MESSY INSTITUTIONS FOR WICKED PROBLEMS:

HOW TO GENERATE CLUMSY SOLUTIONS

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Introduction

Much has happened in policy studies in the past decades. Following Paul Sabatier and Hank Jenkins-Smith's call for better theories of policy-making in the late 1980s, scholars have forged new ways of understanding policy processes (Kingdon 1984; Ostrom 1990; Sabatier and Jenkins-Smith 1993, 1993; Baumgartner and Jones 1993), the institutions of policy-making (Rhodes 1990, 1997; Atkinson and Coleman 1992), the content of policy (Hajer 1993; Roe 1994; Fischer, 2003) and, not to forget, the impacts of policy analysis on democracy (Dryzek 1993; Stone 1997).

This work has been driven by the realization that policy-making has changed (Fischer 2003). Policy-makers today face what Horst Rittel and Melwyn Webber (1973) have called 'wicked problems' (Ney 2009; Verweij 2011). Issues such as global climate change, health governance or poverty are highly complex, uncertain and transversal. They have proven stubbornly resistant to resolution by the tried-and-tested tools of policy analysis. Indeed, instead of solving problems, it seems that policy processes get mired in "intractable policy controversies" (Schön and Rein, 1995) or a "dialogue of the deaf" (Sabatier and Jenkins-Smith 1993). But the changes that societies the world over are experiencing —such as demographic shifts, migration or globalization— have transformed issues for which we thought we had working solutions, such as unemployment, social policy or crime, into recurrent policy nightmares. Part of the problem, many scholars of policy processes now understand, is that the complexity and fluidity of wicked problems precludes finding

a single, correct solution. Solving wicked problems involves mobilizing, one way or another, different actors, different forms of knowledge, and different practices. In short, this means finding ways to include, harness, and activate pluralism.

In the decades since Rittel and Webber's seminal publication, a lot of thought has gone into dealing with wicked problems in this way. In particular, the field of organizational studies has created a rich reservoir of theories, approaches and practices (see Table 1). Many of these approaches, most prominently 'Action Science' (Argyris 1991, 1994; Argyris and Schön 1996; McLain Smith 2008), 'Participatory Action Research' (Whyte 1991a; Reason and Bradbury 2001; James, Slater and Bucknam 2011), or 'Participatory Budgeting' (Sousa Santos 1998; Wampler 2007), have been applied to policy processes in real organizations. These concepts prescribe how decision-making within and between organizations should be designed so as resolve the wicked issues facing them. Typically, they consist of guidelines for structuring the interactions between stakeholders with different views on what the problems are and what to do about them. Table 1 provides a list of approaches and methods that aim to tackle wicked policy problems.

But how well do these approaches help us deal with wicked problems? Given the rich variety of potential solutions out there, can we predict which of these approaches is more likely to overcome wicked problems? And could we pinpoint the reasons why some methods do better than others? Can we improve approaches to make them solve wicked problems more effectively?

These are precisely the questions this paper explores. We believe that the theory of socio-cultural variability, or (for short) cultural theory, pioneered by anthropologist Mary Douglas provides a powerful contribution to answering these questions (Douglas 1982; Thompson, Ellis and Wildavsky 1990; Douglas and Ney 1998; Thompson 2008; Swedlow 2011). We build our argument thus. In the next section, we use cultural theory to derive criteria for assessing which approaches can be expected to facilitate 'clumsy solutions' (Verweij et al. 2006; Verweij 2011). In the section thereafter, we apply these criteria to the wide range of concepts and methods from organizational studies listed in Table 1. The analysis will allow us to make meaningful predictions about the

likelihood of any given approach to successfully build the kind of institution capable of tackling wicked problems. In the last-but-one section, we then show how these criteria also enable a diagnosis of why some approaches fall short of the mark, as well as offer a practical therapy for improving these methods. In the conclusion we outline the future research agenda that emerges from our analysis.

Table 1: Approaches from Organizational Studies – The Candidates

Concepts	Propagators	Practitioners		
Action Science	McLain Smith (2008)	Action Design (Newton, MA); Monitor Group (Cambridge, MA)		
Applied Drama	Boal (2002); Nicholson (2005); Colquhoun <i>et. al.</i> (2007)	International Theatre of the Oppressed Organization (Rotterdam, the Netherlands)		
Bohm Dialogue	Bohm (1996)			
Citizens Juries	Crosby, Kelly and Schaefer (1986); Jefferson Center (2004)	The Jefferson Center for New Democratic Processes (Minneapolis, MN; PEALS (Newcastle University, UK)		
Consensus Building Approach	Susskind and Field (1996); Susskind, McKearnan and Thomas-Larmer (1999); Susskind and Cruikshank (2006)	Consensus Building Institute (Cambridge, MA)		
Consensus Conferences	Joss and Durant (1995); Nielsen <i>et. al.</i> (2006)	Danish Board of Technology (Copenhagen); Copenhagen Consensus Center (Copenhagen Business School)		
Deliberative Polling	Luskin (2005)	Center for Deliberative Democracy (Stanford University, CA)		
Design Thinking	Tom Kelley and Littman (2001); Fulton-Suri (2005); Ambrose and Harris (2009); Martin (2009); Brown (2009)	IDEO (Palo Alto, CA); Hasso Plattner Institute of Design (Stanford University, CA): Hasso-Plattner- Institut für Softwaresystemtechnik, School of Design Thinking (University of Potsdam, Germany)		
Future Scenario Planning	Wack (1985a; 1985b); Schoemaker (1995); Schwartz (1996); van der Heijden <i>et. al.</i> (2002); van der Heijden (2006); Ramírez, Selsky and van der Heijden (2010)	Royal Dutch/Shell; Global Business Network (Emeryville, CA); Decision Strategies International (Conshohocken, PA)		
Future Searches		Tavistock Institute of Human Relations (London, UK)		
Integrated Sustainability Assessment	Toth (2004); Rotmans (2006)	International Centre for Integrated Assessment and Sustainable Development (Maastricht University, the Netherlands)		

