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ARTICLE



Intelligent modes of imperfect governance

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ABSTRACT

In this article, we aim to show that the treatment of wicked problems in the literature on public administration approaches is inadequate. We briefly discuss the literature on wicked problems and propose a conceptualization of wicked problems that, we think, shows the core of the problem of wicked problems. Wicked problems, we argue, are wicked because the factual and normative aspects of the issues are intertwined at actor-level. As a result, the phenomena that Rittel and Webber observed at problem level emerge. This has strong implications for public administration. Since actors are deciding on responses, a wicked problem evokes, what we call, a double governance challenge. The governance mechanisms provided in the literature on public administration approaches, also the new ones, do not provide responses to such double challenge. They either assume that actors do not build upon their own, actor-level factual and normative evaluations or that some compiled actor or supra-actor might overcome the limitations of the actors that together constitute the collective level of wicked problem response. Making such assumptions, they apparently conceptualize the wicked problem as non-wicked. Therefore, re-iterating, wicked problems are indeed wicked: solutions that implicitly conceptualize the wicked problem as non-wicked might be perfect, but seem unintelligent. A wicked problem, we argue, does not allow perfect, but instead requires imperfect, but intelligent responses. In this paper, we then discuss four such intelligently imperfect responses. They are necessarily imperfect in the sense that they cannot be considered to completely cover the problem, but intelligent in the sense that they truly acknowledge its wickedness.

KEYWORDS

Wicked problems;
governance; new
governance

1. Introduction

In 2010, Head wrote an article in *Public Management Review* on the relevance of public administration research. He opened his argument with a reference to Schön's distinction between the high ground of readily identifiable problems and the swamp of messy, unclear, not readily identifiable problems (Head, 2010, 577). The issue is, unfortunately, that public administration (research and practice) naturally has a stronger understanding of the high ground, while the importance of swamp problems is higher in the real world. Problems of public administration are often 'wicked problems'.

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Head (2010) builds on Rittel and Webber's well-known article (Rittel and Webber 1973) and outlines a number of key features of wicked problems: rational comprehensive planning is inadequate; the problems are socially complex with many stakeholders; entrenched value differences are significantly involved in many problem areas; the problems may be unstable and continue evolving; the knowledge base for defining the nature of problems and the scope of possible solutions is patchy and disputed.

This also is the main emphasis of the papers in the recent special issue in *Policy & Society* on 'Understanding Policy Problems'. The main argument that comes to the fore in this special issue is that if we call all complex problems wicked, the concept does not help us understanding wicked problems and as a result, it also does not help devising a response. Peters (2017) argues against the tendency to consider all complex problems also wicked. We *do* know, for instance, when the global food problem is solved, although indeed we do not know how to get there. Hoornbeek and Peters (2017) use an objectivist approach that is aimed at helping governments to choose the most suitable policy instruments. Seven attributes are considered and their impact upon the choice of instruments, among which solubility, divisibility and complexity. Also Alford and Head (2017), in the same special issue, consider the issue of when to consider problems wicked. 'Complex problems vary in the extent of their wickedness, via such dimensions as their cognitive complexity or the diversity and irreconcilability of the actors or institutions involved', they argue (Alford and Head, 2017, p. 397). Since wicked problem-thinkers tend to put forward stakeholder involvement as an element of a good solution, they consider 'which types of collaboration are suitable for which types of problem' (Alford and Head, 2017, p. 397). Alford and Head (2017, p. 400) refer to Roberts (2000) who discerned four strategies, 'authoritative, competitive and collaborative besides traditional professional management', but, Head then argues (Roberts, 2000, p. 401), 'none of these four strategies, taken alone, is likely to meet the requirements of the situation'. This, Head argues, is the result of the problem itself being a problem of stakeholders.

This line is a further development of Head and Alford's earlier work. They discuss in an earlier paper (2015, pp. 713–714) how Rittel and Webber argue that 'modern problems of "social or policy planning" [...] are different from the technical puzzles tackled by the physical and engineering sciences'. The latter, Head and Alford continue to discuss Rittel and Webber's work, are 'typically "tame" or "benign" in the sense that the elements of the puzzle [...] are definable and solutions are verifiable'. The problems of social policy planning that Rittel and Webber refer to on the other hand 'are generally "ill defined", and rely on political judgments rather than scientific certitudes'. In wicked problems, both the definition of the problem and the formulation of a response are politically contested. It is this latter conceptualization of wicked problems that we want to build upon. We want to emphasize that wicked problems are wicked because their definition is contested.

Conceptualized in this way, we think that wicked problems have in fact become more important in a 'late modern' world. In our discussion below, we focus on this social context. Following Lash (2003; Lash summarizes work by himself, Beck and Giddens), the non-linearity in late modernity implies that actors show 'reflexive' action, which is based upon their own cognitive experience and normative evaluation of the world. Institutions guiding social action have lost force, and instead a differentiation of worldviews and preferences come to inform action. The contestation of problem

definitions that follows from differences in world view and preferences, we argue, is related to characteristics of the actor constellation in which problems are addressed.

This is what we aim at conveying. The conceptualization of wicked problems as actor constellations tells us something about their structure and therefore helps us understand the feasibility of governance responses. This is what we aim at in this article. In the next section, we start by proposing a rather straightforward conceptualization of wicked problems. After that, we discuss the logic of responses in the public administration literature and propose alternatives.

2. What is the problem with wicked problems?

The main characteristic of wicked problems, we argue, is that they show conflict on the normative dimension next to complexity on the factual dimension. This double problem is the root cause of the phenomena Ritter and Webber observe: because there is normative conflict and factual complexity, problems have the tendency to be unstable and continuous. That is because the factual and normative dimensions of the problem not simply coexist; they actually interact. This interaction of the normative and factual dimensions is, we consider, what enables us to explain the phenomena Rittel and Webber observed.

We propose what at first is a very simple argument. In the case of wicked problems, a normatively preferred solution has its own factually ‘correct’ justification.¹ This justification evokes dispute, because it is linked to a normative preference. This dispute is possible because of the factual complexity of the issue.

But in order to fully comprehend the relevance of this interaction of normative and factual dimensions of the problem, we should transfer this simple point of departure from the level of the problem to the level of the actor. A normatively preferred solution *a singular actor might put forward* has its own factually ‘correct’ justification *this same actor puts forward*. But this actor’s justification naturally evokes dispute from other actors because it is linked to the first actor’s normative preference and this dispute is possible because of the factual complexity of the issue. These other actors, each for themselves, also put forward normatively preferred solutions and their corresponding factually correct justifications. As a result, actors’ truth claims to determine the factual correctness of solutions and actors’ decisions on the normatively preferred solution both remain contested by other actors who impose their own truth claims and preferences. Because of this reason, the loss of governability and lack of stop rules that Rittel and Webber observed is an inherent characteristic of the governance of wicked problems, problems in which conflict and complexity interact.

