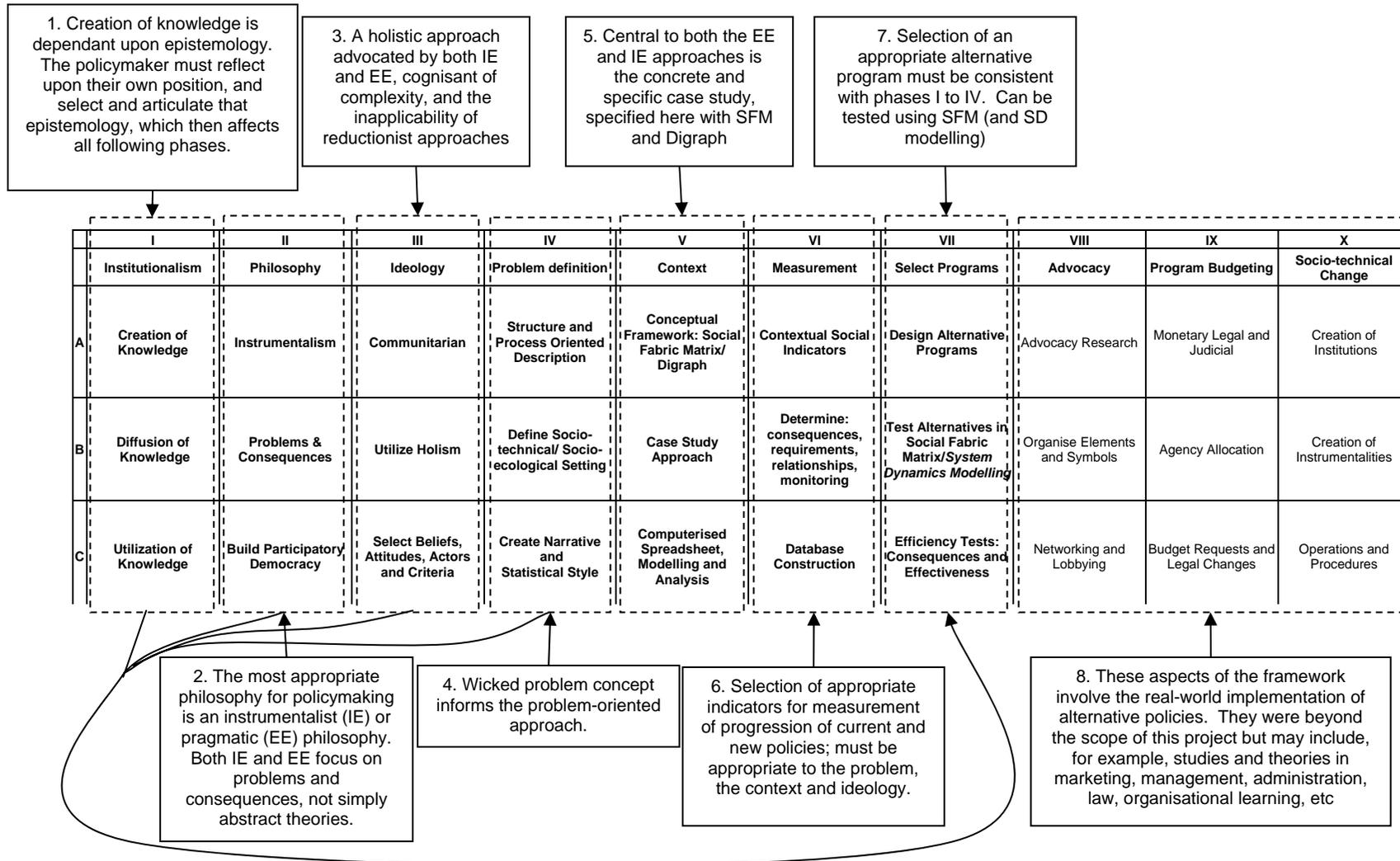


Figure 1: Phases of the Institutional Policymaking Framework

Once again, the approach of IE and EE converges within the institutionalist policymaking framework in the contextualisation of problems (Figure 1, phase V). Both argue the need to make policy within the context of concrete and specific cases (Shi 2004). A variety of techniques may be used at this phase (again a convergence of IE and EE in their methodologically pluralistic approaches); the method recommended by Hayden (Hayden 1993) is the Social Fabric Matrix (SFM Hayden 1982). Measurement of the system under investigation (Figure 1, phase VI) may incorporate a number of methods from a number of fields, such as economics, ecology, botany, zoology, geology, anthropology, sociology, criminology, ethnography, statistics and so on. The integration of these techniques within the institutionalist policymaking framework make it a transdisciplinary approach, one which unifies these diverse fields that are able to deliver valuable insights into the important variable of the policy problem. Ecological economics stresses the importance of social and biological indicators for the assessment of system performance rather than just the use of monetary indicators (Low 2003; Simon 2003). Concurrent with this concern for social and biological indicators is the need for analyses to evaluate multiple variables (Hamilton 1994:63; Munda 2003). The development of a complete set of indicators is a time consuming task, and must be undertaken for each policy problem. The design of alternative programs is an important phase of the institutionalist policymaking framework (Figure 1, box 7). Both the institutionalist policymaking framework and EE agree that the creation of models that allow these alternative programs to be tested is an important component of the processes of the framework. The SFM is an approach that allows such an analysis. Another applicable methodology is the use of System Dynamics (SD) to model the behaviour of these policy alternatives (Forrester 1961; Sterman 2000). While SD modelling is a methodology that is relevant and useful for implementing the institutionalist policymaking framework it is not the only methodology that may be suitable for such a