Learning Organization National Issues Forums	Smith (1994); Senge (2006) Yankelovich (1991); Mathews (2002); Melville, Willingham and	Society for Organizational Learning (Cambridge, MA); European Consortium for the Learning Organization (Brussels, Belgium); Sustainability Consortium (Arizona State University) National Issues Forums (Dayton, OH); Viewpoint Learning Inc. (San
Open Space Technology	Dedrick (2005); Yankelovich and Friedman (2011) Owen (2008)	Diego, CA); Public Agenda (New York); Kettering Foundation (Dayton, OH); BarnHouse Enterprises (Richmond, OH) H. H. Owen and Co. (Potomac, MD)
Participatory Action Research	Whyte (1991a); Reason and Bradbury (2001); James, Slater and Bucknam (2011)	New York State School of Industrial and Labor Relations (Cornell University, Ithaca, NY); Reinventing Life Experiences (Cork, Ireland); Center for Collaborative Action Research (Pepperdine University, Los Angeles, CA)
Participatory Budgeting	Sousa Santos (1998); Shah (2007); Wampler (2007)	Porto Alegre Municipality (Brazil)
Planning Cells	Dienel (1997; 2009)	Nexus Akademie für Partizipative Methoden (Technische Universität Berlin, Germany); Forschungstelle Bürgerbeteiligung (Bergische Universität Wuppertal, Germany)
Soft Systems Methodology	Checkland (1999); Checkland and Poulter (2006)	ISCOL Ltd. (University of Lancaster, UK)
Wisdom Circles	Garfield, Spring and Cahill (1998)	Wisdom Circles (Oakland, CA)
21 st Century Town Meetings	Lukensmeyer and Brigham (2002); Lukensmeyer, Goldman and Brigham (2005)	AmericaSpeaks (Washington, DC); Global Voices (Washington, DC); The Democracy Lab for Innovation and Research (Washington, DC)

Criteria for Assessing Approaches: Clumsy Solutions and Hermits

In order to judge whether any of the approaches in Table 1 could solve wicked problems, we need an idea of what solutions to these problems may look like. Case study evidence from a wide range of policy domains in different countries suggests that one way of dealing with wicked policy problems is through clumsy solutions (Verweij and Thompson 2006). These forms of governance creatively and flexibly combine the four ways of organizing, justifying and perceiving social relations distinguished by the theory of socio-cultural viability: individualism, hierarchy, egalitarianism and fatalism. Cultural theory postulates that these four 'ways of life' are the building blocks of social life – that is to say, each social domain (from a kindergarten to an international

regime) is supposed to consist of an ever-changing mix of these four ways of organizing, justifying and perceiving human relations (Douglas 1978). The theory also states that even though these ways of organizing and perceiving emerge in opposition to each other, they are also dependent on each other. Furthermore, they all contain a kernel of truth as to how people can and would like to live. Social diversity and disagreement is therefore inevitable (Schwarz and Thompson 1990). As a consequence, or so the theory predicts, any forms of governance that attempt to impose a single way of organizing, perceiving and justifying on a particular social domain are bound to fail. In contrast, more sustainable and effective forms of governance tend to nimbly mix all possible ways of organizing and thinking. We call these pluralist solutions 'clumsy' because, unlike their 'elegant' counterparts, these approaches acknowledge that solutions need to be as pluralist (or messy) as contemporary policy problems. The organizational set-ups that are most likely to generate these clumsy solutions we call 'messy institutions' because, unlike the sleek organigrams commonly found on websites, these types of organizations embrace and engage messy pluralism.

What approaches and methods transform organizations so that they become more likely to generate clumsy solutions? Cultural theory offers two complementary answers. The first of these consists of a clumsy response to the question of how to generate clumsy solutions. The additional, and complementary, answer makes use of cultural theory's notion of the hermit. Combining these two replies gives a set of general features of the decision-making processes expected to solve wicked problems with clumsy solutions.

A Clumsy Answer

Cultural theory's first answer starts by assuming that there are four (ideal-typical) ways of solving wicked problems, each with its own strengths and weaknesses. Following the underlying logic of clumsy solutions, institutional setups most likely to create sustainable solutions are flexible and creative mixes of all these ways of enabling clumsy solutions (cf., Hendriks 2010). Below, we set out the four basic ways in which to be clumsy that can be derived from cultural theory.

The egalitarian model consists of an open, honest deliberation among all those who could be affected by the final outcomes. Participants should only argue in terms of the public good, and not openly or covertly push for private interests. They should participate of their own volition, and be willing to listen emphatically and patiently to each other's life stories and concerns. Differences of rank, status, or power of any kind among the participants should be eliminated as much as possible, for instance by wearing non-conspicuous clothing and using simple, clear language. The deliberations should ideally be held in a public space, organized in the form of a round table. Only technology should be used that is cheap and simple, and that can be collectively operated. Decisions have to be reached on the basis of a full consensus, through the formation of a collective will. As much time needs to be taken as is necessary for consensus to emerge. Examples here not only include approaches such as 'Wisdom Circles' (Garfield, Spring and Cahill 1998), 'Bohm Dialogues' (Bohm 1996) and 'Open Space Technology' (Owen 2008) but also the academically and commercially successful notion of a 'Learning Organization' (Senge, Kleiner, Roberts, Ross and Smith 1994; Senge 2006).

The hierarchical path to clumsiness is paved with experts. This approach presumes that the emergence of clumsy solutions is too important to be left to the free interplay of social forces. Instead, the interaction between stakeholders with different perspectives and interests needs to be mediated, steered and formalized by the relevant experts and authorities. The topics that need to be discussed, the ways in which this has to be done, when and where meetings need to take place, and who can participate, need to be regulated by experienced and trained mediators. Once the designated stakeholders have had their say on what the issues are and how they should be resolved, the appropriate authorities face the task of synthesizing all these views into a clumsy policy, which then needs to be imposed on the organization or public involved. Examples here include 'Integrated Sustainability Assessment' (Rotmans 2006) or the procedures prescribed in *The Public Participation Handbook*, by James L. Creighton, Ph.D. (2005), founding President of the International Association for Public Participation.

