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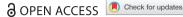
alternative approaches to the governance of wicked problems

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Coping, taming or solving: alternative approaches to the governance of wicked problems

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ABSTRACT

One of the truisms of policy analysis is that policy problems are rarely solved. As an ever-increasing number of policy issues are identified as an inherently ill-structured and intractable type of wicked problem, the question of what policy analysis sets out to accomplish has emerged as more central than ever. If solving wicked problems is beyond reach, research on wicked problems needs to provide a clearer understanding of the alternatives. The article identifies and explicates three distinguishable strategies of problem governance: coping, taming and solving. It shows that their intellectual premises and practical implications clearly contrast in core respects. The article argues that none of the identified strategies of problem governance is invariably more suitable for dealing with wicked problems. Rather than advocate for some universally applicable approach to the governance of wicked problems, the article asks under what conditions different ways of governing wicked problems are analytically reasonable and normatively justified. It concludes that a more systematic assessment of alternative approaches of problem governance requires a reorientation of the debate away from the conception of wicked problems as a singular type toward the more focused analysis of different dimensions of problem wickedness.

Introduction

One of the truisms of policy analysis is that policy problems are rarely solved. As some of the most notable early proponents of this field of research have emphasized, 'problems are not so much solved as alleviated, superseded, transformed, and otherwise dropped from view' (Wildavsky 1979, 386). With the emergence of post-positivist perspectives in policy research, problem-solving was rejected even more resoundingly as a 'long-standing fantasy' (Rein and White 1977, 269). Yet despite the fact that 'problem-solving' has become increasingly contested over the past decades, it has remained a powerful image that continues to orient, and disorient, important debates in policy research and analysis.

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Nowhere has the question of what policy analysis sets out to accomplish emerged as more central than in the context of the current debate on wicked problems (e.g. Durant and Legge 2006; Head 2008; Head and Alford 2015; Levin et al. 2012; Roberts 2000; Termeer et al. 2015; Weber and Khademian 2008a). While wicked problems originally referred primarily to complex and enduring issues of social policy, such as crime and poverty, an ever-increasing number of policy problems are identified as inherently ill-structured and intractable. This type of policy problem is frequently seen to defy problem-solving by definition. As Rittel and Webber (1973, 160) clarify at the outset of their classic contribution, wicked problems 'are never solved'. This not only raises the question of how public authorities should address this challenge, but also to what end. The present debate on wicked problems suffers from a discernable lack of appreciation of the second part of this question. If solving wicked problems is beyond reach, research on wicked problems needs to provide a clearer conceptual understanding of the alternatives. Failure to clarify what the governance of wicked problems aims to achieve would render both the analytical and practical exercise futile.

The question becomes even more pressing as the governance of wicked problems is frequently understood to require potentially far-reaching reforms of public administration and management. Much of the current debate on wicked problems in public administration research, for example, projects a need for public authorities to not only overcome traditional forms of hierarchical organization and functional specialization, two of the defining features of modern bureaucracy. It also proposes to reverse significant efforts at administrative decentralization and retrenchment undertaking during previous periods of public sector reform (Christensen and Lægreid 2008; Peters 2015, 100–101). Any meaningful assessment of these reform proposals would greatly profit from a better understanding of what they aim to accomplish, how reasonable it is to expect that they will work, and how they compare with alternative strategies of dealing with wicked problems.

In order to address these questions, the article takes a more systematic look at how we can usefully distinguish between different approaches to the governance of wicked problems. By making the more tacit foundations of this literature explicit, it shows that the intellectual premises and practical implications of different ways of addressing wicked problems clearly contrast in core respects. Based on a discussion of the extant literature, the article identifies and explicates three approaches to the governance of wicked problems: coping, taming and solving. The discussion reveals how coping, taming and solving, respectively aim to reflect, reduce, or resolve wicked problems according to distinguishable logics of problem governance. Rather than aiming to provide a fully developed typology of problem governance, the main interest of this study is to show that in the present debate there exist at least three empirically distinguishable alternatives rooted in fundamentally contradictory understandings of how wicked problems can and should be addressed. The analysis reveals that, paradoxically, the most frequently discussed responses to wicked problems in the current literature aspire to the ideal of problem-solving. The article then contrasts these holistic approaches of problem-solving with the largely antithetical approach of taming and introduces coping as a way of addressing wicked problems that builds on insights from the incrementalist tradition in policy analysis.

The discussion of the three alternatives shows that none of the identified ways of governing wicked problems is inherently superior. The last part of the article therefore argues that instead of trying to fit the governance of wicked problem into the prisms of preexisting public sector reform agendas or seeking out universally applicable governance solutions, the more productive way forward is to ask under what circumstances different ways of governing wicked problems are analytically reasonable and normatively justified. As Termeer et al. (2015, 685) argue, governing wicked problems is a balancing act. Yet striking a balance may not always be possible or even advisable. The discussion, therefore, recasts the question not as one of balance but of trade-offs. This points to the question of the most relevant evaluative criteria we use to assess and compare the benefits of different ways of problem governance.