task. Further, the development of an SD model needs to be undertaken by the researchers and stakeholders who are actually involved in the implementation of the framework in the actual development of alternative policy and management approaches. This is in contrast to more common 'imposed solutions' where the development of models is undertaken far removed from the stakeholders of the system. Any SD model that might be presented here would simply be illustrative of the possible usefulness of such an approach in the context of the institutionalist policymaking framework (for an example of such a model see Gray &

Gill, in prep). It has been argued that SD should be integrated with IE (Gill 1993; Gill 1996; Radzicki 2003a) and with EE (Wolfenden 1999). The use of SD within the institutionalist policymaking framework allows the integration of all three, EE, IE and SD.

The implementation stages of the institutionalist policymaking framework are shown in Figure 1 box 8. As suggested by this diagram the implementation of policies can involve a broad range of approaches and methodologies, as long as these are consistent with the foundational phases of the institutionalist policymaking framework, namely, utilizing holism, instrumentally focused and reflecting a constructionist epistemology, and built upon a participatory, democratic system. Such systems have been discussed by other researchers in this area (for example, Wolfenden 1999; Meppem 1999; 2000; Smith 2003). There is a potential cornucopia of research focussed around these latter phases of the institutionalist policymaking framework, but they have not been the focus of this research.

The full development of the institutionalist policymaking framework for any given example is beyond the scope of any single researcher. Hayden (1993), in developing the institutionalist policymaking framework stated that 'institutionalists need to fill the 30 boxes in [the framework] with tools and integrate them in a complete policymaking process. No one scholar, or policymaker, can be an expert in all the areas; each box is an area of study and expertise'. It is thus appropriate that it should act as a vehicle for the integration of perspectives from IE and EE; the framework is itself a transdisciplinary approach to policymaking.