The fatalistic manner of generating clumsy solutions is to chance upon them. This is the argument that clumsy solutions cannot be willed or planned for, but only longed for and occasionally stumbled upon. According to the fatalistic perspective, we are living in a dog-eats-dog world, in which people are too busy with increasing their relative power positions through hook or crook to strive after any lofty ideals. Clumsiness can therefore only come about in a haphazard, random manner. It may not come as a surprise that few consultancies or mediators have made this fatalistic (non-)strategy their corporate mantra. But we find the fatalistic perspective in academic literature. It shows a strong resemblance to Charles Lindblom's depiction of the best that decision-making processes can usually hope to for: 'muddling through,' i.e., the taking of small, incremental steps after a very limited search for policy alternatives and a minimum of analysis (Lindblom 1959; 1979).

The individualist path to clumsiness is the one least-traveled in the field of organizational studies. It involves the setting up of a competitive process in which stakeholders with different views on the problem and its solution are given the freedom to implement their ideas. Thus, stakeholders can demonstrate, through actions rather than words, that their plans are superior to those of others. The most persuasive stakeholders can keep a part (or all) of the rewards of their labor – be in terms of prestige or material resources gained. Here, time is money and should not be wasted. By setting up a competitive process, driven by self-interest, speediness and efficiency are assured. If it is not possible to create a competition, then bargaining between, or majority voting by, stakeholders with different perspectives are acceptable as well. In the individualistic view, participation in efforts to resolve wicked problems should be on a strictly voluntary basis. Although no purely individualistic concepts for addressing wicked issues have emerged in the academic literature, individualism is part of some concepts. One of these is William Foote Whyte's interpretation of Participatory Action Research, which allows for limited amounts of experimentation and competition through pilot projects.

Hence, four alternative views on the types of institutions in which clumsy solutions will

emerge can be derived from cultural theory. These four perspectives are detailed in Table 2.

Table 2: Four Perspectives on How to Generate Clumsy Solutions

	Individualism	Egalitarianism	Hierarchy	Fatalism
Who should contribute	be involved		Authorities, experts and mediators – and those they designate/ perceive as stakeholders	Those picked by random selection
When, where and with whom to contribute	At one's own time, in one's own space, and individually	the others meet	Depending on type of issue (with issue types and corresponding conditions set by experts)	Randomly
How to structure space in which decision-making takes place	Fluidly (without clear, permanent boundaries or shapes)	inclusive and equal	Depending on type of issue (with issue types and corresponding space determined by experts)	
How to attract/ motivate people	Appeal to self- interest (personal absolute gain)		Appeal to sense of duty	No need, and (anyway) cannot
How to divide tasks	μ 1	undertaken	Tasks should be allocated by experts on basis of expertise	Unsystematically
Which technology to use	efficient and speeds up decision-making	be used easily and collectively,	Technology that can be used by experts to control information flow	Whatever
How to handle time	should not be wasted	suspended: everything hinges on the here and now	structured - with a formal agenda that	No need and not possible (time has stopped: nothing ever changes).
What information to use	Timely, sufficient and individually generated	collectively produced (even if imperfect)		Secretive
Attitude towards economic, environmental and technological risks			managed	Risk needs to be endured, unless it can be deflected to others
How to determine agenda	Every individual can add to the agenda	Through consensus/as a group (as one)	Pre-set by experts and authorities	Covertly ('hidden agenda')

How to take decisions	competition between equals; or through bargaining and compromising ('splitting the		Expert-formulated synthesis of stakeholders' views	Unpredictably
Who should be affected by decisions?	difference') Those who choose to be affected	Everyone involved	The authorities and the publics under their charge	Who cannot escape them
What behavior to expect	Self-interested, rational, and open to exploring mutual benefits	and caring (but some may covertly defend	Overly emotional, biased and short- sighted, when not properly guided	Haphazard, deceitful and amoral
How to frame arguments	By referring to mutual interests	By stressing unity, oneness	By invoking the health of the system	Deceptively
How to interact	Informally and competitively	Informally and empathetically	Formally and courteously	Randomly
How to learn from mistakes	By trial and error	Through critical group analysis	Through formal analysis undertaken by experts	Not possible
View of uncertainty		Uncertainty can be overcome through collective will and action	Uncertainty can be reduced to probabilistic outcomes by experts	Uncertainty is pervasive and cannot be reduced, relieved, lessened – only endured

Adapted from: Rayner (1982); Schwarz and Thompson (1990: 66); Douglas (1996); Hood (1998); Mars (2008); Hendriks (2010).

Each of these ways of generating clumsiness has its own drawbacks. The egalitarian approach is weakened by its insistence on the emergence of a collective will, which may be slow in coming (if it ever arrives). The hierarchical approach may leave stakeholders with a feeling that their views and opinions have not been seriously considered at all, and that instead they have been manipulated into endorsing what the authorities and experts had already decided upon. The competitive processes on which the individualistic approach relies seem to go against the spirit of community and tolerance often needed to collectively resolve wicked problems, and may in any case not always be feasible. Finally, the fatalistic strategy is in essence a counsel of despair.

The shortcomings of each alternative way of generating clumsy solutions can only be compensated for by the other three ways. Egalitarianism's sluggishness can at least partly be overcome through hierarchical steering, individualistic competitiveness and bargaining, and fatalism's arbitrariness. The centrifugal forces sparked by the individualistic approach to clumsiness

can be brought under control by hierarchical planning and mediation, and be tempered by an egalitarian sense of community and belonging. The risks of alienation of stakeholders that are run by the hierarchical approach can be lessened by the more inclusive processes preferred by egalitarianism as well as by the independent initiatives prescribed by individualism.

This reveals the first answer to the question of how to facilitate clumsy solutions that can be deduced from the theory of socio-cultural viability. *Messy institutions are those procedures for decision-making that creatively and flexibly combine all the four alternative ways of generating clumsy solutions that can be derived from cultural theory. Procedures that do not comprise elements of all ways of enabling clumsy solutions will be less successful than those that do.*

A Hermit's Answer

The second response employs cultural theory's under-studied notion of the hermit (Thompson 1982; Mitleton-Kelly 2004). According to the theory, the cultural bias¹ that people adhere to in a particular social domain stems from the social relations they engage in within that domain. As a consequence, people can only simultaneously embrace all possible cultural biases by withdrawing from social relations, i.e., by leading an eremitic life. This insight points to another way of facilitating clumsy solutions: by identifying ways in which stakeholders can temporarily distance themselves from their usual social contexts when considering and taking decisions. This should enable stakeholders to partially free themselves (at least for a while) from the usual dictates of their cultural biases and social relations – and to thus allow them to be more open-minded vis-à-vis other perspectives (Ramírez and Ravetz 2011).