The article proposes that one useful way of addressing this question is to distinguish between the analytical and administrative challenges wicked problems present. A focus on analytical challenges points to aspects such as the causal complexity and interdependence of policy problems, and the difficulty of scoping and framing policy issues that can be legitimately perceived as problematic from different vantage points. Looking at wicked problems as an analytical challenge also brings into focus the frequent lack of any single body of knowledge or expertise that speaks to the problem authoritatively. Governing wicked problems thus raises the prospect of having to find ways to incorporate potentially conflicting or incommensurable types of knowledge from diverse and often locally dispersed sources to corroborate competing claims and characterizations of the issues at stake. This perspective strongly informs a literature that argues that tackling wicked policy problems has 'more to do with problem setting than with problem solving' (Schön 1993, 138).

A focus on the administrative challenges of dealing with wicked problems, on the other hand, points to aspects such as the multiplicity of policy sectors and levels of government involved in addressing these issues. This perspective emphasizes the requirement of horizontal and vertical coordination and collaboration, as well as the unusually high demands on government to ensure policy coherence. Much of the more recent debate on wicked problems draws primarily or exclusively on this perspective. At the same time, wicked problems are frequently seen to elude the autonomous capabilities of public authorities and are linked to calls for more public participation as well as the need to address issues through some form of networked or collaborative decision-making arrangement that devolves policy authority and accountability to non-governmental actors. Each of these responses poses its own unique challenge (see Daviter, Hustedt, and Korff 2016).

While the analytical and administrative challenges of addressing wicked problems can be understood as different sides of the same coin, distinguishing between them can be useful for analytical reasons. One key advantage of making such a distinction at the outset is that it allows us to see more clearly how different ways of governing wicked problems predominantly speak to one or the other side of the challenge. While this perspective helps to clarify the trade-offs involved in choosing one strategy over another, the following discussion will also highlight that assessing the relevance of competing evaluative criteria in the abstract frequently fails to produce satisfactory answers. The article, therefore, concludes that focusing on how wicked problems differ along select dimensions may offer a way out of the dilemma and help to advance the debate in a more systematic way. This would require a more fundamental

reorientation of research away from the conception of wicked problems as a singular type of highly complex and interrelated policy issue to the analysis of different types of problem wickedness.

Problem-solving and the holistic governance agenda

Most if not all research on wicked problems implicitly or explicitly departs from the observation that this type of policy problem cannot be solved in a traditional sense. Frequently, however, this issue is treated rather lightly. Conklin (2006, 38–39), for example, asserts that wicked problems do not actually have solutions in a footnote, and then moves on to clarify that by solution 'we simply mean a proposal that might resolve some part or aspect of a wicked problem'. Even more puzzling than the lack of analytical attention devoted to the problem-solution nexus in wicked problems is the lack of concern for its prescriptive implications. In stark contrast to the widely shared notion that solving wicked problems is not a viable option, a sizable part of the more recent debate appears to promote strategies that are designed to accomplish exactly that. This section scrutinizes two of the most widely promoted administrative responses to wicked problems, joined-up or whole-of-government and collaborative governance, in terms of the problem-solving strategies they advocate.

Possibly the most commonly promoted response to the challenges of governing wicked problems is some form of a collaborative or networked type of governance (e.g. APSC 2007; Durant and Legge 2006; Roberts 2000; van Bueren, Klijn, and Koppenjan 2003; Weber and Khademian 2008b). According to this literature, wicked problems can only be addressed successfully if public authorities reach out and incorporate into the decision-making process a vast network of societal stakeholders and non-governmental actors with the aim to reflect the diversity of relevant views and affected values. Collaborative arrangements are also seen as critical means to gain access to fragmented and local knowledge, mobilize dispersed resources, and build up legitimacy through the construction of common purpose and communal problem-ownership. Knowledge is frequently described to be not only shared but also created in collaborative settings (e.g. Feldman et al. 2006), greatly expanding the possibilities to address wicked problems in a more comprehensive fashion. Some parts of this literature especially highlight that addressing wicked problems requires a more discursive and inclusive type of policy discourse. Fischer (1993, 175–176) therefore calls it the 'paradox of wicked problems' that broadening the participatory base of policy formulation is not a curse, but the cure.

