Governing Turbulence

An Organizational-Institutional Agenda

Abstract

This paper sets out three ambitions: First, it argues in favor of adopting 'turbulence' as a conceptual device for understanding governance in times of dynamic interactive change. Second, the paper distinguishes three types of turbulence: turbulent environments, turbulent organizations and turbulence of scale. These three types highlight different sources and dynamics of turbulence. Third, the paper outlines an organizational-institutional approach to the governance of turbulence highlighting four key dilemmas public organizations must confront in stabilizing and adapting to turbulence: stability versus adaptation; anticipation versus resilience; tight(er) coupling versus decoupling; and integration versus differentiation. The paper then synthesizes findings and arguments about how public organizations can manage these dilemmas.

Introduction

The decision of UK citizens to 'Brexit' in 2016 illustrates that Europe is in a stage of accelerating turbulence in search of political order (Olsen 2007). The unruly politics leading to the British referendum are now being followed by the chaotic politics of extricating U.K. political institutions and markets from the European Union (EU). More far-reaching still, 'Brexit' threatens serious cascading effects, such as intensified Scottish demands for independence

from the UK. Meanwhile, across the Atlantic, the 2016 US Presidential campaign revealed an analogous kind of turbulence (Kristof 2016). The surprising nomination of Donald Trump as presidential candidate and his subsequent electoral victory has thrown American politics into turmoil, portending cascading political dynamics that will play out in unknown ways over the next decade. Both incidents illustrate competing and shifting ideas about the 'forms of political association' and highlight the turbulent character of governance (Olsen 2016: 5; Bulmer and Joseph 2016). Yet this paper argues that turbulence is hardly limited to such earth-shaking events. Turbulence might be a normal and enduring, yet unrecognized, feature of contemporary public governance, not merely a transitional anomaly.

Turbulent governance, we argue, requires public organizations to face governance challenges of *certain* kinds - situations where *events, demands, and support interact and change in highly variable, inconsistent, unexpected or unpredictable ways* (Ansell et al. 2017; Easton 1965; Gunnell 2011; Miller 1971). The paper has three ambitions: First, it suggests 'turbulence' as a conceptual device for understanding governance in times of dynamic interactive change. Second, the paper identifies three types of turbulence: turbulent environments, turbulent organizations and turbulence of scale. These distinctions suggest different sources and dynamics of turbulence and bound the topic in order to facilitate subsequent investigation. Third, the paper outlines an organizational-institutional approach that highlights the role of organizations and institutions in the governance of turbulence. The ambition of the paper is synthetic: to draw together ideas from institutional theory, organization theory, public administration, governance theory, and political science to set out expectations about how

public organizations are likely to respond to and manage precipitous, conflicting, and novel—in short, turbulent—governance challenges.

The concept of turbulence originally developed in physics to describe chaotic fluid dynamics—such as stormy weather or complex river currents. In his attempts to conceptualize the dynamic complexity of international politics, Rosenau (1990, 1997) was perhaps the first to draw an analogy between these fluid dynamics and the turbulence of contemporary governance. Following Rosenau, this paper argues that the concept of turbulence directs analytical attention towards how governing organizations handle unstable, unsettled and fluid public domains (Vigoda-Gadot and Mizrahi 2014; Olsen 2017). Yet, how challenging is turbulence to public governance? The answer depends on whether we look at turbulence as a *condition* or a *dysfunction*. If an intensification of speed, complexity and conflict is understood to be a condition of contemporary governance – as argued by Rosenau (1990) and earlier by David Easton (1965) – then the implication is that efficient and effective governing institutions must manage turbulence as a critical condition of the governing process. Government agencies that do not function well in turbulent conditions, for example, are likely to perform poorly, make mistakes and face criticism. Treating turbulence as a condition leads to an investigation of how well the strategy and structure of governing institutions are adapted to turbulent conditions. However, there is also another way of looking at turbulence. Rather than being understood as a basic condition of governing, turbulence is often commonly understood to be dysfunctional—that is, as exceptional, dangerous, or contradictory. Seen in this light, turbulence may push organizations and institutions to their limits and threaten surprising cascading dynamics that

test the sustainability of existing governance arrangements. Or it might produce maladaptive behaviors that trap governance into suboptimal outcomes. From this perspective, the emphasis shifts from how governing institutions manage turbulence to how they withstand it.

Whether as a condition or as a dysfunction, turbulence increasingly appears to have become a 'new normal' in public governance. Why is this the case? There are a number of ways to address this question. One type of account references real-world events like globalization, disruptive technological changes, the end of the cold war, tensions around European integration, or the rise of terrorism (Giddens 2013; Papastergiadis 2013; Greenspan 2008; Drucker 1993; Rosenau 2005, 1997, 1990). Another kind of account focuses on the changing character of politics, which has become more pluricentric, fiscally volatile and polarized, with new forms of social media and a 24-hour information cycle that erode trust and speed political fallout (Margetts et al. 2015; Vigoda-Gadot and Mizrahi 2014; Sørensen and Torfing 2007; Ashworth and Heyndels 2002; Rosenau 1990). A third type of account focuses on the nature of public problems, many of which are now deemed 'wicked' or even 'superwicked'. These problems are complex, multi-dimensional, and rife with value conflict (Head and Alford 2015; Levin et al. 2012). A fourth type of account refer to organizational and institutional complexity, noting that supply chains are longer, policy books thicker, and public agencies must deal with a dizzying array of stakeholder concerns (Room 2011; Orren and Skowronek 1996; Rosenau 1990). Meanwile, institutional environments have become more pluralistic (Kraatz and Block 2008) and organization and policy reform have become nearly routine processes (Wynen et al. 2017; Hahm et al. 2013; Beabout

2012). Looking across these accounts, the intensification of speed, complexity and conflict appear to be the common factors that that produce turbulent public governance.