Before discussing responses to wicked problems in the public administration literature in [Sections 3](#) and [4](#), we first further clarify the point by making a short detour to the work of Simon.

Simon already made the distinction between the normative and factual dimensions of problems in his *Administrative Behaviour*. He (1947/1997, p. 4) distinguished between ‘value judgments’ that ‘lead toward the selection of final goals’ and ‘factual judgments’ that ‘involve the implementation of such goals’. These two are related,

¹Within a certain range of plausibility, which range itself is also subject to contestation.

however. Therefore, Simon argues, there are ‘objectively’, ‘subjectively’, ‘consciously’, ‘deliberately’, ‘organizationally’ and ‘personally’ rational decisions. Wicked problems evoke all these rationalities, because both value and factual judgments of distinct actors are relevant to a single problem condition. ‘Objective’ rationality cannot actually be produced, because the other mentioned rationalities are all (in themselves and evaluated by themselves) final rationalities. Therefore, Simon (1947/1997, pp. 93–94) argues ‘actual behavior falls short [...] of objective rationality’. Our rationality, in Simon’s world famous formulation, is ‘bounded’.

An actor’s rationality is bounded to what this actor would subjectively, consciously, deliberately, organizationally and personally decide. Since these rationalities are bound to the actor and because these rationalities are experienced as final rationalities by this same actor, this actor cannot produce objective rationality.

We consider Simon’s formulation to imply the same interaction of normative and factual dimensions as we observe. Personally, rational decisions are informed by someone’s personal selection of final goals (normative) and his or her factual judgments about implementation. Because factual judgments are always and necessarily bound to a normative selection of goals, rationality cannot be other than bounded. The intention to act rationally, in other words, is bounded, not only because actors lack the necessary information and cognitive capacities to process the information (the way Simon is mostly understood), but also, and arguably more so, because one’s factual judgments are necessarily informed by one’s normative judgment.

Simon then continues to argue that the ‘organization’ is the place where the integration of behaviour might emerge. This is, to put it a bit awkwardly, the wicked problem-problem. To integrate subjective rationalities requires, Simon argues, that the organization in some way is able to integrate the ‘subjective’ rationalities of the individual members into an ‘objective’ rationality, which should be taken to mean an organizationally objective rationality, rational from the point of view of the organization. In other words, a supra-actor or a compiled actor at organizational level would need to be able to distance him- or herself from his or her subjective and other rationalities and both be able to identify objective rationality and willing to choose for it. For this requirement to be fulfilled would therefore actually require that the wickedness of problems is not relevant at the organizational level, or, in other words, would require a supra-actor or compiled actor that encompasses organizationally objective rationality or arranges a procedure that faultlessly produces it.

We assume, we think in accordance with Simon, that this capacity to produce organizationally objective rationality of the organization is limited. Simon argues (Ch. VI) that an organization is an interaction of people who take their own interests and world views with them inside the organization. This entails that their ‘subjective’ rationalities are imported in the organization and that the organization *itself* is confronted with a wicked problem of integrating the differing expertise and world views bound to the actors that make up the organization. The boundedness of rationality also applies to the interaction of people within the organization. This supports Head’s statement that stakeholder involvement might not be sufficient to address wicked problems. Rationality does not become unbound when we organize the interaction of the bounded rationalities of actors. Wicked problems remain wicked.

We now turn to public administration in the next section.

3. Problem types and governance responses

We do not aim at the overall public administration literature; we aim at discussing approaches in public administration, corresponding to what Stephen Osborne in his article on New Public Governance (NPG; 2006) calls approaches of ‘PAM’, ‘Public Administration and Management’, consisting of Public Administration, New Public Management and NPG. After a brief discussion of the concept of policy as an arrangement regulating the relation between actors, we outline how public administration, new public management and NPG can be seen as different arrangements regulating such a relation.

Earlier, Bannink and others argued that policies have two dimensions (Bannink, Six, & van Wijk, 2015). Policies are aimed at the control of policy implementation, in which a regulator to a greater or lesser extent seeks conformity to regulations by the regulated actor; and policies allow the application of policy rules to cases, showing a regulator seeking the insertion of knowledge of case conditions and the expertise on case treatment by the regulated actor. Policies seek conformity to rules by the regulated actor and the application of the expertise of the regulated actor: policies control and create room for autonomous action at the same time. Managers seek ‘to align employee capabilities, activities, and performance with organizational goals and aspirations’, as Sitkin et al. argue (2010, 3). This does *not* mean, we argue, that they minimize the application of an employee’s capabilities in order to achieve maximum implementation fidelity. There is an autonomous contribution from both actors: the regulating and the regulated actor. There is an autonomous contribution that the implementation makes to the policy as well as an autonomous contribution from the decision-maker. A policy is an arrangement supporting the need to inform the policy system with case knowledge and treatment expertise creating the room for autonomous action of the regulated actor and an arrangement supporting the need to control policy implementation at the same time. A policy is an arrangement regulating the relation between regulating and regulated actors who both make an autonomous contribution to policy implementation.

The two dimensions of the policy (need for case knowledge and expertise; need to control implementation) are related to two problem characteristics and they affect two characteristics of the actor constellation. In accordance with the wicked problem perspective, we labelled these dimensions (factual) complexity and (normative) conflict. This is in line with Hoppe and Hisschemöller (1995) who have suggested similar dimensions: certainty about knowledge and consensus on relevant values. Problem complexity is about the uncertainty of the factual estimation of social problems. Problem conflict is about the uncertainty of the normative evaluation of social problems and solutions. We combine this distinction of problem types with our definition of a policy. When complexity (problem characteristic) is high, there is a strong need to inform the policy system with case knowledge and treatment expertise (policy characteristic). This means that regulated actor and regulating actor have different information (actor constellation). Problems differ in the extent that there is a strong difference in information between regulating and regulated actors. When conflict is high (problem characteristic), there is a strong need to control policy implementation (policy characteristic). This means that regulated actor and regulating actor have different preferences, based on either values or interests (actor constellation). Problems differ in the

extent that there is a strong difference in values between regulating and regulated actors. Wicked problems are problems in which there is both a strong difference in the information the regulating and regulated actors have and a strong difference in the values they have.