A second, similarly widely discussed response to wicked problems is the reform agenda of joined-up or whole-of-government (e.g. Askim et al. 2009; Christensen and Lægreid 2007; Davies 2009; Kavanagh and Richards 2001; Perri 6 2004; Pollitt 2003). As O'Flynn et al. (2011, 246) summarize, intricate and cross-cutting policy problems are increasingly considered 'primed for a joined-up solution' (see also Lægreid and Rykkja 2015, 478). In response, administrative reforms that were principally designed to repair the damages of decentralization and administrative retrenchment sustained under previous periods of public sector reform are now increasingly advocated as tools for the better governance of wicked problems as well (Christensen and Lægreid 2008, 99). Peters (2004), for example, discusses the structural limits of decentered forms of governance in providing coordination and coherence and deduces the need to reinstate new

forms of centralized control. While the literature on joined-up government tends to high-light managerial issues of public administration over structural issues (Pollitt 2003, 35), it has become 'associated with centrist administrations' (Perri 6, Leat, Seltzer, and Stoker 2002, 16–18) and generally reflects the idea that collaborative administration will 'not be effective unless there are also hierarchical mechanisms for enforcing the cross-cutting ideas' (Peters 2015, 100; see also Dahlström, Peters, and Pierre 2011). The main focus is therefore on ways of empowering central government to regain control of the various horizontal and vertical levels of administration, ensure effective cooperation across organizationally fragmented and functionally specialized departments and agencies, and provide policy coherence across jurisdictional boundaries. One important administrative tool to this effect is vertical and horizontal de-specialization, such as the reintegration of previously independent specialized administration units or agencies into the direct line of political control at the vertical level, and the erosion of functional or sectoral boundaries between administrative units at the horizontal level (see Egeberg 1999). From the perspective of much of the holistic literature on wicked problems, horizontal specialization has become synonymous with the debilitating effects of compartmentalization or departmentalism (e.g. Kavanagh and Richards 2001) that stand in the way of effective cross-sectoral coordination and comprehensive problem-solving.

Taken together, these two approaches not only cover a substantial part of the current debate on how public administration should address wicked problems. They also appear to be informed by a shared understanding that the successful governance of wicked problems requires public authorities to devise policy responses that are comprehensive in scope, expand or cross formal institutional boundaries in attempts to facilitate deeper deliberation and debate, and form new alliances and new forms of partnership. At the same time, they aim to provide greater coherence and consistency of policy goals through better coordination and enhanced performance, and by acquiring new structures and capacities at the center of government. There is little in these literatures that would serve as a stopping rule, or help to define a level of goal attainment that is considered either sufficient or plainly unrealistic. As Peters (2015, 101) notes, the logic of joined-up government taken to the extreme would make 'it difficult to determine just how government could be organized'. The risk, in short, is that this strategy calls for adapting governance arrangements to the challenges of wicked problems by reaching far beyond what public administration and management are traditionally expected to accomplish, both procedurally and substantively, even under more benign circumstances. While much of the debate insists that wicked problems cannot be solved in a traditional sense, lacking any type of stopping rule, these reform agendas can appear to advocate a strategy that essentially asks public administrations to try anyhow. In terms of their integrative analytical ambition and high demands on centralized coordination and steering capabilities, some elements of the holistic literature on wicked problems, in fact, bear striking resemblance to the notion of synoptic problem-solving that characterized some of the early research in policy analysis (e.g. Braybrooke and Lindblom 1963, 37–57).

At the same time, central parts of this literature and their presumptive applicability to the case of wicked problems have come under scrutiny within their own fields of research. Some of these studies warn that wicked problems pose impossible challenges for collaborative forms of governance. Durant and Legge (2006, 314) for example highlight the importance and difficulty of building trustful relations among all participants as a precondition for

legitimate and successful collaboration and deliberation. Observing that the important issues facing the public sector today are 'highly complex and cross-cutting' (Huxham, Vangen, and Eden 2000, 338), some authors argue that under such conditions 'collaborations as a form of governance must be expected to flounder and are unlikely to deliver fully any of the expected benefits' (Huxham, Vangen, and Eden 2000, 352). A recent review of the extensive literature on collaborative governance reinforces the more general point that 'crosssector collaborations are difficult to create and even more difficult to sustain' (Bryson, Crosby, and Stone 2006, 52). Collaboration is instead frequently described as 'notoriously conflict ridden and challenging to manage' (Vangen and Huxham 2012, 731). As Kenis and Provan (2006, 240–241) note with respect to the performance of collaborative networks as a tool of governance, 'we have hardly any idea about whether or not they are really effective. What is clear is that they do not perform effectively simply because they are not hierarchies, in contrast to what policy makers often seem to believe'.