Whatever the precise source or cause, our goal is to set out a broad framework in which to examine how governing organizations and institutions interact with and adapt to this turbulence. Our intention is to frame the issue of turbulence theoretically and orient researchers toward concrete empirical questions. To do this, we outline an organizational-institutional approach that emphasizes that organizations and institutions are critical structures and agents that directly influence the production, management, and adaptation to turbulence. They affect the basic factors that contribute to turbulence and their patterns of interaction; they also shape how different levels of turbulence interact and, via their strategies and resilience, affect the nature of institutional change. Exploring how organizations and institutions confront turbulence offers opportunities for scholarly reflection, suggesting new ways forward in the study of the organizational basis of public governance (Egeberg et al. 2016; Olsen 2010). We begin this task by defining the basic concept of turbulence and discussing why it is a useful analytical construct.

Conceptualizing turbulence

Whereas some authors use the term 'turbulence' merely as a catch phrase (e.g. Waldo 1971), this paper builds on work that treats turbulence as an analytical concept (Emery and Trist 1965). We define turbulence as *a situation where events, demands and support interact and change in*

highly variable, inconsistent, unexpected or unpredictable ways. [1] As a generic analytical

concept, turbulence has both strengths and weaknesses. On the one hand, the factors that

produce turbulence are typically situationally and conjuncturally specific and often quite

unique. One manager's turbulence will not be another's. Therefore, the idea that we can

construct a general body of knowledge about such context-bound phenomena is without a

doubt challenging. On the other hand, the powerful value of such a generic analytic construct is

precisely that it calls attention to common challenges public organizations and institutions

encounter across very different kinds of circumstances. These common challenges are related to

three dimensions of turbulence that are only weakly captured by other concepts in public

administration and governance:

> *Shifting Parameters:* One of the striking phrases Emery and Trist (1965: 26) used to
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> describe turbulence was the ´ground is in motion´. This phrase suggests that the stable
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> parameters organizations and institutions depend upon—such as budgets, political
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> support, or technology—are changing while at the same time making new moorings for
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> planning and operations difficult to establish. Similarly, Rosenau (1990: 10) depicted
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> turbulence in world affairs as centered on *parametric change* along three dimensions.
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> First, transformation of the overall structure of global politics (becoming multi-centric),
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> changes in authority structures (a fundamental relocation of political authority), and
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> revolution in the skills of citizens (becoming increasingly competent in politics). The

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[1] For ideas about how to operationalize environmental turbulence, see Volberda and van Bruggen (1997). While there is an extensive body of literature operationalizing turbulence for private organizations, there are only a few examples for public sector organizations (see Boyne and Meier (2009) and Nohrstedt and Bodin (2014)).

ensuing consequence was uncertainty (Rosenau 1990: 8).[2] A common dilemma when the ´ground is in motion´ is that by the time you have developed actionable knowledge, the world may have moved on (March 1991; Posen and Levinthal 2012).

Intercurrence: The concept of turbulence in fluid dynamics depicts a transition from smooth and well-ordered ´laminar´ flows giving way to complex, non-linear ´eddies´. The analogy in the world of institutions, organizations and governance is where unexpected interactions occur between otherwise independent or compartmentalized subsystems, institutional logics or governing norms or across jurisdictional boundaries. In institutional theory, Orren and Skowronek (1996) used the term ´intercurrence´ to capture these unexpected institutional entanglements. These entanglements are often experienced by managers as a sudden recognition of unexpected interdependence that produces ´rogue´ outcomes (Demchak 1992; Schulman and Roe 2016).

Temporal Complexity: While public administration often conceptualizes organizational structures and environments as complex, our field has rarely grappled theoretically with the temporal complexity that organizations must deal with. This temporal complexity often arises from multiple or shifting tempos, such as when organizations must shift from routine program action to rapid response (Laporte and Consolini 1991; Bigley and Roberts 2001), when different time horizons clash (Snook 2002), or when competing

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[2] Cameron et al. observe that ´…writers have frequently used turbulence and uncertainty synonymously. But…[t]urbulence usually creates uncertainty, so that uncertainty is best thought of as an outcome of turbulence rather than a synonym…[S]tudies have consistently shown that turbulence is the best predictor of perceived environmental uncertainty…´ (1987: 225).

schedules and time frames must be aligned (Reinecke and Ansari 2015; Granqvist and Gustafsson 2016).

In each of these cases, turbulence is closely associated with interdependence, a widely used concept in public administration and governance. What is distinctive about turbulence is that it stresses the dynamic element of interdependence and emphasizes the importance of time, timing, and change: parameters change, unexpected interactions occur, and different temporalities must be aligned.[3] By conceptualizing this dynamic interdependence from the perspective of those who experience it, the concept of turbulence provides a vantage point from which to examine how public organizations react, manage and adapt to it.

Turbulence is also closely related to the concept of uncertainty and the two concepts are sometimes used interchangeably. Used precisely, however, they call attention to different dimensions of experience. The primary sense of turbulence is a condition of dynamic interactive change that is difficult to respond to because it is *highly variable, inconsistent, unexpected or unpredictable.* Very often such conditions produce uncertainty. As Cameron et al. (1987: 225) observe:

> ´…writers have frequently used turbulence and uncertainty synonymously.
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> But…[t]urbulence usually creates uncertainty, so that uncertainty is best thought of as an

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[3] For a wider discussion of the importance of being more attentive to temporality in public administration, see Howlett and Goetz (2014).

outcome of turbulence rather than a synonym…[S]tudies have consistently shown that turbulence is the best predictor of perceived environmental uncertainty….

Most importantly, turbulence is a description of a certain pattern of change, while uncertainty is a description about a state of information and knowledge.