Starting from this actor relation, we argue that there is a relation between the problem (the levels of complexity and conflict) and the control or governance mechanisms (enforcement, incentives, consultation) that may feasibly be applied in a policy. A regulated actor having his or her own information is *able* to evade the control ambition of the regulating actor; an actor having his own value positions is *willing* to use his or her information in order to evade the control ambition of the regulating actor. As said, wicked problems occur where there are differences in both information and values, which implies that the regulated actor is *both able and willing* to evade the control ambition by the regulating actor. Therefore, wicked problems lead to complicated relations between actors involved in governance that cannot simply be assumed away.

When both conflict and complexity are low, the governance challenge is relatively simple. In this case, neither facts nor values are problematic and the governance challenge accordingly only entails the achievement of conformity: the controlling actor needs to make sure that the controlled actor does what he or she is prescribed to do.

When conflict is high, but complexity low, the governance challenge entails the alignment of preferences and interests. The controlling actor needs to make sure that the preferences of the controlled actor (which are different, there is normative conflict) do not inform his or her action, but instead the action is oriented to the preferences of the controlling actor.

When complexity is high, but conflict low, the governance challenge is one of expertise. The controlling actor needs to make sure that the information of the controlled actor (which is different, there is a high level of complexity) is inserted in the policy process (see Table 1).

In the lower-right cell, we see a policy problem that we consider wicked. The policy challenge is to align interests and involve expertise in a single governance arrangement at the same time. With factual uncertainty and normative disagreement, the actors whose interests need to be aligned may put forward their own normatively preferred solutions and their corresponding factually correct justifications. These actors' truth claims and normatively preferred solutions both remain contested by other actors who aim to impose their own truth claims and preferences. In the next section, we argue that the problem with wicked problems is that they are actually wicked: they pose a 'double' governance challenge that is difficult to address by the available governance arrangements.

Table 1. Governance challenges in relation to complexity and conflict.

Governance challenge		Conflict: heterogeneity of preferences or interests	
		Low	High
Complexity: factual uncertainty	Low	Conformity	Alignment
	High	Expertise	Wicked problem: double governance challenge

4. What is the problem with the governance of wicked problems?

Wicked problems evoke what we call a ‘double governance challenge’. If complexity and conflict are both relevant characteristics of the problem, the regulated actor is both willing and able to evade control by the regulating actor. We first discuss this double governance challenge (Section 4.1) and after that discuss the way approaches in public administration respond to wicked problems (Section 4.2).

4.1. Wicked problems as a double governance challenge

In Table 2, we outline feasible governance strategies in response to the four governance challenges discerned in Table 1. Where complexity and conflict are limited, control oriented to ‘conformity’ is the feasible governance strategy. We mean this in a nominalist, not essentialist, sense. In a situation of low conflict and low complexity, governance by a regulating actor does not need to stimulate the regulated actor to shift interests nor does it need to stimulate the other to share his or her expertise. Control only needs to arrange conformity: to outline the tasks the other needs to conduct and arrange for the conditions for the other to be able to do so. The controlling actor can achieve this by means of simple enforcement: e.g. through process control or the standardization of work processes (Mintzberg, 1989). Hierarchical steering is the first governance arrangement, primarily suitable for low conflict and low complexity problems.

Where conflict is high but complexity is low, the control challenge concerns the ‘alignment’ of normative orientations. Where conflict is high, interests are heterogeneous. Governance by the regulating actor needs to stimulate the regulated actor in order to have his or her interests aligned to those of the regulating actor. This may e.g. be attained by decision-makers controlling policy implementation actors by means of incentives: output controls or standardization of outputs or results as in new public management types of steering (Bouckaert & Halligan, 2008). Incentive-based government is the second of the main governance arrangements, feasible for governance where there is value conflict.

Where complexity is high but conflict is low, ‘expertise’ in the task execution is sought. Where complexity is high, governance by the regulating actor needs to stimulate the regulated actor to share his or her expertise in order to contribute to addressing the policy problem. Decision-makers may control policy implementation actors, who act more or less autonomously as experts, by consultation: autonomous task execution and mutual adjustment of action, with expertise normally being guaranteed through competence controls or standardization of skills.

Table 2. Governance responses to deal with complexity and conflict.

Governance response	Conflict: heterogeneity of preferences or interests	
	Low	High
Complexity: factual uncertainty	Low Bureaucracy: enforcement	New public management: incentives
	High Professional governance: consultation	<i>New modes of governance: what mechanism?</i>

These are three relatively straightforward governance strategies to cope with relatively straightforward governance challenges. When complexity and conflict are simultaneously high, however, a double governance challenge occurs. In this case, we do not have such straightforward governance strategies at our disposal. Seeking expertise through consultation weakens alignment: the controlled actor is able to insert his or her own truth claims in order to support his or her own interests. Seeking alignment through incentives weakens the input of expertise: the controlled actor is able to respond to the incentive mechanically, without fully inserting his or her full knowledge into the system and as such limit the own costs of policy implementation. As such, the control challenges of alignment and expertise appear contradictory and create a double governance challenge: governance oriented to the ‘integration’ of alignment and expertise is the feasible governance strategy. [Table 2](#) outlines through which governance responses the various governance challenges can be addressed. We discuss these modes and then address the capacity of various new modes of governance mentioned in the governance literature to address the wicked problem in the lower-right cell.

In bureaucracy, enforcement is the main mechanism to steer the action of subordinates and produce conformity; this presupposes compliance by subordinates and the capacity of the controlling actor to define tasks; in new public management, incentives function as the main mechanism to direct the action of, in this case (not subordinates, but), service providers and produce alignment; this presupposes a conflict of interests (to be overcome by incentives) and the feasible capacity of the controlling actor to adequately define the required performance; in professional governance, competence control and consultation with regard to substantial information and expertise is the main mechanism to ‘produce’ expertise, that is to include the others’ expertise into the policy definition and policy implementation; this presupposes a natural willingness by (not subordinates, nor service providers, but) experts to refrain from using the own, exclusive expertise in order to support the own interests, but instead engage in shared problem-solving. This presupposed willingness allows the controlling actor not to define tasks and performance (which the controlling actor in the case of a double governance challenge, because of the complexity of the policy problem indeed cannot do).

In ‘double challenge’ situations, both the insertion of expertise is asked for and the alignment of preferences and interests. As ideal types, the three governance mechanisms in [Table 2](#) each address one of the three governance challenges in [Table 1](#), but not the bottom right-hand one with the double governance challenge.