In large parts of the literature, networks of public organizations are instead 'generally seen as uncontrollable' (Milward, Kenis, and Raab 2006, 205) and prone to producing unintended consequences, goal displacement, conflict, shirking and resistance to innovation. Reflecting on the inherent inefficiencies of more open, network-based types of decision-making structures as well as the onerous effects of more inclusive, deliberative decision-making procedures, Huxham (2003) coined the term 'collaborative inertia' to emphasize how in spite of theoretical enthusiasm, collaborative public administration is typically slow and ineffective in practice. Much of this literature describes a mode of governance that is predominantly self-coordinated, consensus-oriented and based on voluntary participation and interaction. Aiming to enable dynamics of social learning, critical self-reflection, and behavioral adjustment, its success frequently hinges on the possibility to change the prevailing norms of a large group of heterogeneous actors, inspire trust and create goal consensus (e.g. Putansu and Gable 2015, 28). Short of clearing that bar, collaboration suffers from collective action problems and easily produces gridlock (van Bueren, Klijn, and Koppenjan 2003). All of this leads more critical students of collaboration to the 'overwhelming conclusion … that collaboration as a governance tool should be used sparingly' (Huxham, Vangen, and Eden 2000, 353). Recent empirical studies further support the conclusion that increasing participation 'is not a panacea for addressing wicked policy problems' (Duit and Löf 2015, 22). Their study addresses recent reforms in the way the Swedish government deals with wildlife management. The reforms aimed at both decentralization of decision-making competencies and increasing stakeholder participation and deliberation. Instead of resulting in more trust-based interaction, the formulation of a consensual problem definition and an overall increase in the deliberative quality of interactions, the authors find evidence of the deterioration of the quality of policy deliberations. They conclude that 'participation and decentralization reforms themselves can have wicked and unintended consequences' (Duit and Löf 2015, 22), many of which undermine problem-solving capacity.

While there remain serious questions as to the effectiveness of more collaborative forms of governance in the case of wicked problems, what seems clear is that these approaches easily conflict with the aim of providing more cohesive and coherent policy responses. Both participation and decentralization, Peters (1998, 296) concludes, make administrative coordination more difficult to achieve. Yet even beyond this conundrum, more centrally controlled governance has its own limitations. A focus on building up central

administrative capacity to coordinate, control and secure specific outcomes and targets 'risks actually reducing the capacity for flexibility, innovation and adaptability which is vital for policy-making in a runaway and uncertain world', Parsons (2004, 48) submits. More recent empirical research moreover shows that centralization easily produces overload at the top of the administrative hierarchy. The core finding of this literature is that 'control over decision making gained via centralization drains away under the limits of attention' (May, Workman, and Jones 2008, 538). What research on the 'paradox of attention' primarily shows is that gains in organizational performance in one highly salient policy area are often paid for in unpreparedness and lack of analysis concerning non-priority areas of administrative activities. The way in which the US government responded to the terrorist attacks of 2001 by centralizing much of its crisis-related administrative capacity under the roof of the Department of Homeland Security has become a critical reference point for this type of research. These studies frequently show how a singular focus on terrorism prevention diverted analytical and operational resources from an organizational field that was previously characterized by much more diversified remits and routines, and left the country more vulnerable and less prepared as a result (e.g. Kettl 2003; Wise 2006). In much the same way, the benefits of centralization reverse themselves in the case of highly complex issues when administrative attention is geared narrowly towards a select number of targets or indicators that easily conceal the complexity of the task environment and the degree of ignorance about the changing nature of the problem. More tentative attempts at centralization and networked governance, such as in the case of the reform of internal security in Norway (Lægreid and Rykkja 2015), especially highlight problems resulting from the fact that the organizational loyalties of network participants often remain with their respective home department or agency, formal mandates remain murky, policy authority remains fragmented and resources are shifted only hesitantly (Lægreid and Rykkja 2015, 484). Even if these problems were overcome successfully, the authors caution, the problem remains how to ensure the right balance between newly established central steering capacities and the requisite 'level of improvisation and organizational flexibility' necessary to tackle highly uncertain und unpredictable problems when they occur.

The more general conclusion especially of the literature on the 'paradox of attention' is that addressing ill-defined and complex policy problems 'works best in decentralized organizational structures with an element of confusion and overlap in their jurisdictional boundaries' (Baumgartner and Jones 2015, 52), so that they can 'incorporate and institutionalize consideration of more, rather than fewer, dimensions of the issue' (Baumgartner and Jones 2015, 49). This research echoes another prominent line of argument that advocates for 'messy institutions' to solve wicked problems (Ney and Verweij 2015; Verweij et al. 2006). At the very least, Peters (2015, 101) concludes, the notion of holistic and joined-up government is 'perhaps excessively optimistic' in the face of complexity. Ignoring the limits of holistic governance, O'Flynn et al. (2011, 253) warn, means that 'joined-up approaches in any setting will be bound to under-perform'.

Coping and taming: clarifying the alternatives

The preceding section has argued that some of the most prominent holistic strategies of solving wicked problems are partially contradictory. Important parts of the corresponding

literatures also view them as analytically implausible and ineffective in practice. There is, therefore, reason to reconsider alternative strategies for dealing with wicked problems. This section discusses two alternative strategies of problem governance, coping and taming, and contrasts them with holistic approaches. At the risk of oversimplification, the three strategies respectively aim to reflect, reduce or resolve wicked problems. Holistic strategies aim to resolve wicked problems as comprehensively as possible, often without specifying any stopping rules. Taming strategies aim to reduce wicked problems to make them more controllable and manageable, and coping strategies aim to reflect the fragmented, uncertain and ambiguous nature of wicked problems by relying on a more disjointed and tentative process of formulating policy responses. As the following section will show in more detail, the strategy of problem taming is almost antithetical to the holistic ideal of problem-solving. It is also by far the least theorized and most widely practiced way of addressing wicked problems. The discussion of coping strategies, in contrast, has deep theoretical roots in the early incrementalist literature in policy analysis. This literature proves a well of insights that has largely failed to leave a mark on the present debate.