The widely-used concept of crisis does do some of the same analytical work that we envision for the concept of turbulence and the two concepts clearly overlap to some extent. However, we would argue that they have a different scope and purpose. Consider the following commonly cited definition of a crisis from the crisis management literature: a crisis represents 'a serious threat to the basic structures or the fundamental values and norms of a system, which under time pressure and highly uncertain circumstances necessitates making vital decisions' (Rosenthal et al. 1989: 10). According to Boin et al. (2005: 3-4), key properties of crisis are *threat*, *urgency*, and *uncertainty*. A crisis occurs where an urgent response is required in an uncertain situation that threatens fundamental values or life-sustaining systems. While turbulence itself may 'threaten' basic structures or values, it is also possible that organizations regard turbulence as the 'normal' state of affairs. This has been noted for organizations operating in 'high velocity environments' (Bourgeois and Eisenhardt 1988), for 'garbage can' organizations (Cohen et al. 1972), for high reliability organizations (Laporte and Consolini 1991; Roe and Schulman 2008) and for 'reforming organizations' where reform has become routine (Brunsson and Olsen 1993). Turbulence may be seen almost as a constitutive and systemic part of the fabric of some organizations. Even if it is not a routine part of their operations, public

organizations often encounter turbulence—leadership succession, surprising political demands, or scheduling conflicts—that may challenge governing capacity without meriting the label ´crisis´.

Ultimately, turbulence and crisis are complementary concepts. Since most crises exhibit patterns of turbulence, there is much to learn from the crisis management literature (e.g. Boin and 't Hart 2010). However, by focusing analytical attention on how public organizations react to, manage, and adapt to dynamic interdependence—whether during crisis or non-crisis situations—the concept of turbulence may also eventually contribute to our understanding of crisis management. Turbulence and crisis may also be related in important but poorly understood ways. The Eurozone faced turbulence long before the sudden financial crisis hit Greece. This turbulence, however, remained largely unnoticed until the crisis revealed it (the crisis management literature might call this a ´creeping crisis´; see Rosenthal et al. 1989). Turbulence may also continue long after the immediate response to a crisis and may reverberate beyond the specific domain of the crisis. The U.S. Department of Homeland Security was created in response to 9/11 as an amalgamation of 22 separate agencies; this unprecedented reorganization produced on-going turbulence for these agencies that lasted well beyond the immediate crisis (the crisis management literature might refer to this as ´the crisis after the emergency´, noting that crises can ´cast a long shadow´; Boin and 't Hart 2010: 363). Finally, to some extent, turbulence lends itself to measurement as a variable (e.g., the volatility

of budgets, the rate of leadership turnover), thus facilitating research on how organizational responses vary with different levels of turbulence.[4]

Most accounts of turbulence look at it as an environmental property that triggers responses in organizations. A few scholars, however, have noted that turbulence is not just a property of the environment, but also of the internal organization (Fisher 2012). Drawing on this literature, we suggest that turbulence may be seen as both *endogenous* and *exogenous* to organizations. This point is particularly relevant for public organizations led by a political leadership and accountable to legislatures. The empirical focus on private firms rather than on political organizations may be one reason this point has been less appreciated. The mutual indifference of political science and organizational studies may be another (Arellano-Gault et al. 2013; Olsen 1991, 2010).

We can thus distinguish three levels of turbulence, with our original contribution relating mostly to the third:

- **Turbulent environments**: Turbulence may be produced by factors external to organizations – such as legal rulings, accidents, rapid technological change, wars, protests, partisan conflict, and so on;

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[4] For ideas about how to operationalize environmental turbulence, see Volberda and van Bruggen (1997). While there is an extensive body of literature operationalizing turbulence for private organizations, there are only a few examples for public sector organizations (see Boyne and Meier (2009) and Nohrstedt and Bodin (2014)).

- **Turbulent organizations**: Turbulence may be embedded into organizations and institutions through factional conflict, staff turnover, conflicting rules, internal reform, complex operations, and so on;

- **Turbulence of scale**: Turbulence of scale appears when what happens at one level of authority or scale of activity affects what happens at another level or scale. A 'good' solution' at one level might be considered a 'bad' solution at another level. This kind of turbulence typically characterizes federal or multilevel systems with dispersed authority where governance processes at one level produce governance challenges at another level.

These types of turbulence often interact. Environmental turbulence may trigger turbulence within organizations, which may in turn have cross-scale consequences.

Turbulence and how to live with it

Governance in turbulent times calls upon governing organizations and institutions to address situations of dynamic complexity where well-tested solutions may be inadequate and where failure is typically answered with fierce critique. Turbulence may produce surprise, volatility, rapid and shifting operational tempos, contradictory demands, and uncertainty. We argue that what makes turbulence distinctive—as a condition experienced by public organizations—is that it tends to push public organizations to make rather difficult tradeoffs, pulling them in contradictory, even paradoxical, directions. What makes turbulence distinctive—as an analytical

lens—is that it encourages us to examine and imagine how public organization can manage

these dilemmas in sometimes counterintuitive ways.

As a first step in developing this argument, consider in the abstract what happens when

organizations face shifting parameters, intercurrence, and temporal complexity. Parameters are

conditions for organizing that public organizations take to be relatively stable and that they can

depend upon as the form their strategies, make investments, and conduct routine operations.

Therefore, as basic parameters shift, turbulence challenges existing strategies, investments, and

routines, while making new ones difficult to establish. As an analytical concept, turbulence is

not really useful for telling public organizations how they should optimize fit to a new set of

organizational parameters. Rather it is useful for thinking about what to do when ´the ground is

in motion´—when parameters are shifting but have not yet restabilized. This may be a brief but

a highly consequential period for organizations.

Intercurrence is triggered when unexpected interdependencies occur. These interdependencies

are typically unexpected because they occur in ways that cut across the grain of institutionalized

patterns of action. Thus, paradoxically, public organizations must manage unexpected

interdependence with the very institutions that produced the surprise. As in the case of shifting

parameters, the value-added of turbulence as an analytical concept is not to provide insight into

how to routinely manage patterns of interdependence. Much of our knowledge base in public

administration advises us how to establish and manage institutions for the main chance—that

is, to write a contract, create a program or structure coordination for expected circumstances.