In bureaucracy: where the social problem is too complex for bureaucracy, task implementation becomes too rigid and a ‘third logic’ is asked for (Freidson, 2001). If e.g. a government agency is given the task of devising a government response to climate change, we might expect that the agency needs to involve external experts to impute the policy process with the required knowledge and understanding of the problem or internally build such expertise. If at the same time there is conflict, this might evoke processes of closure by the external or internal experts (see below), so that they become immunized from substantial steering and be able to pursue the own preferences. It may also evoke the pursuit of additional agency resources and a strive for the maintenance of the agency’s organizational structure: where interests inform the action of subordinates in bureaucracy, struggles for budgets and autonomy are to be expected (Niskanen, 1971).

In new public management, this governance mechanism is a feasible response to conflict, but where problems are too complex, market-based governance faces the performance paradox (Van Thiel & Leeuw, 2002), with disconnects (Bouckaert & Halligan, 2008) and blurred (Pollitt & Bouckaert, 2004) or unexpected outcomes (Hood & Peters, 2004). If e.g. a private research organization is contracted to devise policy responses to (using the same example) climate change, we might expect that the agency will draft a response that is close to the own expertise and a response that is close to the way the need for advice was defined in the contract. This is the performance paradox: a provider provides what is *asked for* in the contract, not necessarily what the purchaser *needs* and while doing so is oriented to the own preferences. If, as is the case in a double governance challenge situation, the purchaser (incentivizing actor) does not have feasible capacities to adequately define the required performance and the provider (incentivized actor) has his or her own preferences (the preferences after all that need to be aligned by the market arrangement), this performance paradox occurs.

In professional governance, where market or interest issues come to inform professionalism, processes of ‘closure’ (Abbott, 1988; Ackroyd, 1996) and ‘double closure’ (Ackroyd & Muzio, 2007) indicate the increasing orientation of professional actors upon organizational or individual interests. If e.g. a committee of experts is asked to jointly devise a response to climate change (again using the same example), we might expect that the differences between the experts’ approaches remain inside the committee. If, however, there is conflict, expert groups show ‘closure’ that allows them to continue the own substantial approach and guarantee the availability of resources for the own expertise. If, as is the case in a double governance challenge, the consulting actor is confronted with complexity and cannot autonomously review the expertise required to solve the problem, he cannot determine to what extent the truth claims experts make are informed by their own interests or by an orientation to the shared problem.

In a double governance challenge situation, regulating actors need to in some way ‘integrate’ the objectives of bureaucratic, new public management and professional governance arrangements, in order to have regulated actors insert their expertise without pursuing the own preferences. Expertise needs to be provided without being informed by experts’ interests and interests need to be aligned in such way that experts’ understandings of the problem can contribute to a joint understanding of the problem. A governance strategy in the case of a double governance challenge needs to integrate the alignment of interests and the insertion of expertise into the performance definition and implementation at the same time. We attempted to show in the discussion on Tables 1 and 2 that theoretically, this integration is difficult to devise. A hierarchical governance mechanism is difficult to apply, but also incentive-based mechanisms and consultation evoke problems. What would such a governance mechanism look like?

The problem with wicked problems is that they are really wicked. The governance challenges of conformity, alignment and expertise interact. A number of solutions that implicitly conceptualize the wicked problem as non-wicked might appear as perfect responses, but at second sight they seem unintelligent.

4.2. Responses to wicked problems in the literature: re-iterated professionalism

R. Denhardt and Denhardt (2000, 2007) point to stable partnerships and shared value commitments as feasible responses to wicked implementation problems. They prescribe in their ‘new public service’ approach that the civil service is called to serve, not to steer, citizens. Their key assumption is that the preferences and values of the civil service actually are the same as those of a democratic citizenry. The primary role of the public servant in this approach is to ‘find’ these shared values and help citizens, out of a moral concern for democratic values. The mechanism to attain policy goals is ‘building coalitions of public, nonprofit, and private agencies to meet mutually agreed upon needs’ (2007, p. 29; Bannink, 2008, p. 82). Professionals are assumed to act as trustworthy professional partners, articulate and meet citizens’ shared values and interests in managing risks, rather than to attempt to control citizens’ risks. This, exactly this, is what the double governance challenge *prevents* professionals from doing. ‘Closure’ (an orientation to the own organizational interests of the professional group; and different professional groups orienting to different group interests; Abbott, 1988; Ackroyd, 1996) emerges where (as in a double governance challenge) an identifiable set of ‘mutually agreed upon needs’ *does not exist* (complexity is high) and professionals *do not* ‘articulate citizens’ shared values and interests’ (conflict is high).

Denhardt and Denhardt, in terms of the example above, assume that experts, governments, citizens and organized stakeholders already agree about the causes of and solutions to climate change. It is exactly this that cannot be assumed in the case of wicked problems.

Where the factual estimation of policy problems is more complex than hierarchical policy control can cope with, consultation mechanisms shift the responsibility for policy implementation to professional implementation actors. This is a functional response only when the preferences and interests of implementation actors are similar to those of decision-makers and the public. That is Denhardt and Denhardt’s new public service approach is built upon the presupposition that professional service workers actually *are* interested in servicing the people: they presuppose that social risks are non-conflictual (Bannink, 2008). We therefore label this response to wicked problems ‘re-iterated professionalism’.

4.3. Responses to wicked problems in the literature: re-iterated managerialism

Another category of scholars locates policy problems in the decentred actor and prescribes the implementation of market-based public management arrangements that incentivize decentred actors to respond to the problem. Thaler and Sunstein (2008) argue that centred actors need to ‘nudge’ citizens and implementation organizations to adjust behaviour to cope with observed problems. As such, decentred actors become responsible for the attainment of centre-level objectives (Bannink, 2013; Schonewille & Koornstra, 2010). This is a mechanism Garland (1996) has termed ‘responsibilization’. Also Giddens (1999) connects social risks to the management of responsibility. Risk management is organized around investing subjects with greater responsibility for risks related to their own choice and action. Public management comes to the assigning of self-responsibilities and subjects are held accountable, monitored, judged and

sanctioned through this lens (Gray, 2009). These proposals, however, implicitly assume that the decision-maker actually does understand what the policy problem is and what line of action might address the problem and therefore actually does have the feasible capacity to adequately define his or her own preferences. But it is exactly this problem that occurs when wicked problems are concerned: wicked problems are characterized by complexity and an associated lack of understanding of the problem.