Taming wicked problems

In sharp contrast to the holistic ideal of problem-solving, problem taming aims to transform an ill-structured or wicked problem into a more manageable and well-structured problem for the purpose of decision-making. Taming wicked problems proceeds 'by hiving off a relatively simple component of a wicked problem' (Wexler 2009, 535). Rather than resolve the problem, the aim is to reduce and control it. The main way to accomplish this is by scoping and framing the problem in such a way as to align it with existing administrative expertise and policy responsibilities. As Roberts (2000, 4) outlines, this typically entails the transfer of authority to define the problem and devise a solution into the hands of a few select actors or decision-making bodies identified based on their 'knowledge and expertise, organizational position in the hierarchy, information, or coercive power'. Taming strategies therefore typically imply that wicked problems are defined and delimited either along preexisting organizational lines of functional specialization or jurisdictional authority, or some combination of both. Alternatively, in the case of new or highly technical issues, an independent agency or epistemic community can be created and put in charge of the problem, such as central banks in the field of monetary policy (e.g. Vibert 2007). Taming wicked problems, in other words, typically means that problems are defined and processed so as to align them with some preexisting organizational or epistemological structure, rather than based on an independent process of policy inquiry. Based on a strategy of taming, the question is not, for example, what type of knowledge would be required to address the issue comprehensively, but which department or agency has the most readily usable expertise to assume ownership of the problem as it stands. Taming, therefore, necessitates an act of objectification that settles and at least temporarily institutionalizes an answer to the question of what the nature of the problem is and what type of knowledge is needed to address it.

The advantages of problem taming are abundantly clear, especially from the viewpoint of problem governability. Treating ill-structured problems as if they were tame allows public authorities to limit participation and debate, assign administrative responsibility,

reduce the need for cross-sector coordination, take swift action, draw on the available expertise, and apply preexisting policy instruments and evaluative criteria. The disadvantages of taming strategies, in contrast, are almost entirely on the side of problem analysis. Taming wicked problems accepts that competing problem perspectives are cast aside rather than explored. Policy objectives and evaluative criteria need to be set early to artificially simplify the problem-solution link and allow the policy process to focus on means rather than ends. To the extent that problem taming requires delegation of policy authority, such as by empowering a panel of experts or a specialized agency that narrowly relies on a specific body of epistemic knowledge or technical expertise for problem analysis and policy recommendation, this way of addressing complex policy problems likely reduces the possibilities for social learning and problem reflexivity (May 1992).

In addition to the predominantly adverse effects taming strategies can have on the analytical task of understanding wicked problems, these strategies also raise the more fundamental question of how to assess responses to wicked problems that only aim to address some select aspect of a wicked problem, but ignore or even aggravate problem interdependencies. A classic example would be the criminalization of drug use and the delegation of problem responsibility into the hands of law enforcement agencies. Clearly, spiking numbers of arrests and skyrocketing rates of incarceration provide little proof of problem-solving and may, in turn, generate or amplify detrimental effects of their own (see also Alford and Head 2015). While there may be many circumstances under which taming wicked problems can be justified, there are few if any well-established policy analytical perspectives designed to consciously incorporate this type of consideration into the analysis. Instead, unreflective or purely accidental problem taming is one of the most common pathologies of bureaucratic politics (Allison and Halperin 1972; Egeberg 1999; Moe 1989). As a result, applying taming strategies to fundamentally indivisible or poorly understood policy problems can easily produce highly uncertain and potentially volatile results. As Churchman (1967, B-141) warns, under most circumstances taming strategies simply achieve that 'the wicked problem no longer shows its teeth before it bites'.

Coping with complexity

While taming strategies are widely practiced but poorly theorized, the reverse is true for strategies of coping. This type of strategy has deep roots in policy research and analysis. When Rittel (1972) introduced the concept of wicked problems, an attack on the notion of comprehensive policy planning and analysis was long underway (see Hirschman and Lindblom 1962 for an early summary). During this period, policy analysis became more reflective of the inherent intricacies of public problems and simultaneously took stock of the limits of administrative capacities for information processing and analysis (Simon 1983, 1987; Wildavsky 1973). Under these conditions, Lindblom (1979, 519) argued, attempts at holistic problem-solving almost inevitably fail to deliver encompassing solutions and instead produce 'ill-considered, often accidental incompleteness'. How to design policy strategies that are reflective of the 'tragic discrepancy' (Lindblom 1990, 14) between problem complexity and the limits of policy analysis and planning emerged as a central research question.