Epistemological and philosophical underpinnings

The strength of the institutionalist policymaking framework in the resolution of wicked problems is its usefulness as a transdisciplinary framework through which epistemologies, theoretical perspectives, methodologies and methods suitable for addressing the elements of wicked problems may be integrated into a novel and system specific approach that will allow the resolution of wicked problems. The application of the institutionalist policymaking framework is predicated, of course, upon there being a policymaker at the appropriate level who has a desire to tackle a wicked problem in a novel way. This may come, for example, from someone with a strong latent commitment to holistic, reflexive policymaking who has come into a position where that commitment may be realised; alternatively, a long-term policymaker may simply see the institutionalist policymaking framework as an

opportunity to 'try something different'. It is in a situation such as this that the institutionalist policymaking framework may be an appropriate tool for allowing policymakers at, say, the State and Federal government level to, develop policy in a holistic and reflexive way, and in the process resolve the wicked problem they have been trying to address.

Features that may be thought of as contributing to wicked problems include conflicting paradigms, regulation and regulatory capture, environmental discourses and complexity and chaos. The institutionalist policymaking framework can be used as an approach that specifically and systematically addresses these issues, and in doing so allows for the resolution of specific wicked problems.

One of the most important insights that the institutionalist policymaking framework brings to conflicts between paradigms is a reflexive, constructionist epistemology. Such an approach recognizes that there are different ways of knowing, and that these different ways of knowing are held by people who may be said to operate within different paradigms. Two such conflicting paradigms relevant to wicked problems associated with 'natural resource management' (the term itself reflects a particular underlying perspective of the natural world) are shown in Table 1, the 'dominant' and 'new' natural resource paradigms.

**Table 1: Contrasting natural resource management paradigms
(Shindler and Cramer 1999)**

Dominant Resource Management Paradigm	New Resource Management Paradigm
Nature to produce goods and services (anthropocentric perspective)	Nature for its own sake (biocentric perspective)
Amenities are coincidental to commodity production	Amenity outputs have primary importance
Commodity outputs over environmental protection	Environmental protection over commodity outputs
Primary concern for current generation (short-term)	Primary concern for current and future generations (long-term)
Intensive forest management such as clear-cutting, herbicides, slash burning	Less intensive forest management such as 'new forestry' and selective harvesting
No resource shortages--emphasis on short-term production and consumption	Limits to resource growth, emphasis on conservation for long-term
Decision-making by experts	Consultative/participative decision-making
Centralized/hierarchical decision authority	Decentralized decision authority

Through the institutionalist policymaking framework, and in particular the contextualisation of the wicked problem itself, the impact of conflicting paradigms may be deconstructed. Such deconstruction is seen by Dryzek (1997) as vital to the breaking down of the barriers between people holding divergent paradigms or discourses. The systematic uncovering of these divergent views is possible through the SFM, which is a central plank of the institutionalist policymaking framework. Having systematically deconstructed these relationships, it is possible then to

develop systems which work to break down the barriers between these discourses and paradigms, to expand the 'hermeneutic circles' (see Stones 1996) of those involved in the wicked problems and to allow for the fusions of horizons necessary for participants to come to terms with and resolve their issues.

What is required for either the transition from this old paradigm to the new paradigm, or a reconciliation of the two, is a change from a positivist, reductionist mindset, which objectifies and treats all problems as tame problems (Rittel and Webber 1973) to a holistic approach which recognises not only that all the various elements of the problem must be addressed simultaneously, since they are all interconnected and interdependent, but also that an epistemologically constructionist and reflexive approach is needed. In addition, to be effectively addressed, these problems must be addressed at the highest level possible, which in the Australian case is the State and Federal Governments, although it may be argued that many wicked problems in Australia are a subset of global phenomena (see for example Buckman 2004; Clark 2001; Commission on Global Governance 1995; Daly 1993; Daly 1998). While problems need to be addressed at these institutionally higher levels, governments should not intervene directly to implement their own 'solutions' to problems, even though it may appear that their electorates are calling for such simple solutions. People often turn to those who offer reassuring but simplistic answers when they feel threatened or insecure (King 1993). However, substantive and lasting solutions to wicked problems need to be formed endogenously, that is, from within the system. The formulation of such solutions often requires the relinquishing of traditional authority and forms of control (King 1993). In many examples top and middle managers have in the past implemented 'technocratic' and 'objectivist' solutions, but these 'solutions' have themselves become contributors to wicked problems. Rather, the fundamental problem of these governments themselves must first be addressed, namely a lack of holistic, sustainability-focused systems thinking, essential in the application of an integrated and holistic approach to policymaking. If this underlying issue can be addressed, and a culture of holistic, system based, sustainability-focused decisionmaking can be inculcated in State and Federal governments in particular, many current wicked problems may come closer to being resolved; the problem situations would be quite different if these institutions reconstructed their thinking from new fundamentals. The institutionalist policymaking framework presented in this thesis can be seen as a vehicle for the facilitated expansion of