In terms of the example of climate change mentioned before, the assignment of responsibilities requires that the government has a correct factual understanding of the responsibilities required to solve the problem. It is exactly this that cannot be assumed in the case of wicked problems.

Where the normative evaluation of policy problems and solutions is more conflictual than hierarchical policy control can cope with, intervention resources and associated risks may be located at the decentred level in order to stimulate that centred and decentred evaluations come to correspond and the interests of the controlled actors are aligned to those of the controlling actor. This only is a feasible response, if centred governance actors are indeed able to make a correct factual estimation of the nature of the concerned problems. That is Thaler and Sunstein's nudging approach is built upon the presupposition that the nudging actor is actually able to correctly identify the problems the citizen needs to be nudged to stay away from: they presuppose that policy problems are not complex, but simple instead (Schonewille & Koornstra, 2010). We therefore label this response to wicked problems 're-iterated managerialism'.

4.4. Responses to wicked problems in the literature: re-iterated hierarchy or 'hyper-rationality'

A rationalistic meta-governance approach is characterized by a strategic allocation of responsibilities. In Meuleman's version (2007) of meta-governance, the three governance mechanisms of enforcement, incentives and consultation are applied sequentially. Problem identification and policy formation require the organization of consultation – with experts considered unbound by preferences and interests of their own. Implementation of a given policy objective requires incentive-based governance mechanisms – while the policy problem is now considered sufficiently simple to allow such arrangements. And the maintenance of legal requirements (did everyone do his or her work as agreed and rewarded?) can be controlled in a hierarchical fashion – supposing a low level of both complexity (consultation in the first phase solved this governance challenge) and conflict (incentives in the second solved this challenge).

We argued above that wicked problems are wicked because different actors have different factual and normative positions vis-à-vis the problem. Starting from this viewpoint, the strategic allocation of responsibilities that Meuleman proposes requires an arrangement by some hyper-rational supra-actor or compiled actor who is able to at once understand the complexities of all aspects of the policy problem and distance itself from the normative evaluations of the actors involved in determining these complexities. The argument that this supra-actor might be a compiled actor merely re-iterates the problem of the mutual adjustment of knowledge and interests to the intra-supra-actor level. So, Meuleman's strategic choices are based on the assumption that a decision-maker is actually able to choose and implement a feasible succession of

strategies. We consider this assumption highly implausible, especially in the context of complex and conflictual policy problems. In the first phase, the insertion of expertise will still be also structured by actors' anticipation of the second phase in which resources are distributed; in the second phase, actors will still produce the required performance but do so in a way that evokes the performance paradox. And in the third phase, the double governance challenge causes that the supra-actor does not have a framework at his, her or (in the case of a compiled actor) their disposal that enables the evaluation of the controlled actors' inputs into the process. We therefore label this response to wicked problems 're-iterated hierarchy', characterized by a 'hyper-rationality' assumption of some compiled or unitary supra-actor's action and capacities (see also Bannink & Ossewaarde, 2012).

We do agree, however, with the 'ironic' variant of 'meta-governance' that is defined by Jessop (Jessop, 2003). Jessop ponders the same strategic allocation of responsibilities, but instead of rationality, he assumes sub-optimality of planning by a centred decision-maker and by all other actors involved in policy formation and implementation. Actors involved in policy formation and implementation all have preferences and (knowledge) resources of their own. Non-conflictual and non-complex problems or non-conflictual and non-complex phases in the public management of problems cannot be assumed. A rationalistic governance response to complex and conflictual social risks can therefore only be applied 'ironically'.

We strongly agree with Jessop's estimation. In the face of wicked problems, new modes of governance (new public service, responsabilization strategies, rational meta-governance) are perfect, but, alas unintelligent forms of governance, because they implicitly conceptualize the wicked problem as non-wicked. They implicitly assume that there is no complexity issue, no conflict or neither complexity nor conflict (Table 3).

This also goes for Osborne's 'new public governance' (2006, 2010), we argue. 'Both PA [public administration] and NPM', Osborne argues (2010, p. 5), 'fail to capture the complex reality of the design, delivery and management of public services in the twenty-first century'. NPG, on the other hand, 'posits both a *plural* state, where multiple interdependent actors contribute to the delivery of public services and a *pluralist* state, where multiple processes inform the policy making system' (Osborne, 2006, p. 384; emphasis in original). Actors have their own interdependent preferences and interests (as in Osborne's plural state) and more or less legitimate claims to expertise (as in Osborne's pluralist state).

Table 3. Unintelligent perfect new modes of governance (1, 2, 3) and intelligent imperfect new modes of *interaction* (4a–d) as responses to a double governance challenge occurring in wicked problems.

		Assumptions on conflict:	
		Implausible	Plausible
Assumptions on complexity	Implausible	Hyper-rationality (1)	Re-iterated managerialism (2)
	Plausible	Re-iterated professionalism (3)	Intelligent imperfect modes of interaction (4): <ul style="list-style-type: none"> – Living with problems (a) – Decomposition and improvisation (b) – Frame reflection (c) – Sociological imagination (d)

We concur that it is indeed clear that bureaucracy (Table 2) can cope with neither of these conditions; new public management can cope with interest interdependency (coordinating these interests through the market mechanism), but not with problem complexity. Osborne then puts forward 'the NPG' as a new mode of governance that can potentially cope with both interest conflict and the dispersal of expertise. The NPG mode is centrally concerned with 'relational performance', Osborne argues in the conclusion to his 2010-edited volume (Osborne, 2010, p. 424), 'relational values are at their core' (Osborne, 2010, 425). It is exactly this aspect that is problematic in the face of wicked problems, we argue. The mentioned relations concern relations between actors who do *not* agree on preferences in relation to problem definitions and problem-solving and have *their own* knowledge resources to support their own preference positions. Putting relational values at the core of the approach, underestimates exactly the complex reality of actor conflict and exclusive knowledge resource bases that the approach is argued to address.

In Bouckaert and Halligan's 'performance governance' (2008), the responsibilities of decision-makers and implementation actors are blurred. In their book, Bouckaert and Halligan describe the failure of ever-increased specification of performance management instruments (the failure of re-iterated new public management) and prescribe instead of the public *management* of performance the establishment of continuous *governance* processes *about* performance (Bannink, 2008). Such performance governance is essentially a weakly structured debate between actors at various levels and segments of a public management and wider governance system that continuously and recurrently addresses the factual estimation and normative evaluation of policy issues.