Along these lines, Braybrooke and Lindblom (1963, 48) argued that policy analysis and public administration suffer from a lack of 'adaptation of the problem-solving method to

certain troublesome characteristics of problems and problem-solving situations'. The problem characteristics they drew particular attention to ring very familiar in the context of recent debates on the wicked problem. They include the impossibility to arrive at a definitive understanding of problems 'susceptible of infinite variation as attention shifts among different values and different facts', unclear evaluative standards against which to judge possible courses of action, interdependencies between facts and values, especially the impossibility of separating the continuous contemplation of values from the ongoing search of policy alternatives, and a lack of criteria to help define the boundaries of what is, more often than not, 'a cluster of interlocked problems with interdependent solutions' rather than a single identifiable problem (Braybrooke and Lindblom 1963, 47–57, 113; see also Premfors 1981, 205). Yet while the early incrementalist literature clearly preempted the emerging debate on wicked problems in core respects, the insights this intellectual tradition in policy analysis has to offer have largely failed to make an impact on the present debate on wicked problems. This is especially troubling because the strategies of coping with the challenge of complexity this literature advances fundamentally differ from the prevailing problem-solving ideal and the holistic ambitions of the more recent debate. Coping with complex and ill-structured policy problems is instead seen to benefit from a way of problem governance that is fragmented, remedial, serial and reconstructive (e.g. Braybrooke and Lindblom 1963, 112–113, 141).

A core feature of coping strategies is that fragmented policy responses and the division of policy responsibility are not seen as inherently detrimental (Braybrooke and Lindblom 1963, 105), especially in light of the alternatives. Following Simon's (1973, 271) warning that in the face of complexity 'there is no magic in comprehensiveness', coping strategies allow for the analytical and administrative tasks to be divided up even if problem interdependencies are observed. Coping strategies therefore initially demand less coherence and coordination across policy responses and regimes than the more recent holistic literature. This type of policy strategy instead aims to provide 'multiple approximate solutions to ill structured problems which arise from the organized complexity of the knowledge system' (Dunn 1991, 49). Policy responses that remain only partially integrated also allow for redundancies and overlap. They may consist of partially contradictory components rooted in incommensurable knowledge and incompatible problem perspectives. The fact that wicked problems can be understood through multiple problem frames hence does not necessitate ambitious attempts at bridging or consensualizing competing perspective and conflicting evidence. Instead, the aim is to incorporate competing problem perspectives and enable 'multiple ways of seeing' (Bell 2004, 24). As a result, coping does not bet on the benefits of centralization and hierarchical control, but relies on the organizational intelligence produced by decentered and delegated expertise. According to this perspective, Termeer et al. (2015, 700) sum up, 'only variety can beat variety'. This approach is more likely to find structural expression in governance arrangements that are polycentric and loosely coupled. In contrast to the holistic view of problem governance, this strategy is informed by the view that organizational differentiation and the fragmentation of administrative tasks and structures are necessary buffers against the unmitigated onslaught of complexity that would otherwise hopelessly overwhelm any purposeful attempt at addressing wicked problems.

This way of problem governance is furthermore remedial in the sense that it advances policy responses even if the ultimate objective remains unclear or in dispute, or is considered

at least partially unattainable. In such cases, the governance of policy problems 'aims at suppressing vice even though virtue cannot be defined, let alone concretized as a goal' (Braybrooke and Lindblom 1963, 102). Trying to move away from rather than toward an identified state or condition further relaxes the need to form a consensual understanding of the complete problem-solution link to legitimize public responses to wicked problems. While the demands on analysis thus appear more limited in some respects, they are more demanding in others. In stark contrast to taming strategies, coping strategies do not seek to freeze the problem-solution link. To the contrary, they aim for the process of policy-making to unfold as 'a never-ending discourse with reality, to discover yet more facets, more dimensions of action, more opportunities for improvement' (Dery 1984, 6–7). This form of reconstructive policy analysis understands means and ends as concomitant elements of inquiry and exploration. The impossibility to resolve a policy problem comprehensively and definitively is taken for granted, as is the resulting need for continuous policy analysis and adaptation. The objective is to avoid 'premature closure' (Peters 2015, 133) and remain cognizant of the fact that 'in ill-structured problems the criteria of "good" and "rational" are themselves part of the problem, part of what is in dispute' (Turner 1989, 180). As a strategy of policy-making, coping, therefore, implies a stronger emphasis on process, or the serial nature of policy, than both taming and problem-solving. Wildavsky's (1979, 23) writings on policy analysis, for example, are in large part driven by the desire 'to alter the prevailing conception of policy analysis from problem solving to problem succession'. One of the most important measures of intelligent policy design is therefore not initial goal attainment, but the speed and ease with which errors and aberrations are detected and corrected (Wildavsky 1979, 16, 41). A similar view of wicked problems as chronic conditions and constantly evolving challenges also informs Hoppe's (2010, 9) contention that wicked problems 'can only be settled, never solved' (see also Harmon and Mayer 1986, 9). This point resonates strongly with Rittel and Webber's assertion that at best, wicked problems are 're-solved over and over again' (1973, 160).