As an analytical concept, turbulence turns our attention to what public organizations should do in the event of unexpected interdependencies that must be managed with the tools at hand.

Temporal complexity creates a challenge for public organizations because the timing of different activities is poorly aligned or in conflict. One basic reason for temporal complexity is that the time frames of interdependent activities occurring in parallel have clashing time horizons. Another reason is that problems do not stand still as we try to solve them. Again, as an analytical concept, turbulence does not provide much insight about how to devise optimal scheduling or how to clearly define a problem so that it can be solved in a rational manner. Turbulence, however, is a useful concept for exploring what to do when things are out of whack—when schedules clash or problems misbehave.

As these three points suggest, turbulence is a concept not for the main chance but for the off chance. The concept of turbulence can—at the very least—help managers describe and diagnose the situation they are in. But we think it offers more. Turbulence creates dilemmas for public organizations. By describing these dilemmas, we gain some insight into how public organizations can handle turbulent conditions. Dilemmas pull public managers in different directions and the best course of action may be counterintuitive. We describe the ´sweet spot´ for handling turbulence not as a compromise between the poles of the dilemma, but rather as a logic that combines the horns of the dilemma. As an analytical construct, a value of turbulence is that it invites us to illuminate these strategies.

In the discussion that follows, we discuss four dilemmas that public organizations confront in handling turbulence—stability versus change; anticipation versus resilience; tight(er) coupling versus decoupling; and integration versus differentiation. As will become clear, these four dilemmas are not so much clearly distinct as they are different but related perspectives on the challenges organizations face in dealing with turbulence. Given that the research literature on turbulence is much more developed for private than for public organizations, we draw on research on both sectors. Our goal is to develop insights for public organizations and we appreciate that public organizations operate in quite different environments than private organizations, but research on firms and non-profits can fill in gaps in our understanding of how public organizations respond and manage turbulence.

Stability Versus Change

The first challenge that public organizations confront in the face of turbulence—and arguably the most fundamental—is whether to stabilize or change in the face of shifting parameters, intercurrence, or temporal complexity. Turbulence often creates pressures to reinforce well-known organizational solutions and governing arrangements because governance systems and governance practices under stress may revert to or reinforce pre-existing organizational traditions, practices and formats, reinforcing institutional path-dependencies (Olsen 2010: 96; Pierson 2004; Skowronek 1982). This may occur because organizations are thrown into a reactive mode of response, perhaps producing a ´threat-rigidity´ relationship (Staw et al. 1981). The lack of time for creating new institutions may also render decision-makers' 'pursuit of intelligence' *bounded* and their search for solutions *local* (March 2010: 19). Decision makers

may have a tendency to replicate structures or procedures that have been perceived as successes in the past.

Increased speed can also produce a tendency for repetition and exploitation. As a result, organizations may become victims of trained incapacity to improvise – merely due to the high speed of conduct. If organizations are subject to up-tempo decision-making, repetition of patterns is sometimes necessary just 'to keep the performance going' (Weick 1998: 553). However, there might also be less reactive reasons for institutional path-dependence in the face of turbulence. Pre-existing institutions may serve as an important source of stability in the face of turbulence, enabling organizations to ride out stressful times. Institutional robustness and 'stickiness' may also be produced by layering new reforms on pre-existing structures rather than by replacing existing ones (Thelen 2003).

While turbulence creates an impetus for public organizations to stabilize their operations, it often simultaneously produces pressure for rapid change. Turbulent environments change quickly and unexpectedly and may exhibit high volatility. To avoid mismatches with their environment, organizations are pressed to quickly adapt the organization to these changing conditions (Bourgeois and Eisenhardt 1988; Bigley and Roberts 2001; McCann et al. 2009). As a result, turbulence may create pressure for more ´punctuated´ change by questioning pre-existing governance arrangements and 'long-cherished beliefs' in existing solutions (Lodge and Wegrich 2012: 11) and triggering institutional soul-seeking and the raising of fundamental questions about the nature of *res publica* (Emery and Giauque 2014: 24). Turbulence may also

include sudden crises that may produce critical junctures that generate 'windows of opportunity' for significant policy change (Kingdon 1984; Matthews 2012: 228) and novel organizational solutions (Jones and Baumgartner 2005: 5). Turbulence may also trigger organizational meltdown and create opportunity structures for organizational birth (Padgett and Powell 2012).

Organizations facing turbulent environments may also experience a disruption of equilibrium conditions - for example, a disruption of the balance between political leadership and independent expertise, between electoral representation through parliament and interest group involvement, and so on. Turbulence may also trigger a call for building new organizational capacities – such as supranational capacity-building in an EU facing ´Brexit´. Turbulent times may also spur the emergence of entirely new institutional arrangements. Contemporary European examples include the rise of new European Union financial surveillance agencies, the structuring of the new European Union banking union, the emergent European energy union, and so on (Trondal and Bauer 2017).

Public organizations are therefore often pulled between the impulse to stabilize and the impulse to transform themselves in response to turbulence. As an analytical lens, therefore, turbulence encourages us to imagine a third scenario that we call *institutional syncretism*, where organizations and institutions respond in a more syncretic fashion that is neither path-

dependent nor punctuated (Berk and Galvan 2009).[5] As some scholars have begun to describe, institutional change is often best described as a process of recombination, refashioning or repurposing of existing institutions in an adaptive fashion. This view of institutional change emphasizes the ability of actors to combine existing institutions and new institutional innovation in a creative or improvisational way. This style of working with ´what is at hand´ is sometimes called bricolage (Baker and Nelson 2005).