Quite a few practices for doing so have been proposed and implemented. One would be the meditation techniques of Zen Buddhism and other religions (Kirk, Downar and Montague 2011). Conflict facilitator Adam Kahane (2007: 107-8) has for instance described how a months-old

¹ The term 'cultural bias' denotes the cognitive and normative resources that enable individuals to make sense of the social and natural world around them. According to the theory, these cognitive and normative resources emerge from and reproduce a specific form of social relations within the typology.

impasse in efforts to revamp a European multinational company was overcome after a short meditation retreat in the French Pyrenees.

'Applied Drama' may also have the potential to increase people's awareness of, and sensitivity to, other points of view. In its usual guise, as pioneered by Brazilian theatre director and politician Augusto Boal (2002), Applied Drama is predominantly informed by an egalitarian logic (cf. Nicholson 2005). Other forms of Applied Drama, however, are informed by, and put on display, a wider diversity of viewpoints. The theatrical work that Meretta Elliott, Steve Smith and others have developed literally 'object-ifies' opposing perspectives on what the issues at hand are and how they should be handled (Colquhoun et. al. 2007). These performances depict conflictual, stressful situations taken from 'real life'. Their scripts are based on extensive observations of, interviews with, and feedback from all the stakeholders involved. The scripts aim to represent onstage the realities as perceived by the stakeholders as faithfully as possible. As the stakeholders are also the intended audience, they are then able to see an object-ive version of their life-worlds, in which their own perspectives as well as those of others are given long shrift. This process of object-ifving (i.e., the onstage representation of stakeholders' experiences) helps the stakeholders escape the straightjacket of their usual biases, and gain more appreciation of the views of others. A number of successful projects have already been undertaken along these lines – with police forces, hospital staffs and youth from disadvantaged areas, for instance (Darlington and Smith 2012).

A similar process of object-ifying has been used in architecture, land-use and urban planning, namely with the help of 'Charrettes' (Faga 2006). These are models of the planned landscape or urbanscape built by architects and planners in close collaboration with the stakeholders involved (such as residents, local business people, police officers and NGO representatives). Again, the aim is to represent, in a material form, the plurality of perspectives on how the space should be designed and function, and to turn these perspectives into objects that can be viewed and manipulated. This design process of transforming perspectives into objects helps stakeholders take distance from them

and see them from opposite angles, and also creates space in which to explore possible syntheses (Lennertz and Lutzenhiser 2006).

With the help of meditation techniques and aesthetic means, it may therefore be possible to temporarily loosen the grip that social relations have over people's perceptions. This may help stakeholders appreciate faster some of the nuggets of wisdom in each other's perspectives (Ramírez and Ravetz 2011).

The two answers to the question of how to produce clumsy solutions that can be squeezed out of cultural theory are complementary. The first reply was: messy decision-making procedures creatively combine individualistic, egalitarian, hierarchical and fatalistic ways of generating clumsy solutions. We can now add: *Such decision-making processes will be particularly clumsy if they also include means through which stakeholders can temporarily reduce the influence of their social relations on their perceptions*.

Predicting Messiness

Cultural theorists searching for the types of institutions in which clumsy solutions emerge would be ill-advised to disregard the many concepts for addressing wicked problems that have been advocated in the study of public and business management. These concepts have usually flown from a deep well of empirical knowledge of decision-making processes. Their mettle has often been tested in the heat of policy battles. Nevertheless, it would still be helpful to find out which of these concepts reliably generate clumsy solutions and how concepts that do not could be improved.

Here, we start sorting out these questions with the help of the general features of messy institutions that we have just identified. These features can then be applied as criteria to the concepts listed in Table 1, so as to form predictions regarding which of them are more likely to facilitate clumsy solutions.

To begin figuring out which concepts are truly clumsy, we applied the hypotheses presented in

the previous section to the entries in Table 1. We did so with the help of an informal content analysis of the most-cited publications in which these concepts have been proposed. Using the cultural theory-features set out in Table 2, we gauged whether the concepts listed in Table 1 include egalitarian, hierarchical, individualistic, fatalistic as well as eremitical ways of generating clumsy solutions. Before we show our results, a word of caution: our analysis is strictly based on a reading of the relevant literature. Even though these publications usually discuss case studies of applications, it is clear that such writings cannot fully capture the richness of empirical applications. They may especially miss the creativity, cunning, reflexivity and improvisation skills of those involved, as well as the informal, unspoken rules that influence the proceedings. Only close observations of the implementation of the concepts involved can make up for this neglect. With that caveat in place, we present our results.

Table 3: Messy Institutions – The Winners

	Hierarchy	Egalitarianism	Individualism	Fatalism	Hermit	Messy
Action Science	X	X				No
Applied Drama	(X)	X			(X)	No
Bohm Dialogue		X				No
Citizens Juries	X	X	X	X		Yes
Consensus Building Approach	X	X	X			Almost
Consensus Conferences	X	X		X		Almost
Deliberative Polling	X	X	X	X		Yes
Design Thinking	X	X	X	X		Yes
Future Scenario Planning	X		X			No
Future Searches	X	X	X	X	X	Yes
Integrated Sustainability Assessment	X					No
Learning Organization		X				No
National Issues Forums	X	X	X			Almost
Open Space Fechnology		X				No

Participatory Action Research	(X)	X	(X)	(X)	Depending on type
Participatory Budgeting	X	X			No
Planning Cells	X	X	X	X	Yes
Soft Systems Methodology	X	X	X		Almost
Wisdom Circles		X			No
21 st Century Town Meetings	X	X	X	X	Yes

An 'X' stands for an attribute that we found present. An '(X)' represents an attribute that is present only in some versions of the concept involved.