Rethinking the governance of wicked problem

Short of providing a comprehensive or conclusive assessment of the alternatives ways of addressing wicked problems, the previous discussion has served a more moderate two-fold objective. Its first aim was to dispel with the notion that there is one appropriate way of organizing governance responses to wicked problems. Instead, one core argument the previous section has aimed to sustain is that there is no instructive way to think about the functionality or dysfunctionality of governance arrangements in addressing wicked problems without asking what strategy of problem governance is pursued in the first place. The second argument, to which the remainder of the article will now return, is that none of the identified strategies of governing wicked problems is invariably more suitable for dealing with this type of problem. Rather than engaging in futile attempts of advocating for some universally applicable approach to the governance of wicked problems, a more promising possibility to advance this debate in a systematic way may be to ask under what circumstances different ways of governing wicked problems are analytically reasonable and normatively justified. Two considerations appear central to this type of argument: the most relevant evaluative criteria used to compare different ways of problem governance, and the specific nature of the wicked problem in question.

The first consideration points to the questions of trade-offs. As the preceding discussion has made clear, no one way of governing wicked problems is consistently superior if we sufficiently expand the number of evaluative criteria. Consider just two of the most commonly invoked evaluative standards, the manageability or governability of policy responses and problem reflexivity. Broadly speaking, these criteria correspond to the analytical and administrative challenges of governing wicked problems discussed further above. Based on the previous analysis, it appears reasonable to conclude, for example, that taming trumps the other two strategies in terms of governability, but at a high cost of problem reflexivity. Problem taming appears far less challenging to manage and implement than both the more participatory and discursive decision-making style of collaborative governance and the attention-intensive work of controlling effectively run joined-up government operations. Problem taming should also prove easier to manage and implement than the more open and disjointed strategies of coping. Yet the picture becomes more complicated if we add additional evaluative dimensions, or convert the initial two criteria into more fine-grained ones. Termeer et al. (2015), for example, propose a list of four essential criteria to assess governance capabilities in the case of wicked problems. While their list includes problem reflexivity, the remaining three criteria of resilience, responsiveness and revitalization provide a more detailed and expanded way to assess administrative and managerial performance. Already this four-fold roster renders the comparison of alternative strategies not only a highly demanding task. It almost guarantees very mixed outcomes for each individual way of addressing a wicked policy problem. If all ways of governing wicked problems force making concessions in terms of how well they enable analytical problem understanding and help to ensure the effectiveness of administrative responses, how are we to decide which criteria should matter most in determining the appropriate course of action?

Rather than providing abstract answers, a different way forward is to inquire into the ways certain problem characteristics influence the extent to which each strategy works as intended. Yet the literature has thus far failed to produce any meaningful consensus in this respect, even on core issues. Turner (1989, 180), for example, views coping strategies as most reasonable and legitimate if the nature of the problem makes it possible to 'limit the choices to relatively well-understood options, with limited or understood error costs and a relatively strong information base, for which consequences can be monitored and corrections made'. For much the same reason, Metlay and Sarewitz (2012) view coping strategies as fit for addressing only well-structured problems, but not wicked problems. Their main concern appears to be that in the case of wicked problems, detectability of deviations between expected and actual consequences of problem governance may simply never become sufficiently easy to observe to allow for the continuous process of incremental adjustment and adaption of policy responses to function. This brings the discussion to the second possible way to advance the debate on how to assess different strategies of problem governance: a more decisive move away from the conception of wicked problems as a singular type of highly complex and interrelated policy issue to the analysis of different types of problem wickedness. The work of Levin et al. (2012) draws attention to the analytical utility of problem subtypes, such as the 'super-wicked' problems that colonize the imagination of international relations scholars (see also Lazarus 2009). This research shows how particular empirical expressions of problem wickedness force the analysis to consider different and partially novel ways of dealing with them. Current

research has so far stopped short of making a more comprehensive argument for the re-conceptualization of wicked problems. Head and Alford (2015; see also Alford and Head 2015), however, contend that this may be necessary because the predominance of a single generic concept of wickedness in the literature 'has in turn given rise to a "one best way" to tackle problems' (Alford and Head 2015, 2), a research agenda they perceive as largely futile. In a recent attempt to refocus the debate, Head and Alford (2015, 718) therefore tentatively propose that 'there are different kinds of wicked problems, and by implication there could be different types of appropriate responses to them'.