We think that the Bouckaert and Halligan's approach in a way encompasses the issues that seem to underlie the discussed new modes of governance. We argue that perfect modes of governance in response to wicked problems assume a rational understanding of problems that does not exist and a collectivity of actors engaged in joined problem-solving that does not exist. These issues are interrelated, we argue. Because in the face of wicked problems a community (that is, a group of actors sharing the interest in solving the underlying social problem in a specific way) cannot be considered to exist, a shared understanding of the problem cannot be assumed. And the other way around: because there is no shared understanding of the problem, different groups with their own interests can engage into conflict about problem definitions and solutions that contribute to the own interests to a greater or lesser extent.

In terms of the example of climate change above, re-iterated hierarchy approaches require a strategic allocation of responsibilities, while the allocating actor is able to at once understand the complexities of all aspects of the policy problem and distance itself from the normative evaluations of the actors involved in determining these complexities. It is this combination of requirements that cannot be assumed in the case of wicked problems.

The problem with wicked problems is that they are actually wicked. The loss of governability is an inherent characteristic of the governance of wicked problems. This implies, in a functionalist approach, that any governance response will be imperfect. This is in accordance with the concept of clumsy solutions put forward by Verweij et al. (2006) and it acknowledges the messiness of processes of interplaying values and facts Hoppe (2010) observed. We build upon these central insights. We consider that imperfection comes in various forms. The next section focuses on exploring 'intelligent forms' of imperfect governance that provide distinctive responses to the double

governance challenge implied in wicked problems. These responses are all characterized by at once an acknowledgement of the limitations to action when wicked problems are concerned and an appreciation of what we can do.

5. Intelligent imperfect responses to wicked problems

We discuss four intelligent but imperfect responses to wicked problems (Table 3). We do not label them *governance* beforehand, because neither a community nor an understanding of the problem can be assumed (we discuss wicked problems after all). However, drawing on classic insights from the social science tradition, we sketch sensible ways of dealing with ‘wickedness’ and then raise the question what modern modes of governance might learn from our analysis.

5.1. Living with problems

The social science tradition provides several clues for exploring intelligent ways of dealing with wicked problems. Maybe the most profound insight, based on classic sociology, is that social problems are to some extent a *fact of life*. In *Homo Sociologicus*, Dahrendorf (1959) speaks of ‘die ärgerliche Tatsachen der Gesellschaft’. If we like it or not, we all grow older and become more dependent on others; if we like it or not, we all have to deal nowadays with emerging economies impacting upon our work chances and if we like it or not, we all must cope with the cultural conflicts that seem inherent to a more open society. In modernity, we tend to frame such issues as ‘policy problems’, immediately followed by a firm call for political action and public governance. Yet, we do know that intervention may make things worse, as Merton (1936) already pointed out in his seminal article *The Unanticipated Consequences of Purposive Action*. Sieber (1981) explored several social mechanisms that turn public policies into ‘fatal remedies’.

However, ‘living with problems’ does not equal full-blown fatalism, albeit that modern politics could certainly do with a better developed sense for fate and tragedy (Frissen, 2013). Living with problems calls for a more ironic, pragmatist and patient style in policy-making and governance, as discussed in an interesting volume on the ‘sociology of moderation’ (Smith & Holmwood, 2013). Next to this plea for modest governance (see also Trommel, 2009), living with problems is something that can be exercised, individually and collectively. Understanding that ‘problems’ have collective (societal) antecedents (and are as such *ärgerlich* and fate-like) can also be a liberating thought. It releases the individual from full responsibility for his own life (sorrows), and opens up the possibility to seduce others (friends, family, the community) to provide help and support. Foucault (2004) labels this rearranging of social interdependencies a ‘practice of freedom’ and part of the ‘art of living’.

As a mode of dealing with wicked problems, living with problems refers to a general habitus, rather than to a practical device for governance. Nevertheless, it provides two lessons for politics, policy and governance: first, it may be wise to moderate interventionist ambitions and second, organizing support for self-governance (in the form of ‘life art’) can be a smart strategy.

5.2. *Decomposition and improvisation*

A more concrete proposal for governance follows from the ‘critical-rationalist’ school of thought in social science, as developed by Karl Popper and others. Based on his work on the philosophy of science, which is famous for stressing the inherently provisional nature of scientific knowledge (Popper, 1935), Popper firmly argued against blueprint designs in politics and policy. As it is logically impossible to predict the social future, as convincingly argued in the *Poverty of Historicism* (Popper, 1957), Popper’s social philosophy embraced ‘piecemeal engineering’, based on a careful distinction between what we can know and what is mainly speculation. Policy is not about making a better world by ‘solving problems’ along utopian lines, but about making the world a little less gruesome by learning from the mistakes we make in small-scale experiments. The political scientist Lindblom (1959) came to similar conclusions in his plea for a ‘muddling-through’ approach in policy-making.

These are old views, but they are still highly relevant in the context of the greedy hunt after wicked problems. A first lesson is that we can do much smarter in distinguishing between established scientific evidence and unknown ground. An example is the climate issue. There may be ongoing controversy on the causes of global warming – man-made or part of a natural cycle? – but there is a broad consensus about the rise of average temperature itself and some of its impacts upon earth. By such ‘decompositions’ of wicked problems, an avenue opens up into careful problem approaches. Decomposition requires some kind of (scientific) authority, though. It belongs to the hierarchy-based governance styles, but it facilitates prudent and modest approaches, rather than greedy ones.

A second lesson concerns the importance of small scale experiment, trial-and-error, and thus ample tolerance for failure, which is rare in the current political climate. Elsewhere we have argued that this is not similar to an ‘anything goes’ approach (Trommel & Bouttelier, 2017). Improvisation requires craftsmanship and in the world of public governance this means, among other things: patience, devotion to the public sphere, respect for local knowledge and traditions, and a strong sense for the importance and pleasures of cooperation (see also Sennett, 2008, 2012).

5.3. *Sociological imagination*

It was Mills (1959) who coined the concept of ‘sociological imagination’. Mills argued that administrative concerns, rather than social and sociological ones, have started to dominate our thinking about society and social problems. The argument is similar to a more recent one, developed in *Seeing like a State* by the anthropologist Scott (1998). Increasingly, rational administrative organizations stipulate how we have to ‘see’ the social problems we face. For instance, whereas many people fear old age, for it will affect earning capacities and raise our dependency on family, administrative rationality transforms this fear into a concern with public pension policy. Mills argues that sociological imagination may help to get us back to the heart of the matter, which lies in a much better understanding of how personal experiences and problems relate to a wider historical and social context.