Institutional syncretism breaks away from the dualism of change versus stability – where 'stability is only a special example of change' (Easton 1965: 106) — and leads to an exploration of the way that institutional stability creates a resource for change and the way that change may enhance stability (Farjoun 2010; Ansell et al. 2015). This position is also consistent with work that stresses dynamic adaptability to fast-paced and uncertain circumstances (Laporte and Consolini 1991; Brown and Eisenhardt 1997). From this perspective, turbulence prompts change that is not merely path-dependent, but does not constitute a radical break with preexisting institutions either.

The organization theory literature is in relative agreement that flexibility and agility are critical traits for organizations to operate successfully in rapidly changing circumstances (de Waard et al. 2013; Kotter 2012; McCann et al. 2009; Rudd et al. 2008; Power and Reid 2005; Volberda 1996) and employee flexibility and flexible product development strategies have been found to

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[5] Even where there is an impetus for profound change, Kettl (2014: 159) has argued that organizations may have a tendency for 'backsliding – toward resuming the previous equilibrium' – which results in modified rather than entirely new institutional arrangements.

improve performance in turbulent conditions (Camps et al. 2015; Lansiti 1995).[6] The governance

literature also emphasizes the importance of 'flexibility' or 'agility' as important adaptive traits

(Davis et al. 2009). Room (2011), for instance, argues that policymakers need 'agility' to deal

with complex, turbulent policy, whilst Jessop (2009) argues that turbulence means that

governance must adopt flexible repertoires (or requisite variety) to meet different types of

situations. Similarly, Duit et al. (2010) talk about a 'stability-flexibility' tension in dealing with

socio-ecological complexity.

However, we also note more anomalous results from this ´agility and flexibility´ perspective.

Research by Boyne and Meier (2009) finds that structural stability helps to mitigate the negative

performance effects of turbulence on schools and Kraatz and Zajac's (2001) study of higher

education institutions finds that strategic change is not always the best way to handle

environmental turbulence. These findings remind us that turbulence probably requires public

organizations to balance both stability and flexibility (Volberda 1996). This perspective is

reinforced by recent simulation research that finds that as organizational environments become

more unpredictable, ´[t]he tension between too much and too little structure is challenging and

crucial to manage´ (Davis et al. 2009: 438).

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[6] Simulation modeling finds that decentralized organizations work best in turbulent but simple environments, producing rapid adaption. However, organizational structures based on strong lateral coordination among department heads or centralized structures with strong search capacity work best in turbulent but complex environments (Sigglekow and Rivkin 2005). Empirical research finds that firms with large management ´teams´ fare better than ´CEO-dominant´ firms in turbulent environments (Haleblian and Finkelstein 1993). Research on higher education institutions finds that higher-level managers play an important buffering role in protecting core organizational functions from turbulence (Cameron et al. 1987). Miller et al. (1996) argued that firms in turbulent environments are more ´opportunistic´ and develop more varied strategic repertoires and Calantone et al. (2003) found that firms speed up new product innovation in turbulent environments.

Stability versus change—or stability versus flexibility—is not simply an issue about how public organizations make internal management decisions. It is also a matter of how they decide to engage externally. Public administration has tended to assume that governance organizations have a desire for autonomy and that they coordinate with other organizations only when those external organizations control essential resources, authority, or legitimacy. The idea that interdependence is a driver of networks and collaboration is well-appreciated in the literature. While the role of turbulence per se has only been empirically addressed to a limited extent, Isett and Provan (2005: 152) state the general case:

> …[S]ome would argue that organizations in the public and nonprofit sectors potentially experience an even greater amount of turbulence than private sector organizations. The additional turbulence is due to constantly shifting funding priorities and regular election cycles that disrupt operations in agencies when new administrations take office, appoint new agency heads, and alter existing contracts …These changes can create a strong need for the development and, especially, the maintenance of stable partnerships and inter-organizational relationships that are likely to go beyond what one might witness in most business settings.

Their study of relationships among mental health agencies and non-profits found a high degree of network stability. Nohrstedt and Bodin (2014) found that environmental turbulence had no effect on changes in networks between emergency managers in Swedish municipalities.

In their typology of network governance, Provan and Kenis (2009) discuss the ´stability-flexibility´ tension in networks. They suggest that what they call ´shared governance´ networks—decentralized peer-to-peer networks governed by those who directly participate in them—are more oriented towards flexibility (see also Huybrechts and Haugh 2017). By contrast, the two network types that utilize specialized centralized institutions to manage network operations—´lead organization-governed´ networks and ´network administrative organizations´—prioritize stability over flexibility.

Anticipation Versus Resilience

Turbulence often produces surprises for organizations (La Porte 2007; Pina et al. 2006). An important consequence of surprise is that it makes planning difficult. As Wildavsky (1988) put it, planning depends on an organization's capacity to *anticipate* the future (see also March and Olsen 1995: 91). Because turbulence makes it difficult to anticipate the future, planning based on fixed planning parameters will often fare badly in these conditions, though other planning strategies like scenario planning may prove more robust (Ramírez and Selsky 2016).

When anticipating the future is difficult, Wildavsky argued, the alternative strategy is *resilience.* A number of authors have suggested that effective organizational adaptation to turbulence requires *resilience* (Hamel and Valikangas 2003; McCann et al. 2009). To some degree, the anticipation versus resilience dilemma restates, but also extends the stability-change discussion above. In a wide reading of the literature on resilience, for example, we identified two broadly

different conceptions of resilience with important implications for how organizations adapt to turbulence. The first conception we call *static resilience*; the second conception we call *dynamic resilience*.

In the face of turbulent conditions, governing organizations adopting a strategy of static resilience will take steps to maintain and restore equilibrium conditions. Because this is a strategy of resisting change, incremental change that enhances or supports, or at least does not threaten equilibrium conditions, will be prioritized. Hence this strategy encourages institutional path-dependence. To maintain equilibrium conditions in the face of turbulence, this logic is likely to strive to get back to basics or 'stick to the knitting'—reducing uncertainty and complexity to achieve order and stability. From this perspective, resilience is enhanced by improving the 'fitness' of the organization with new conditions. To do this, planning is likely to be a distinct formal activity that strives to anticipate how the organization can successfully adapt to change. In addition, to improve stability, the organization will maintain dedicated 'buffering' capacity (organizational units and resources whose core task is protecting the organization from changing conditions).