The table shows that out of the 20 concepts that we identified in the study of public and business management only 6 are fully messy. These are: 'Citizens Juries', 'Deliberative Polling', 'Design Thinking', 'Future Searches', 'Planning Cells', and '21st Century Town Meetings'. What makes these concepts particularly messy?

Citizens Juries were developed by Ned Crosby and colleagues at the Jefferson Center for New Democratic Processes in Minneapolis, MN, and are nowadays also implemented by the Danish Board of Technology, the Policy, Ethics and Life Sciences Research Centre at Newcastle University as well as the British government, among other outfits. A Citizens Jury is a deliberative process through which citizens can develop and aggregate their views on a highly controversial topic, and inform the authorities –in full glare of the media– of their preferences. It is partly organized according to hierarchical principles. The questions that a Citizens Jury addresses are formulated a priori by a background group of experts and interested parties. Under instructions from the same group, a journalist then writes up a map with introductory material for the jurors. Facilitators, trained in expressing and comporting themselves in a strictly neutral manner, are used to help control the jury proceedings. Further experts are brought in to testify to and be questioned by the jurors. Last, the outcomes of a Citizens Jury serve only as policy advice – final decisions are taken by the appropriate authorities. At the same time, a Citizens Jury is also partly run on egalitarian lines. A Jury usually consists of 12 to 16 (and not more than 18) people, even though a single process may sometimes include several Juries. Within each Jury, intensive deliberations take place.

Small-group discussions between 4 to 6 jurors are also an integral part of the process. Thus, the egalitarian ideal of a face-to-face search for agreement is upheld. Individualistic elements can also be discerned. Jurors are paid for their time. In addition, the individualistic concern for timeliness is heeded by limiting the proceedings to five days. A final individualistic influence is the voting that takes place after the deliberations have run their course. There is no insistence on reaching a consensus or producing an integrated master plan. All the vote results are published. Last, fatalism is also made use of: the pool of jurors is initially formed by sending an invitation to a random selection of citizens. (Once responses have been received, hierarchy kicks back in: those who would like to be involved are stratified according to age, education, gender, geographic location and race, and only a representative sample of them is admitted).

Deliberative Polling is the brainchild of political scientist James Fishkin, who now operates from the Center for Deliberative Democracy at Stanford University. Most of the elements that make Citizens Juries messy are also present in Deliberative Polling. Hierarchy is present in the form of briefing materials, expert panels, trained moderators, and advisory groups, all of which are there to ensure orderly proceedings. Fatalism is represented by the use of random sampling to choose participants. Egalitarianism is evident in the central role played by deliberations and small-group discussions among the participants, who are treated as equals and cannot be linked to any special interests. Individualism comes in the shape of the financial compensation that the participants get for their troubles, the short-time frame of the proceedings (namely, a few days), the rule that participants do not need to argue in terms of the collective good, the use of television coverage (for parts of the proceedings), as well as the opinion polls that are taken at the beginning and end of the deliberative process (and which serve to indicate how the opinions of the entire electorate would have evolved if all its members had been able to deliberate). One difference with Citizens Juries is that Deliberative Opinion Polls are usually bigger in size: they bring together as many as 130 to 450 participants, while small-group discussions typically involve up to 18 people.

Planning Cells were originally proposed by German sociologist Peter C. Dienel in the

1970s. They have been put into practice by the Forschungsstelle Bürgerbeteiligung of the Bergische Universität Wuppertal, and the Nexus Academy of Participative Methods at the Technische Universität Berlin. Planning Cells resemble Deliberative Planning and Citizens Juries. Hierarchical elements include the selection of topics by a commissioning body, the circulation of background material, the presence of process stewards, the testimony of experts and interest groups, the division of the process into three distinct phases (consisting of information gathering, deliberation and voting in small break-out groups, and the ranking of the various proposals made in the small groups by the entire assembly), as well as the fact that the outcomes of the deliberations are written up by a moderator in a Citizens' Report, which serves to inform and advise the authorities. Individualistic components encompass the payment of participants, the short duration of the whole process (4 to 7 days), the voting on options within the break-out groups, and the insistence that consensus does not need to be attained. Egalitarianism is brought in through intense deliberations among equals within the break-out groups, consisting of five people only. Fatalism is represented by the random selection of participants, and the frequent random redistribution of the participation across the small groups. The total number of people participating in a Planning Cells ranges from 25 to 40.

Design Thinking, taught at the Hasso Plattner Institute's School of Design Thinking in Potsdam and the Hasso Plattner Institute of Design at Stanford University, is equally messy. A team-based process for generating user-oriented solutions, Design Thinking provides a short-cut to innovations usually associated with the innovativeness of a Steve Jobs, Richard Branson or Henry Ford (Martin 2009). The process simulates such creativity by forming so-called 'hot teams' (Kelley and Littman 2001) that bring together about 4 to 6 individuals from a wide range of different academic, ethnic and geographical backgrounds. These hot teams are given a workspace that they can adapt and shape to their particular needs at any time. In these variable workspaces, hot teams work on wicked problems using the Design Thinking process. This process applies the way designers work to problems not usually addressed by designers.

D-Thinking is hierarchical in that it provides a predetermined framework (the Design Thinking process) as well as a set of rules that regulates interaction. The process and rules are rigorously policed and digression is sanctioned. Individualism is hard-wired into the constitution of hot teams. A team is hot only if it delivers tangible output; it fails if it does not. Individuals get assigned roles in the team not according to seniority or formal qualifications but solely on the basis of performance. Individual performance is anything that helps the team deliver. What is more, whenever possible, two teams are set to work on a single challenge in order to stimulate competition. The output of every phase in the process is always presented to the larger group for critical scrutiny. The D-Thinking process is radically user-oriented, which is the egalitarian element. Teams are encouraged to "walk in the shoes" and "see with the eyes" of users (Fulton-Suri 2005). For any design challenge, users –not any of the specialist team members– are the ultimate experts and authorities (Kelley and Littman 2001; Brown 2009). Last, fatalism is exploited. Teams work under immense time pressure that often provokes failure. The resulting disorientation and frustration reminds D-Thinkers that failure is always possible and something to be embraced.