objectivist mindsets in the creation of policy and management alternatives, and the synthesis of novel solutions from within the system.

The superiority of solutions generated from within the system over those that are imposed from outside the system can be exemplified by regulation, a contributing component of a number of wicked problems.

Two types of regulation in particular may be identified as contributing to wicked problems, namely command-and-control regulation and self-regulation. Underlying those approaches is a common epistemology that may be called objectivism; that is, that there is a truth and systems can be directed towards it. This truth is objectified in the selection of targets and the processes used to achieve them, with the main difference between command-and-control and self-regulation being whether those objectified truths are assessed by an external or internal agent. Such a perspective creates linear thinking, rather than complex or systems thinking, and is a perspective that assumes away feedback. In contrast, there are alternative regulatory instruments that are underpinned by a different epistemology, one that might be called constructionism. Such instruments may be seen as acting endogenously, and as such may be more effective in addressing ongoing regulatory problems, and issues contributing to wicked problems. Within the regulatory approaches that fall within that epistemology, there may be said to be two groups. There are those that are *reflective*; that is, they reflect upon their position relative to *others*. Such instruments may be said to include some economic instruments, such as price-based instruments. The other group are instruments that may be thought of as *reflexive* (see Honderich 1995), requiring a degree of evaluation of epistemological position, and typically such instruments are those that involve the addressing of *one's own* position, and ways of knowing, in the context of other stakeholders and their priorities (Shindler and Cramer 1999).

Conflicts between stakeholders with different underlying value and belief sets, such as for example between anthropocentrism and ecocentrism (see Dryzek 1997), may be thought of as occurring because both 'camps' objectify the 'truths' they hold regarding the environment. An approach to the development of policymaking and management that brings these people into a situation where dialogue is possible allows the expansion of 'hermeneutic circles'. Within this now reflexive and constructionist space, the resolution of wicked problems can begin. Expansion of their understanding through active dialogue within a discursive cooperative

management environment (see Meppem and Gill 1998; Meppem and Bourke 1999; Meppem 1999; Meppem 2000) provides an opportunity for a 'fusion of horizons'. The expansion of understanding suggested here can arguably be brought about in a twofold way. First, through the implementation of the institutionalist policymaking framework as a catalyst for reflexive processes of systems thinking that can create alternative policies that are holistic and reflexive. Second, the implementation of these new approaches to management can themselves continue to facilitate the ongoing expansion of stakeholder understandings.

Conclusion

When confronted by wicked problems, most policymakers and managers are unable to conceptualise appropriate responses, and may even fail to recognise that they are dealing with a wicked problem at all. The use of the institutionalist policymaking framework provides an approach that makes the phases of the policymaking process explicit, and through methods such as the social fabric matrix allows for the systematic unravelling of the complexity that lies at the heart of all wicked problems. This is accomplished in part through the inclusion of wicked problem stakeholders in the iterative policymaking process. The integration within this framework of perspectives from institutional economics and ecological economics is a vehicle for the further integration of the communities of practice of both ecological economics and institutional economics; the integration of these two areas that lay claim to being transdisciplinary makes significant progress in developing approaches that will adequately address a range of wicked problems. The institutionalist policymaking framework is one of the first methodologies to explicitly integrate institutional economics and ecological economics, but it is doubtful that it will be the last.

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