In the logic of dynamic resilience, stability and change are not such sharply drawn distinctions (Easton 1965; Farjoun 2010). Governing organizations use stability to help them change and use change to help them to stabilize. No clear 'equilibrium' between the organization and its environment is easily discerned and the organization appears to be continually changing as a 'reforming organization' (Brunsson and Olsen 1993). Dynamic resilience emphasizes the

importance of building flexibility into organizational and institutional arrangements by absorbing complexity and incorporating requisite variety. Hence it emphasizes the importance of maintaining multiple repertoires that can be flexibly redeployed to meet changing circumstances. Rather than the sharp distinction between minor path-dependent incremental change and major exogenously-produced punctuated change, this logic anticipates endogenous change that continuously reconfigures the organization. The concept of recombination elides the distinction between stability and change since existing elements are conserved but organized in new arrangements as response to changing circumstances. In other words, this strategy of dynamic equilibrium parallels the idea of institutional syncretism.

The strategy of dynamic equilibrium also suggests that the contrast between anticipation and resilience, while a useful analytical distinction, may be a false choice. Planning is indeed difficult in turbulent environments. But planning and anticipation are not quite the same thing. A classic reference here is March (1991), who distinguished between learning how to do better what you already do (exploitation) and learning about new opportunities or about how to do new things (exploration). Subsequent research on private firms has found that exploration is critical in turbulent environments and can be enhanced by leadership and senior management team succession (Virany et al. 1992; cf. Posen and Levinthal 2012).[7] This perspective has led to a stress on the ´ambidexterity´ of organizations to balance both exploitation and exploration (Tushman and O'Reilly 1996; Raisch et al. 2009; Smith, Sutherland and Gilbert 2017). While

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[7] Hanvanich et al. (2006) found that firms with a strong learning orientation had a competitive edge in highly turbulent environments.

strategy is more likely to be emergent than rationally planned under turbulent conditions, the capacity to anticipate the direction and significance of change is likely to become more not less important.

This contrast between static and dynamic resilience is merely an ideal type. In practice, the two strategies are often combined, revealing a complex interplay between strategies of resilience and institutional change. A study of the German Ministry of Finance's response to the recent financial crisis provides a good example (McCowan 2017). This classic bureaucratic hierarchy maintained impressive stability in the face of this turbulence, making this a case of path dependence. However, the study shows that the Ministry's hierarchical structures were not particularly flexible in adapting to the circumstances of the crisis. As a result, temporary and informal collegial structures (networks) emerged to meet the challenge. These collegial structures were far more flexible and effective than the otherwise dominant hierarchical structure. This case exemplifies the importance of hybrid organizational solutions, which we will discuss below.

Tight(er) Coupling Versus Decoupling

A third dilemma confronts public organizations with a decision about whether they should respond to turbulence by tightening their control over the source of turbulence (tight coupling) or whether they should manage it by isolating themselves from the source of turbulence (decoupling) (Beekun and Ginn 1993; Perrow 1984). This tight coupling-decoupling dilemma can

be observed across all three levels of turbulence that we describe—turbulent organizations, turbulent environments, and turbulence of scale.

In using the terms tight-coupling, loose coupling, and decoupling, we follow Orton and Weick (1990: 205) in their description of a ´dialectical´ approach:

> If there is neither responsiveness nor distinctiveness, the system is not really a system, and it can be defined as a noncoupled system. If there is responsiveness without distinctiveness, the system is tightly coupled. If there is distinctiveness without responsiveness, the system is decoupled. If there is both distinctiveness and responsiveness, the system is loosely coupled. This general image is described here as the dialectical interpretation of loose coupling.

In addition, we understand coupling to be both a context of action and a strategy of action.

The tensions between tighter coupling and decoupling are vividly illustrated in the context of the turbulence of scale. Turbulence of scale occurs when organizational solutions found at one level or scale of organization or government causes new problems of turbulence at another level or scale. The turbulence of scale that results is a quite frequent occurrence in tightly interwoven organized democracies, but often neglected by both reformers and most observers (Zohlnhofer and Rub 2016: 3). The European Commission, for example, tries to reduce its own internal turbulence by issuing calls for 'better coordination'. This solution, however, may cause turbulence for member-state governments and involve an unintended consequence for

administrative sovereignty within domestic government institutions (Egeberg and Trondal 2016). Creating more consistency among decisions horizontally as well as vertically is a commonly stated goal in contemporary western democracies. Recent administrative doctrines share a near universal belief in the desirability of 'better coordination' (e.g. Peters 2004). What is often not appreciate, however, is how the ambition of strong coordination of governance processes at one level of government may be incompatible with strong coordination of governance processes across levels (Egeberg and Trondal 2016). This illustrates the challenge of 'nationally embedding a supranational project' (Bulmer and Joseph 2016: 738). Turbulence of scale thus illustrates the ambiguities attached to suggesting 'good' governance solutions (Grindle 2017).

Decoupling is another strategy for dealing with turbulence of scale. Decoupling can deter the failure of one component from reverberating across entire systems. 'Bad' solutions may therefore be implemented in parts of organizations without 'ruining it all'. Decoupling of talk, decision and action has also been seen as a tool for governments to satisfy multiple audiences at different scales (Brunsson 1989). Moreover, this argument introduces agency into the analysis. Reformists may carefully decouple organizational units in order to seek legitimacy from multiple institutional fields, thereby securing long term organizational viability (McCowan 2017). Such decoupling exercises have been observed in EU member-states in their efforts to combine an official façade of 'active European policy' while at the same time practicing 'hands-off' political control of national EU politics with a corresponding active bureaucracy. Decoupling makes it possible to develop an organizational infrastructure that allows EU coordination across

levels, while maintaining leeway and room for policy manoeuvre across levels (Van Thiel et al. 2012: 423).