The plea for sociological imagination is further developed by the first-generation ‘critical theory’ scholars in sociology, such as Herbert Marcuse and Max Horkheimer. They stress that ‘positive social facts’ are never neutral, normatively nor politically, but the effect of powers that make other (‘potential’) facts non-existent or repressed. Thus, it needs imagination to rethink the problem of old age in such a way that it becomes an issue of work organization in industrial society. And it needs sociological imagination to consider the problem of poverty an issue of uneven distribution of resources in the world, rather than an issue of personal failure.

Again, two public governance lessons can be learned here. First, intelligent governance requires reflexivity, in the sense that it considers other problem definitions than the ones suggested by administrative reason. At first sight, this suggestion seems to increase the wickedness of social problems, since Rittel and Webber suggested that a crucial element of wickedness is the fact that there is no ‘stop rule’ in problem definition. Behind each problem lies another problem: poverty goes back to a problem of poor schooling, which links to a problem of poor resources, which links to a problem of poor government. The search for sociological imagination in governance, however, means something else: it calls for a search for ‘métis’, as James Scott calls the local knowledge of social problems, which has to be combined with sociological knowledge of causal antecedents in the wider environment. We do not argue that furthering the sociological imagination in public governance helps to overcome wicked problems; we believe that it will reduce the sense of presumed ‘wickedness’. Which brings us to a second lesson: intelligent public governance requires the involvement of non-administrative actors.

5.4. Frame reflection

In an intriguing study, Schön and Rein (1994) discussed strategies to deal with so-called ‘intractable policy controversies’. These are disputes that cannot be settled by appeal to facts and therefore tend to be intractable. Nevertheless, the authors argue that progress can be made by a strategy called ‘frame reflection’. In the process of policy-making and implementation, actors may reconsider the beliefs that hide behind their policy positions. According to Schön and Rein, reflection and policy praxis develop in interaction, not as separate units of action. Consequently, it must be possible to develop strategies within the ‘policy forum’ that aim at reframing the (conflicting) beliefs in such a way that the issues at stake become less intractable.

The argument goes back to the work of Jürgen Habermas on the theory of communicative action. Habermas (1984) claimed that it is possible to have a rational debate on normative issues. In such a debate, it is possible to reach consensus about the meaning of concepts and to resolve misunderstandings that follow from insufficient knowledge of the frames that people have in mind. However, Habermas stressed that an ‘ideal speech situation’ would be required in which only the ‘power of arguments’ count. Due to conflicts of interest and an uneven distribution of power, such a context is in most cases missing, but Habermas argues that human actors can anticipate the ‘ideal world’ and proceed ‘as if’ rational arguments are decisive. We know that this will not produce ‘perfect solutions for normative controversies’, but it may help to develop an idea of ‘small steps’ that help to diminish normative uncertainty, misunderstanding and conflict.

Let us again consider the issue of climate change as an example. As long as the issue is captured by a 'battle' between 'climate change deniers' and 'climate change believers', and the 'facts' are not decisive, one may try to reduce the controversy by means of frame reflection. An outcome could be that 'believers' have an (extreme) concern with the fate of future generations, whereas 'deniers' find that available policy resources must be spent on the fate of current generations in deplorable living conditions. Reframing the controversy like this does not solve the issue, but it may help to bring the two positions 'on speaking terms'.

Again, two lessons follow. First, it seems wise to govern the policy praxis in such a way that it allows for steady processes of frame reflection. Second, investments in the quality of these processes, aiming at strengthening their 'as if' character, seem a good strategy to improve the possible benefits of frame reflection.

6. Incomplete and imperfect, but intelligent

In the previous discussion, we outlined some of the literature on wicked problems and proposed a conceptualization of wicked problems that, we think, shows the core of the problem of wicked problems. The core of a wicked problem is the interaction between normative conflict and factual uncertainty. Then we argued that wicked problems are indeed wicked. A solution that implicitly conceptualizes the wicked problem as non-wicked might seem perfect, but appears difficult to implement (unintelligent). A wicked problem in itself does not allow perfect, but instead only imperfect responses.

We then presented modes of dealing with wicked problems that aim at avoiding the pitfall of striving for perfection. In our view, two types of intelligence emerged, which at first sight appear somewhat contrasting. The first one is based on a *modest* attitude towards the *sui generis* character of 'social reality'. Accept the sometimes fate-like nature of social life, learn to live with wicked issues, avoid fatal remedies and make errors in small experiments, in order to learn how improvement of living conditions might be realized in a careful way. This refers to the prudence of modesty vis-à-vis the 'sacred social', indeed. The second type, though, does not so much preach modesty, but rather an offensive style, to be applied when it comes to dealing with 'mental realities'. The lesson here is *not* to take these realities at face value, or as given 'facts', for they might change by the use of reason and sociological imagination. This mode of intelligence draws heavily on *radical* and creative thought experiments.

We conclude that wicked problems, as features of 'late-modern' societies, imply a departure from the *modern* art of policy-making, which was based on grand and powerful interventions in social reality and limited 'mental experiment'. Wicked problems require a reversed approach: high mental creativity and normative reasoning, and highly careful experiment in social reality. This will not bring the 'perfect answers' that we aimed for during the heydays of modern planning, but at least it brings more intelligence to the imperfection of contemporary policy intervention.