21st Century Town Meetings have sprung from an initiative by U.S. civil servant and social entrepreneur Carolyn Lukensmeyer. They are held under the auspices of AmericaSpeaks and its international affiliate Global Voices, both headquartered in Washington, D.C. A distinctive feature is their ability to simultaneously involve thousands of participants. The number of people involved in 21st Century Town Meetings has ranged from 500 to 5000. This deliberative process is again a creative combination of egalitarian, individualistic, hierarchical and fatalistic elements. Egalitarianism can be seen in the intense deliberation, and search for consensus, that goes on within the small discussion groups consisting of 10 to 12 people. Fatalism can be detected in the random assignment of seats. Hierarchy is abundant as well: the topic addressed at the meeting is predetermined; the pool from which participants are drawn is segmented (along various lines, including gender, age, race, income, etc) and special care is taken to reach and invite particularly isolated, vulnerable or otherwise important segments of the public; discussion guides, in which

experts frame the issues, are handed out to participants; trained facilitators are assigned to each discussion group; theme teams aggregate the musings of the discussion groups into overarching themes and proposals; and a recommendation report is drawn up by the organizers and offered as policy advice to the relevant authorities. But especially the use of individualistic means allows 21st Town Meetings to accommodate thousands of citizens. These include various technologies that greatly speed up the aggregation of the proposals made, and opinions formed, within the discussion groups. Groupware (i.e., a set of networked computers) is used to record the proposals and suggestions made within all groups, and these proposals are then combined (by theme teams) into policy recommendations. Keypads, handed out to each participant, are used to take quick opinion polls on these recommendations. The results of these votes feed back into the small group deliberations. At the end, a poll is also taken of the final policy recommendations that will appear in the concluding report. Thus, the use of groupware and keypads allows 21st Town Meetings to host thousands of citizens and keep the duration of the events to a single day.

Finally, Future Searches are the messiest of all, according to cultural theory. This may not be coincidental, as such searches have emerged from the work of Fred Emery and Eric Trist, whose work on Open Systems Theory (Emery and Trist 1972) has great affinity with cultural theory (Thompson 2008: 110-12). Future Searches have been pioneered at the Tavistock Institute of Human Relations in London, and are also undertaken through the Future Search Network and Future Search Alliance located in Pennsylvania. A Future Search is a participative process in which a group of people develops a set of strategic goals and tactical action plans that will it later seek to implement. Any group of people –a company, industry, governmental agency or community– may use a Search. Moreover, Searches may also be conducted around issues of national or regional importance. They are the messiest decision-making procedures as they draw on all four of cultural theory's ways of life, as well as contain an eremitic element. The main egalitarian component of a Future Search consists of its active leveling of any pre-existing status or rank differences among participants. A strict democratic structure is put in place both during the deliberations and

afterwards, when the action plans need to be implemented. Participants operate strictly in a peer-topeer mode. As a Search involves people from all echelons of the system (i.e., the company, governmental agency, community) this involves a massive blurring of the usual lines of authority. Another egalitarian element consists of the intense deliberations that take place within small groups. A Search usually involves 60 to 80 people. But most deliberations take place within groups of about 8. A last egalitarian element is the aim of achieving consensus – both within the small discussion groups and, at the end, in the entire assembly. Hierarchy abounds as well. The entire process is divided up in three phases (before, during and after the Search), each of which comes with its own set of principles that need to heeded. Before the Search, the sponsors, facilitators and steering committee have to make sure that the right people (representing all the viewpoints and expertise needed) commit to participating, and that the issue at hand gets properly defined and studied. After the Search, periodic review meetings need to be held to bring back together the stakeholders from the original conference and other interested parties so as to renew their commitment. The Search itself is also strictly structured. It consists of 3 days, and follows a predetermined sequence of Tasks (Focus on the Past; Focus on the Present, External Trends; Focus on the Present, Owning Our Actions; Ideal Future Scenarios; Identify Common Ground; and Action Planning). Facilitators are at hand to keep everybody on track. Individualism is evident in various ways as well, including the short time duration, the creativity and boldness vis-à-vis the future that are encouraged by the organizers and facilitators, and the individual responsibility that participants have to implement the plans they have agreed on. Fatalism is present in an interesting way. A Future Search is explicitly designed to create (at least for a while) uncertainty, anxiety and confusion among the participants. This is seen as a necessary phase on the way to consensus. Last, and uniquely, a Future Search appears to benefit from the use of (what could be called) an eremitical tool. Its explicit focus on what the organization in question, and its environment, might look like in the not-too-near future (ranging from 5 to 15 years) partly liberates participants from their current biases, social relations and preoccupations. This ought to help the participants think more freely.

On the basis of cultural theory, we therefore predict that these six approaches for dealing with wicked issues will be more helpful to efforts to generate clumsy solutions than other methods.

Clumsy Diagnoses and Messy Therapies

It is one thing to predict, like we did in the previous section, that some approaches from organizational studies are more likely to build messy institutions than others.² Yet, it is something else to be able to diagnose the reasons for why certain concepts and methods are unlikely to succeed and, more importantly, to suggest a suitable therapy. In this section, we address this challenge.

Clumsy Diagnoses

A major contribution of our cultural theory analysis is the ability to diagnose ailing approaches – to explain why these are unable to produce clumsy solutions to wicked issues. Take, for instance, Action Science, an influential approach developed by academics Chris Agryris and Donald Schön and consultants Diana McLain Smith and Robert Putnam. The problems with many organizations, Action Scientists tell us, are low levels of trust, cooperation and open communication. Stuck in unreflexive routines of 'single-loop learning', organizations become mired in goal-oriented power games that engender suspicion and distrust. Action Science offers a method to lead these types of organizations out of their paralysis into a more reflexive and cooperative communicative practice characterized by 'double-loop' learning (Argyris and Schön 1996). This involves the analysis and mapping of organizational structures, norms and practices. Significantly, the organizational transformation also requires an intensive engagement of the organizations' members with each other mediated by the external consultants over iterated rounds of discussions, planning, project implementation and reflection.

However, Action Science seems to take a long time. Throughout her book, Diana McLain

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² Of course, if empirically confirmed, this would be no trivial contribution to the literature, as the less messy methods comprise highly influential concepts, including 'National Issue Forums', 'Learning Organizations', 'Future Scenario Planning', and 'Consensus Conferences'.