Demands for tighter coupling or decoupling can also be seen within and across public organizations. Students of organizations and institutions suggest several decoupling mechanisms. Behavioral theories of organization suggest that resources and organizational ´slack´ may moderate the effects of turbulence (Cyert and March 1963; Kraatz and Zajac 2001). Sociological institutionalism offers insights into how organizations use image making and the manipulation of symbols, myths, and ceremony to cope with demanding environments (Feldman and March 1981; Meyer and Rowan 1977). The array of organizational responses includes isomorphic adaptation of talk and/or decisions in organizations (Meyer and Rowan 1977), decoupling of talk, decisions, and actions, and of actions and outcome (Bromley and Powell 2012).

Alternatively, turbulence may also create incentives to tighten the coupling between otherwise decoupled systems. For example, turbulence has also been perceived as a driver of collaborative governance. In one of the earliest statements, Gray (1985) argued that environmental turbulence reduces the ability of organizations to plan and act unilaterally, leading to collaboration. More recently, Bryson et al. (2006) and Donahue and Zeckhauser (2011) suggest that turbulence creates a demand for cross-sector partnerships.

Loose-coupling is paradoxically both a source of turbulence and a strategy for adapting to turbulence (Perrow 1984). It may facilitate the coexistence of different organizing temporalities, while also creating the possibility of periodic intercurrence. Polyrhythmic organizations with several tempi would be considered more turbulent than organizations geared towards only one tempo. However, several rhythmic patterns may concurrently co-exist in governance processes in a mutually competing – yet compatible – whole. When several rhythmic patterns are layered like this, temporality becomes complex and challenging, but at the same time may unlock possibilities for innovation and change embedded in each pattern.

Orton and Weick (1990) note three strategies for loose-coupling as a strategy: requisite variety, modularity, and discretion. As noted above in the section on dynamic resilience, requisite variety refers to the advantages of having an internal diversity that corresponds to the diversity of organizational environments. Modularity refers to the ability to easily assemble and reassemble organizational competences to meet customized demands, with incident command systems being one well-known version of modular systems in the public sector (Bigley and Roberts 2001; Ansell and Keller 2014). Discretion refers to the ability of managers or employees to make decisions on the spot without lengthy clearance or external approval.

The principles of requisite variety, modularity and discretion can be illustrated using the example of the Coast Guard, whose response strategies were dissected following its relatively successful performance during Hurricane Katrina. Although no one has described the Coast Guard in terms of modularity, its capacity to mobilize a ´...broadly dispersed organization and

asset structure´ (GAO 2006: 15) suggests a modular response strategy. To facilitate the rapid

combination of organization and assets for any particular mission, the Coast Guard relies heavily

on standardized technologies and practices. Such standardization sounds bureaucratic and

hence perhaps inimical to the type of customized response required in turbulent situations.

However, this standardization facilitates the rapid modular assembly of dispersed people and

technology. As the General Accountability Office observed: ´For the Hurricane Katrina response,

standardization enabled Coast Guard personnel from anywhere in the country to form unified

crews to perform operations and maintenance´ (GAO 2006: 15). The requisite variety enabled

by modularity is reinforced by a ´principle of flexibility´ dictating that resources for a mission can

be sourced from anywhere in the extended organization (GAO 2006: 12).[8] The Coast Guard

principle of ´on-scene initiative´ affords front-line employees the discretion to respond to

situations as they arise (Horowitz 2009; GAO 2006: 11)—discretion nevertheless guided by a

strong common culture that creates a sense of common purpose and preparedness reminiscent

of the work of Selznick (1989) or Kaufman (1976). Finally, modularity, requisite variety and

discretion carry over to the Coast Guard's facility for engaging in ´contingent coordination´ with

other agencies on as-needed basis (Morris et al. 2007).

Integration versus Differentiation

The final dilemma we observe contrasts a strategy of managing turbulence through integration

(vertical and horizontal) with one of managing it through differentiation. This is, of course, a

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[8] The value of modularity and loose-coupling has been recognized for military organizations (Bezooijen and Kramer 2015). In recent research on Dutch military organization, De Waard et al. (2013) find that modularity is a predominant mode of response when the imperative is ´to react adequately´ in the face of turbulence, but that organizational sensing is more prominent when the imperative was ´to react rapidly´ in the face of turbulence.

classic issue in organization theory. Early work found that organizations may deal with

uncertainties in their environments through patterns of vertical integration (Chandler 1977), or

as Williamson (1975) put it, by making rather than buying (Williamson 1975). The opposite of

the integration story is one of differentiation (Lawrence and Lorsch 1967), in which

organizations create special units or buy rather than make. Differentiation may lead

organizations to occupy specific niches where they can outshine their competitors or, as in the

case of ´agencification´, may lead to the design of agencies with narrow regulatory missions.

At the extreme of integration, we expect unitary vertically-integrated organizations with

divisions; as we move to the other extreme of the differentiation, we expect a proliferation of

smaller specialized organizations. At both extremes, the logic is one of ´pure types´ of

organizations. As with our previous discussions, however, under turbulent conditions we expect

public organizations to be pulled in both directions—toward both integration and

differentiation. The dilemma is addressed, we suggest, through ´hybrid´ and ´interstitial´

strategies. Hybrid structures may combine components from various organizational forms or

institutional logics, bridge across functional domains, or mix characteristics of state, market, and

civil society (Ansell and Trondal 2017; Skelcher and Smith 2015; Battilana and Lee 2014;

Brandsen and Karré 2011; Minkoff 2002), while interstitial structures mediate between

structures (Batora 2017).