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References

- Abbott, A. (1988). *The system of professions, an essay on the division of expert labor*. Chicago: The university of Chicago Press.
- Ackroyd, S. (1996). Organization contra organizations: Professions and organizational change in the United Kingdom. *Organization Studies*, 17(4), 599–621.
- Ackroyd, S., & Muzio, D. (2007). The reconstructed professional firm: Explaining change in English legal practices. *Organization Studies*, 28(5), 729–747.
- Alford, J., & Head, B. (2017). Wicked and less wicked problems: A typology and a contingency framework. *Policy and Society*, 36(3), 397–413.
- Bannink, D. (2008). De cirkel rond. Drie decennia management van performance. *Bestuurskunde*, 17(4), 75–84.
- Bannink, D., Six, F., & van Wijk, E. (2015). Bureaucratic, market or professional control? A theory on the relation between street-level task characteristics and the feasibility of control mechanisms. In P. Hupe, M. Hill, & A. Buffat (Eds.), *Understanding street-level bureaucracy* (pp. 205–226). Bristol: Policy Press.
- Bannink, D., & Ossewaarde, R. (2012). Decentralisation. New modes of governance and administrative responsibility. *Administration & Society*, 44(5), 595–624.
- Bannink, D. B. D. (2013). Localized crafting. Management tools responding to a double management challenge. In D. B. D. Bannink, J. H. Bosselaar, & W. A. Trommel (Eds.), *Crafting local welfare landscapes* (pp. 79–94). The Hague: Eleven International Publishers.
- Bouckaert, G., & Halligan, J. (2008). *Managing performance. International comparisons*. London: Routledge.
- Dahrendorf, R. (1959). *Homo Sociologicus*. Köln: Westdeutscher Verlag.
- Denhardt, J., & Denhardt, R. (2007). *The new public service. Serving, not steering*. Armonk: M.E. Sharpe.
- Denhardt, R., & Denhardt, J. (2000). The new public service: Serving rather than steering. *Public Administration Review*, 60(6), 549–559.
- Foucault, M. (2004). *Breekbare vrijheid: de politieke ethiek van de zorg voor zichzelf*. Amsterdam: Boom.
- Freidson, E. (2001). *Professionalism, the third logic*. Cambridge: Polity press.
- Frissen, P. (2013). De fatale staat. In *Over de politiek noodzakelijke verzoening met tragiek*. Amsterdam: Van Gennep.
- Garland, D. (1996). The limits of the sovereign state: Strategies of crime control in contemporary society. *British Journal of Criminology*, 36(4), 445–471.
- Giddens, A. (1999). *Runaway world: How globalization is reshaping our lives*. Cambridge: Polity Press.
- Gray, G. (2009). The responsabilization strategy of health and safety: Neo-liberalism and the reconfiguration of individual responsibility for risk. *British Journal of Criminology*, 49, 326–342.
- Habermas, J. (1984). *The theory of communicative action*. Boston: Beacon Press Books.

- Head, B. (2010). Public management research. Towards relevance. *Public Management Review*, 12(5), 571–585.
- Head, B., & Alford, J. (2015). Wicked problems: Implications for public policy and management. *Administration & Society*, 47(6), 711–739.
- Hisschemöller, M., & Hoppe, R. (1995). Coping with intractable controversies: the case for problem structuring in policy design and analysis. *Knowledge and Policy*, 8(4), 40–60. doi:10.1007/BF02832229
- Hood, C., & Peters, G. (2004). The middle aging of new public management. Into the age of paradox? *Journal of Public Administration Research and Theory*, 14(3), 267–282.
- Hoornbeek, J., & Peters, G. (2017). Understanding policy problems: A refinement of past work. *Policy and Society*, 36(3), 365–384.
- Hoppe, R. (2010). *The governance of problems: Puzzling, powering and participation*. Bristol: Policy Press.
- Jessop, R. (2003). *Governance, governance failure, and meta-governance*. Paper presented at the Policies, Governance and Innovation for Rural Areas International Seminar, Università della Calabria.
- Lash, S. (2003). Reflexivity as non-linearity. *Theory, Culture & Society*, 20(2), 49–57.
- Lindblom, C. E. (1959). The science of muddling through. *Public Administration Review*, 19(2), 77–88.
- Merton, R. K. (1936). The unanticipated consequences of purposive action. *American Sociological Review*, 1(6), 894–904.
- Meuleman, L. (2007). Programmasturing. Schakelen tussen netwerken, hiërarchie en marktdenken. In *Blauwe denkers, Programmasturing: Een tussenstand. Basisprincipes, ontwikkeling en theorie* (pp. 27–43). Warnsveld: Politieacademie.
- Mills, C. W. (1959). *The sociological imagination*. Oxford: Oxford University Press.
- Mintzberg, H. (1989). *Mintzberg on management*. New York, NY: The Free Press.
- Niskanen, W. (1971). *Bureaucracy and representative government*. New Brunswick: Transaction Publishers.
- Osborne, S. (2006). The new public governance? *Public Management Review*, 8(3), 377–387.
- Osborne, S. P. (2010). *The new public governance? Emerging perspectives on the theory and practice of public governance*. London: Routledge.
- Peters, G. (2017). What is so wicked about wicked problems? A conceptual analysis and a research program. *Policy and Society*, 36(3), 385–396.
- Pollitt, C., & Bouckaert, G. (2004). *Public management reform. A comparative analysis* (2nd ed.). Oxford: Oxford University Press.
- Popper, K. (1935). *Logik der Forschung*. Vienna: Verlag von Julius Springer.
- Popper, K. (1957). *The poverty of historicism*. London: Routledge.
- Rittel, H., & Webber, M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4, 155–169.
- Roberts, N. (2000). Wicked problems and network approaches to resolution. *International Public Management Review*, 1(1), 1–19.
- Schön, D., & Rein, M. (1994). *Frame reflection; towards the resolution of intractable policy controversies*. New York: Basic Books.
- Schonewille, A., & Koornstra, H. (2010). De vogelvrije: over libertair paternalisme en de individuele gevolgen van keuzevrijheid. *Beleid en Maatschappij*, 37(2), 179–182.
- Scott, J. (1998). *Seeing like a state*. New Haven, CT: Yale University Press.
- Sennett, R. (2008). *The craftsman*. New Haven, CT: Yale University Press.
- Sennett, R. (2012). *Together. The rituals pleasures and politics of cooperation*. London: Penguin.
- Sieber, S. (1981). *Fatal remedies. The ironies of social intervention*. New York, NY: Plenum.
- Simon, H. (1947/1997). *Administrative behavior, 4th edition: A study of decision-making processes in administrative organisations*. New York, NY: Simon & Schuster.
- Sitkin, S., Cardinal, L., & Bijlsma Frankema, K. (Eds.). (2010). *Control is fundamental, organisational control*. Cambridge: Cambridge University Press.
- Smith, A., & Holmwood, J. (2013). Sociologies of moderation. *Sociological Review*, 61(S2), 6–17.

- Thaler, R., & Sunstein, C. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven, CT: Yale University Press.
- Trommel, W. A. (2009). *Gulzig Bestuur (Greedy Governance). Inaugural Lecture*. Den Haag: Boom/Lemma.
- Van Thiel, S., & Leeuw, F. (2002). The performance paradox in the public sector. *Public Productivity and Management Review*, 25(3), 267–281.
- Verweij, M., Douglas, M., Ellis, R., Engel, C., Hendriks, F., Lohmann, S., Thompson, M. (2006). Clumsy solutions for a complex world: The case of climate change. *Public Administration*, 84 (4), 817–843.