Smith (2008) uses her work with two managers of a company ("Dan" and "Stu") to illustrate the power of the approach. But she also mentions that after helping Dan and Stu improve their relations for eighteen months, they "still had their work cut out for them" (Mclain Smith 2008: 157-58). And on page 162, she implies that five years on Dan and Stu were still chipping away at improving their relationship (cf. Argyris and Schön 1996: 150). Many organizations that are being overwhelmed by wicked issues will not have that much time to improve their decision-making. Cultural theory provides an explanation of these problems.

The cultural theory analysis –depicted in Table 3– suggests that Action Science relies heavily on both hierarchical means (in the form of the Ladder of Reflection, the Anatomy Framework, the FREE Model, among others) and egalitarian procedures (such as the assumption that if only people communicated openly and freely, trust and harmony would flourish). Individualism, with its emphasis on speed and efficiency, is largely missing.

Besides providing a diagnosis of what ails some of the approaches for dealing with wicked problems that have been proposed in organizational studies, our analysis can also examine which *variants* of a particular approach seems to be healthier, and why this is the case. For example, most understandings and uses of Participatory Action Research are predominantly egalitarian (e.g., Reason and Bradbury 2001). Methods such as collective planning, implementation and evaluation of research are supposed to blur the boundaries between observers (i.e. researchers) and the observed (members of the community). Moreover, these projects invariably aim at leveling authority distinctions and increase solidarity within an organization or community. However, William Foote Whyte's interpretation of this approach is rather messy (Whyte 1991b; c; d; Whyte, Greenwood and Lazes 1991). His use of Participatory Action Research has a strong egalitarian component, as it puts 'lay members' of an organization on a par with academic experts. Here projects aim at comprehensive stakeholder inclusion in decision-making and implementation based on intense deliberation between participants and researchers. But, as we alluded to above, Whyte and his collaborators also make use of competitive processes, which is an individualistic feature.

When different organizational members cannot decide among alternative plans (for instance, regarding how to increase agricultural productivity in a region, or how to cut costs in a corporation), then their advocates are sometimes given the opportunity to demonstrate their wisdom through pilot projects. Hierarchy rears its head as well in this usage of Participation Action Research. The boundaries within which projects have to stay, and the ultimate aims they need to reach, are outlined a priori by senior management. Moreover, the academic consultants do not have to accept each and every proposal made by organizational members. Last, any participatory project relies on the involvement of key stakeholders – organizational members who are especially knowledgeable or enthusiastic about the project. Using such a mix of principles, Xerox quickly regained its position as the world's leading producer of printers and photocopiers in the 1980s (Pace and Argona 1991; Costanza 1991). As Whyte's interpretation of Participatory Action Research is messier than other uses of this approach, cultural theory predicts that it will also be more successful.

Messy Therapies

The last example also suggests that we can use our analysis to show how changes in tools and methods can improve individual approaches. The so-called 'Cultural Map', devised by Aaron Wildavsky (1994) for analyzing development aid, is particularly useful for devising messy therapies. This map depicts the content, versions and relative popularity of each of the four ways of organizing, perceiving and justifying human relations that abound in a particular social domain (cf. Mars 2008). The Cultural Map allows us to design messy therapies by locating 'missing' processes as well as by generating better—meaning more pluralist—inputs needed for many of the approaches.

In terms of missing processes, Table 3 reveals that four concepts from organizational studies are 'almost messy'. These concepts appear to have overlooked only one of cultural theory's ways of life. They include the 'Consensus Building Approach' (lacking in fatalism), 'Consensus Conferences' (insufficiently individualistic), 'National Issues Forums' (in need of fatalism), and 'Soft Systems Methodology' (ditto). Cultural theory suggests the types of processes and features

that actors should add to make this concept more effective.

National Issues Forums, for example, have egalitarianism and hierarchy in spades. The former includes a search for consensus, and the formation of strong interpersonal bonds, through deliberation about issues in small groups. Policy experts are not allowed anywhere near the forums. Hierarchy comes in the form of trained mediators (who, however, play a limited role in the proceedings), 'issue books' that offer background information and set out 3 or 4 perspectives on the topic at hand, and the fact that these forums aim to advise those in power. National Issues Forums have a few individualistic elements, such as the self-selection of participants, and the injunction to bargain and compromise when consensus cannot be reached. Fatalistic components, such as random selection of participants, have not been included, and this omission may explain one of the major challenges of these events (Melville, Willingham and Dedrick 2005: 53): "Because NIF forums are typically small and because participants are not normally representative as a whole, many elected officials at local and national levels have tended not to take NIF forums or their outcomes seriously." Random selection of participants (as for instance used in Deliberative Polling) might be of help in overcoming this challenge.

Danish Consensus Conferences lack an individualistic element. They require groups of 10 to 25 randomly selected citizens (fatalism) to engage in a face-to-face, public dialogue and search for consensus (egalitarianism) about a particular issue, usually the pros and cons of the introduction of a new technology. These citizens are guided in their deliberations by an information package framing the issue (hierarchy), trained facilitators (ditto), and can decide amongst themselves (egalitarianism) to interview experts (hierarchy). Their final report allows authorities to take into consideration a lay point of view (more hierarchy). Hence, there is an absence of such individualist features as the use of bargaining and gadgetry with which to quickly aggregate opinions. As a result, Consensus Conferences involve very few people (too small a number to form a representative sample), are rather expensive (in Britain, they have cost up to £100,000), and take considerable amounts of time (a first phase comprises 8 days of preparatory meetings spread over 3

months, which is then followed by a 4-day conference). None of this does much to strengthen the impact of Consensus Conferences.