Brandsen and Karré (2011, 831) write that ´Hybrid organizations usually emerge in turbulent

environments where many contingencies affect their activities and performance´. Hybridity

helps to create the structural flexibility necessary to respond to competing and varied demands.

One perspective on hybridity implicit in the literature comes close to describing hybridity as a form of requisite variety and modularity. Hybrids take advantage of the heterogeneity and pluralism of institutional environments (Kraatz and Block 2008), treating organizational forms as ´building blocks´ that can be combined in various ways (Battilana and Lee 2014). To be sustainable, however, hybrid organizations may have to forge a common identity that transcends different logics or forms (Battilana and Dorado 2010). Skelcher and Smith (2015) hypothesize that a certain kind of hybrid that they call a ´blended hybrid´, which synergistically combines logics to form a new contextually-specific logic, is likely to develop in response to turbulence.

Batora (2013: 599) defines an ´interstitial organization´ as ´…an organization emerging in interstices between various organizational fields and recombining physical, informational, financial, legal and legitimacy resources stemming from organizations belonging to these different organizational fields´.[9] Using the European External Action Service as an example, Batora argues that interstitial organizations are capable of mobilizing heterogeneity and innovation. His description suggests an interesting contrast with modularity. As described in the Coast Guard case, modular units use standardized interfaces to create ´building blocks´ that can be combined in various ways. Interstitial organization do similar work by bridging across and adapting to different institutional interfaces.

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[9] Similarly, Olsson et al. (2006) describe the importance of ´shadow networks´ for navigating the turbulence of environmental resource management.

Hybrid and interstitial responses to turbulence of scale may be particularly important for addressing turbulence created by multilevel governance (Hooghe and Marks 2001) and the ´wicked problems´ it can produce (e.g. Conklin 2006). Hybrid and interstitial organizations are often improvisational solutions to the governance dilemmas created by complex institutional ecologies (see Lægreid et al. 2014: 4). For example, through duplication of agency staff, political steering of agencies may be strengthened without fully integrating agencies into ministries (Egeberg 2012). Other examples include the programme management system installed by the Finnish government to identify cross-cutting issues (Kekkonen and Raunio 2011) or the national coordinators ('tzars') instituted by the Swedish government to better handle 'wicked problems' that transcend existing sector ministries (Statskontoret 2014). Such mechanisms might be interpreted as attempts to restore and integrate the capacity of the government centre (Dahlström et al. 2011: 17) without fundamentally reforming it. Task forces, duplication and overlap, new procedures, committee structures, and enlarged organizations may be interpreted as 'second-best' organizational solutions installed to compensate for governance challenges that were amplified by NPM reforms (Christensen and Lægreid 2007). So-called 'post-NPM reforms' are 'seen as supplementary adjustments producing increased complexity in public sector organizations' (Lægreid and Verhoest 2010: 290). Beyond structural measures, hybrid solutions may be supported by softer measures, such as re-establishing 'common ethics' and 'cohesive cultures' in public governance (Christensen and Lægreid 2011).

The EU has 'accepted' the emergence of hybrid organizational forms to cope with problems of scale. For example, not having its *own* agencies to implement EU legislation at the national level, the European Commission has instead, as a second-best solution, 'adopted' domestic agencies, by making them 'double hatted' institutions – not only national, but European too (Egeberg and Trondal 2016). The Commission thus seems to manage to live with the tension between the wish for uniform governance across member states while at the same time not seriously interfering in national 'administrative sovereignty'. This may not be a perfect organizational solution from the perspective of standardization of EU policies across member countries, but might be considered a satisfactory second-best solution given Europe's administrative legacy.

Conclusion

If turbulence is the ´new normal´ for public administration and governance, we need a better analytical framework for understanding its effects and the possible responses to it. This paper elaborates such an analytical framework, defining turbulence as situations where *events, demands, and support interact in highly variable, inconsistent, unexpected and unpredictable ways*. Although turbulence is typically quite context-specific, we argue that it is useful as a generic analytical construct precisely because it calls attention to the way that public organizations, despite their different contexts, manage shifting parameters, intercurrence, and temporal complexity.

To make progress toward understanding turbulence, we distinguished three types of turbulence: turbulent environments, turbulent organizations, and turbulence of scale. Most of the research on turbulence has focused on how organizations respond to turbulence in their environments (turbulent environments). However, it is also important to appreciate that organizations themselves become internally turbulent (turbulent organizations). Finally, we note that much turbulence can be traced to the multilevel character of governance (turbulence of scale). Governing solutions at one scale may become problems at another.

How do public organizations, networks and collaborations respond to turbulence? We discern two broad strategies. One strategy is to *stabilize*; the other is to *adap*t. These two strategies are not mutually exclusive and may be complementary. Effective governance often entails balancing continuity and stability on the one hand with adaptability and experimentation on the other. Yet these strategies also suggest different patterns of institutional change and modes of organizational and governance response:

> • If public organizations and governance systems opt to stabilize in the face turbulence, they will produce a pattern of path dependence. They may do this by reactively coping with turbulent conditions, erecting various kinds of buffers or decoupling to protect themselves from future environmental shocks, creating centralized capacity, and formalizing network agreements. We call this ´static resilience´ because it tries to maintain the status quo. Should this strategy fail, more sweeping change—a punctuated equilibrium—may be the outcome.

• If public organizations and governance systems opt to adapt to turbulence, they will tend to produce a pattern of institutional change we call institutional syncretism, leading to more continuous but less dramatic reorganizations. They do this by adopting a wider variety of strategies often of a hybrid nature, acting in a more improvisational and experimental fashion, favoring flexible structures and decentralized initiatives, and developing informal networks and other interstitial arrangements to achieve coordination in rapidly evolving situations. We call this strategy ´dynamic resilience´ because the public organization or governance system adapts more continuously in the face of turbulence.

Acknowledgements

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