There is no doubt many different ways of breaking down the monolithic notion of wickedness into more analytically useful units. Building on the above discussion, one obvious way of advancing this debate is by focusing on those dimensions of problem wickedness that makes them more or less amenable to the different ways of problem governance we can identify and distinguish. Such an approach would also provide a clearer sense of theoretical orientation. It would allow research on wicked problems to move beyond the monolithic concept, or some typological alternative thereof, and instead speak more directly to the question under what circumstances different ways of governing wicked problems make sense. In the face of certain types of risks, for example, a strategy of incremental adjustments and reconstructive analysis may be ill-advised if it means to accept potentially irreversible repercussions (Pollitt 2015; van Bueren, Klijn, and Koppenjan 2003, 194). Problem indivisibility is another case in point. Some wicked problems, notably those in the field of urban planning that informed much of the original literature on this topic, appear far less amenable to piecemeal solutions, multi-track processing and serial attempts at providing approximate solutions, the hallmarks of coping strategies. In such cases, there may be few reasonable alternatives for policy planners than to cast the net widely, incorporate or collaborate with diverse stakeholders and aim to consolidate initially contradictory viewpoints and conflicting interests in a comprehensive attempt to address the problems as holistically as possible. Yet as much as wicked problems of this type may have informed the early writings on the topic, the concept now encompasses a more diverse class of problems. Many wicked problems currently debated are highly interrelated at some empirical level, but the vast majority of them do not exhibit the same degree of indivisibility. Policy problems such as drug abuse, forced migration or food safety are all complex, perpetual, interconnected, multi-causal and multi-layered. Yet they appear to lack the same quality of indivisibility that would mean that reconstructive analysis, fragmented responsibilities and remedial responses could not produce analytically plausible and normatively defensible ways of governing these types of policy problem – especially if the alternatives are most probably ill-fated and unmanageable attempts at solving the problems comprehensively.

The fact that this last line of argument remains tentative and explorative speaks to the more general lack of theorizing in the current debate on wicked problems. If the concept of problem wickedness is to be convincingly used to inform or support far-reaching research agendas in policy planning or public sector reform, the focus of the debate needs to be more squarely on the theoretical foundations on which the arguments rest. This article has tried to show how focusing on the so far predominantly implicit strategies of problem governance can help to link the analysis of problem wickedness to a less discretionary assessment of the different ways of tackling wicked problems

and to a better understanding of the circumstances under which different approaches can make sense.

Conclusions

This article started from a simple question. If wicked problems cannot be solved, what should the governance of wicked problems aim to accomplish? The current debate on the governance of wicked problems strongly champions the view that this type of problem resists efforts at taming or containing them, and that such strategies will only confound the problems further rather than contribute to their resolution. The result has been a one-sided debate ripe with recommendations that often raise serious questions as to their governability and the range of conditions under which they can be expected to perform successfully. Theoretical promises notwithstanding, the governance of wicked problems can neither be expected to succeed if policy authority is overextended both vertically and horizontally, nor will public administrations be able to handle more than a few prioritized tasks effectively if the central coordination functions in public administration are overwhelmed by highly complex and interrelated matters of policy.

In contrast to the trend toward ever more comprehensive or holistic ways of addressing wicked problems, the article, therefore, advocated for a critical reassessment of different ways of governing wicked problems. It identified problem-solving, taming and coping as alternative strategies of problem governance that each follow a distinct logic of how to address wicked policy problems. This part of the analysis concluded that holistic approaches to wicked problems risk reviving the ideals of synoptic problem-solving despite decades of research that shows why this route is often ill-advised and potently counter-productive, especially in the case of complex and cross-cutting policy problems (e.g. Braybrooke and Lindblom 1963, 37–59; Lindblom 1959, 1979; Woodhouse and Collingridge 1993). The following assessment of the alternative strategies did not seek to present a panacea for the governance of wicked problems. To the contrary, as the analysis has aimed to show, there should be no ambiguity as to the fact that in dealing with wicked problems the choice is between approaches that offer well-known but potentially calculable deficiencies and those that offer high expectations but even more uncertain prospects. Wicked problems are called wicked for a reason. Debating how to tackle this type of problem, Wexler (2009, 539) warns, invites knowledge hypes and false assurances. It motivates those in the business of selling solutions to 'downplay the intractable and unsolvable nature of these problems' (Wexler 2009, 538) for fear of losing their audience.

Rather than make sweeping but ultimately unsustainable claims about one best way to govern wicked problems, the last part of the article developed two lines of argument that can help to advance our understanding of the conditions under which different ways of governing wicked problems appear analytically reasonable and normatively justified. The first highlighted the importance of considering the trade-offs each alternative way of governing wicked problems necessarily involves based on the choice of evaluative criteria. This discussion was informed by the more general view that wicked problems encompass both analytical and administrative challenges, and that any strategy for the governance of wicked problems must be judged with both challenges in mind. The second line of argument concluded that a systematic assessment of alternative approaches to wicked problems depends on a more fundamental reorientation of the debate away

from the conception of wicked problems as a singular type toward the more focused analysis of different dimensions of problem wickedness. Given that the concept of wicked problems has noticeably evolved over the past decades, and in light of the fact that even in more recent research the emphasis placed on specific characteristics of wicked problems often varies considerably, a more concerted and systematic effort at theorizing dimensions of problem wickedness may indeed be the only plausible way forward. At the very least, such a move would likely raise attention to the fact that by focusing on different dimensions of policy problems, our understanding of problem-solving necessarily shifts as well.

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