Cultural theory not only shows what is missing -individualism in the last example- but also tells us where these missing processes may be found. Comparing Tables 1 and 2 reveals that hierarchical planning and egalitarian deliberation are used aplenty. But the competitive processes through which stakeholders can put their resources where their mouth is, and that are prescribed by individualism, are largely absent. In view of the creativity and energy that such processes can engender, as well as the difficulties of reaching consensus or getting centrally imposed plans accepted, this may be an unfortunate oversight. For instance, the Bill and Melinda Gates Foundation regularly puts competitive processes to good use – through its 'Foundation Contests'. In a first phase, people or organizations that believe that they have the best solution to a particular pressing issue can apply for seed money in order to start implementing their ideas. Outcomes of this process are then judged by the Gates Foundation, and winners are given more financial and moral encouragement. One recent case was the 'Reinvent the Toilet' Contest. Researchers from eight universities received 3 million US\$ to create models of toilets that need not be connected to sewers, or to water and electricity lines, and that cost less than pennies per person a day to use. Prizes included the financing for one or more winning prototypes to be tested and produced commercially (Eisenstein 2011). Such competitive processes have been given short shrift in the academic literature on how to resolve wicked issues. The Cultural Map, however, allows policy actors to locate these processes and use them to make existing approaches messier.

In terms of inputs, the Cultural Map also helps transform approaches by allowing actors to generate the material for improving processes. Most of procedures discussed here outline (in one way or another) the contending perspectives that stakeholders adhere to. The Cultural Map could serve as an effective and efficient complement (or alternative) to more inductive efforts to outline the contradictory certainties believed in by different stakeholders. Using this approach, National Issues Forums would be improved. As we mentioned above, participants in these Forums are plied

with 'issue books', which set out the main 3 or 4 perspectives on the subject under discussion. Maps derived from cultural theory would come in handy as they would ensure that all competing policy perspectives are covered and that their assumptions (of nature, human nature, justice, time, space, technology, and so on) would be made explicit. Thus, both the breadth and depth of these books (and the ensuing discussions) could be increased.

Soft Systems Methodology (SSM) could also be boosted. This rather complicated approach to resolving wicked problem situations was developed by Peter Checkland and his colleagues at Lancaster University. It combines a battery of hierarchical tools with a modicum of egalitarian and individualistic means. The hierarchical elements include the taking -by an SSM specialist- of the following steps: (1) the drawing of a 'Rich Picture' of the problem situation by engaging in 'Analyses One, Two and Three' (which capture the intervention that is about to take place itself, as well as the prevailing social and political relations); and (2) the building of alternative 'models of purposeful activity' based on 'declared worldviews', i.e., identification of the main thought models that guide the actions of stakeholders. These different models are revealed with the help of a 'Root Definition', the 'PQR Formula', a 'CATWOE' analysis, and application of the '3 Es' (efficiency, effectiveness, and efficacy). All this preparatory work undertaken by the SSM expert should then facilitate 'structured discussions' in which stakeholders attempt to find solutions that are acceptable according to all models of purposeful activity. In this manner, consensus ought be to reached (a minimal egalitarian trait of SSM). If not, then mutual accommodation and compromise are called for (a hint of individualism). As it is easier to find something if you know what you are looking for, a careful use of cultural theory could make the formulation of 'models of purposeful activities' both less cumbersome and more complete.

Conclusion

Today, policy problems are complex, uncertain and lie awkwardly across policy domains. They are, in a word, wicked. Wickedness not only characterizes the big global issues such as climate change

or security but, due to trends such as globalization or demographic ageing, also undermines our tried-and-tested solutions for old familiars such as unemployment or education.

Much of the developments in policy studies of the last 30 years reflects the realization that our policy toolbox, oriented as it was towards 'tame' problems, needed a fundamental overhaul. For a long time, we solved social problems by using rational methods to identify the 'correct' solution from a plurality of ideas in the marketplace. As we have seen, solving wicked problems implies embracing and mobilizing this plurality rather than whittling it down to a single solution. And as diverse the approaches from organizational studies listed in Table 1 are in terms of ideology, methods and tools, they all aim to tap into the potential of diversity and plurality.

However, they do so in very different ways. This paper explored how we could predict whether and why some approaches help solve wicked problems more effectively than others. In particular, we wanted to call attention to the unique contribution of Mary Douglas' cultural theory in answering this question. That is why we relied on the concept of 'clumsy solutions' and the types of organizations – 'messy institutions' – that bring about these solutions.

From this, we derived two conditions for evaluating contending approaches. Cultural theory suggests that we should expect to find —as indeed we did—four different ways of mobilizing and activating pluralism. Using the underlying logic of clumsy solutions, we argued that a creative and flexible combination of different modes of solving wicked problems is more likely to succeed than a method that relies on one or two modes. In addition, the often-ignored hermit, by withdrawing from the coercion implicit in any form of social relations, is well situated to critically reflect on the structures, norms and practices that make up these contending ways of organizing, perceiving and justifying social relations. Approaches, then, that enable individuals to temporarily withdraw from the cognitive and normative constraints of their social contexts will make them more receptive to and tolerant of solutions from other forms of social relations.

Using these two criteria, our analysis of methods in Table 1 suggested that six approaches used all four modes of solving wicked problems. If cultural theory is empirically sound –and a lot of

qualitative case study evidence suggests that it is—we would predict that these six approaches (Citizens Juries, Deliberative Polling, Design Thinking, Future Searches, Planning Cells, and 21st Century Town Meetings) will be most effective in building the types of institutions that give rise to clumsy solutions.

The two conditions derived from cultural theory not only enable the formulation of predictive hypotheses. They also allow us to diagnose why approaches may fall short of the mark. By looking at what cultural modes of solving wicked problems are missing from any given approach, we can predict the types of problems these methods will encounter. What is more, cultural theory also provides tools and material to design therapies for ailing approaches. Not only does the cultural map enable us locate missing modes of problem-solving, it also can also help structure and balance the inputs into many of the processes outlined in Table 1. Last, the cultural theory analysis and the cultural map can guide our search for new methods and approaches.

At present, there is governance failure galore. As a result, crises abound: the global banking-crisis; the U.S. debt challenge; the global food crisis; human rights-crises in many countries; the faltering Millennium Development Strategies – not to mention various ecological crises. Of course, not all of these problems could be resolved through clumsy solutions. But even if only a fraction could, then it would be worthwhile to discover in which ways such solutions could be generated. The theoretical framework that we have presented offers a tentative answer to this important question. It helps formulate questions for empirical research into messy institutions and clumsy solutions.

Thus, we can discover whether a messy exit out of current messes exists.

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