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Time and Crisis

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Abstract

This article presents a theoretical argument that the study of time provides crucial explanatory perspectives to the analysis of governmental crisis responses. The article claims that time is an external condition and an internalized feature of organizational behaviour. It follows that time influences governmental crisis responses but can also be exploited by actors during such critical episodes. The article discusses the properties of time and its consequences during crises along these two notions, reviewing existing scholarly work on time and crises. It concludes with a plea for a more explicit and systematic time-centred study of governmental crisis responses.

Key words

Crisis management, executive politics, organization theory, temporality, time

TIME AND CRISIS

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> I think that the people are rightly impatient, similar to all of us involved in the crisis management. (…) However, we have to fight an epidemic and this is no time for abstract discussions of responsibility. (Ilse Aigner, German Minister for Food, Agriculture and Consumer Protection, *Frankfurter Rundschau*, 17 June 2011)

INTRODUCTION[1]

The statement of the German Minister for Agriculture, Food, and Consumer Protection during the recent 'enterohemorrhagic E. coli (EHEC) crisis' refers to at least two crucial characteristics of critical events: they require timely decisions, often based on incomplete information, and they threaten the organizations and politicians responsible for (handling) it.[2] In addition, the statement points to a typical problem that policy-makers face during a crisis: the accelerating conflict between the time *rationally* necessary to cope with the crisis and the *appropriate* time to do so, which is also defined by stakeholders and citizens endangered by the critical episode.

The notion of crisis is fundamentally related to the idea of time. First, crisis limits reaction time. Hermann (1963: 64) defined a crisis as an event that '(1) threatens high-priority values of the organization, (2) presents a *restricted amount of time* in which a response can be made, and (3) is unexpected or unanticipated by the organization' (emphasis added).

Second, there appears to be a sense of order. Most authors may agree that crises are exceptional situations that arise from multiple causes accumulating into a critical event (Fink, 1986; Turner, 1976; Van Eeten *et al.*, 2011); they also assume that a crisis unfolds in distinguishable sequences between the onset of a critical event and its aftermath (Boin *et al.*, 2005; Boin and 't Hart, 2006). Yet, we lack explicit conceptualizations of time during crisis and its consequences – although such a time-centred perspective adds explanatory value to the comparative study of governmental crisis responses.

Crises have arguably been a battlefield for different theoretical approaches (Boin and 't Hart, 2006: 44–6). This article adds a complementary perspective by theorizing the explanatory relevance of time during crisis and its effects on governmental crisis responses. The article is not confined to governmental crisis management as the reactive activities of executive actors facing a threatening event (Van Wart and Kapucu, 2011: 491–2). It also considers activities by these actors in exploiting a crisis in order to achieve other objectives than dealing with the critical episode.

The article starts by outlining the key assumptions in organizational research about time and organizational behaviour. To advance its theoretical argument, the article illustrates the explanatory relevance of time during the crises along two conceptualizations, perceiving time primarily as a constraint and a resource. The article concludes by discussing the added value of a more explicit and systematic time-centred study of governmental responses to crises and disasters.

TIME AND ORGANIZATIONAL BEHAVIOUR

Broadly speaking, organizational research assumes that organizations are designed to persist over time.[3] As a consequence, most scholars think about time in their theoretical thinking in a rather implicit way (Roe *et al.*, 2009). The dominant notions of time in organizational research can be differentiated along the two Greek terms for time (Hall, 1983; Jaques 1982; Orlikowski and Yates, 2002: 686): many authors refer to *chronos*, i.e. to the *objective* time as a linear condition of organizational behaviour that is divisible and measurable by the clock, and others refer to *kairos*, i.e. to the *subjective* time that is socially constructed and expressed in perceptions and expectations.

Both the notions address different analytical foci in organizational research: whereas the objective notion of time is often applied in studies at the macro-level of organizational behaviour, the subjective notion of time is mostly examined for the micro-level of organizational behaviour (Bluedorn and Denhardt, 1988). More importantly, they formulate different assumptions about the influence of time on organizational behaviour.

Contingency theorists advance their key argument as 'time-free', i.e. they claim that organizations adjust their structure and behaviour corresponding to their environment regardless of the time in which these contingent requirements occur (e.g. Pugh and Hickson 1976). They also stress the relevance of different 'ways in which effects emerge at some time after the initial intervention' (Bowers and Taylor 1972; Clark, 1985: 39). Thus, they refer implicitly to objective time by studying the 'time lag' between an environmental stimulus and organizational responses (Likert, 1961). In a similar vein, the configurational approach emphasizes that organizational configurations may change over time in order to secure an organization's competitiveness under changing environmental conditions (Miller, 1987).

The debate about 'organizational life cycles' also applies a chronological notion of time, albeit more explicitly, and argues that organizations are dynamic systems developing through various evolutionary stages (Child and Kieser, 1981; Kimberly and Miles 1980; Whetten, 1980). In contrast to contingency theorists, these authors stress that organizational structures reflect the times in which they were created (Stinchcombe, 1965: 148–50). More importantly, they assume that each evolutionary stage of an organization ends in a predictable crisis requiring adjustments if the organization is to survive and proceed to the next stage (Greiner, 1972; Mintzberg, 1979; see also Selznick, 1957). Path dependency theorists argue that 'critical junctures' occur as periods of significant change, forcing organizations to move onto a particular path, which they follow due to the increasing returns to change direction (Arthur, 1994; Collier and Collier, 1991; Pierson, 2000; Schreyögg and Sydow, 2011; Thelen, 1999). Various studies on governmental responses in crisis management apply a similar albeit less cyclical approach, arguing that the growing complexity and coupling of organizations over time increases their vulnerability to disruptions and crises (Perrow, 1984; Turner, 1976).

In contrast, other organization scholars stress explicitly the importance of *subjective* time for organizational behaviour. Following seminal writings about time as a social construct (Durkheim 1915/1965; Gurvitch, 1964; see also Adam, 1990, 1998; Nowotny 1994; Rosa, 2005), they analyse the explanatory relevance of temporal orientations among organizational participants for organizational behaviour, i.e. their time horizons and time senses (Albert, 1995; Berger and Luckmann 1966; Lawrence and Lorsch, 1967: 34; Lewis and Weigert 1981; McGrath and Rotchford, 1983).

Despite Clark's plea for more theoretical attention to such 'organizational times' (1985: 37–8), most organization theorists have widely neglected subjective time (see, for an exception, Butler, 1995). The most comprehensive conceptualization of subjective time and organizational behaviour is provided by sociologist writings on 'timescapes', acknowledging the spatiality, materiality and contextuality of time and analysing different elements such as time frames, temporality, timing, tempo, duration, sequence and temporal modalities (Adam, 2008). Although this timescape approach has been applied in studies of environmental hazards (Adam, 1998), it has been mostly neglected in the crisis management literature.

Political scientists studying organizational behaviour stress that both objective and subjective time matter. Various studies on legislative actors discuss the constraints of chronological time in legislative periods and the importance of individually constructed time horizons of legislative actors (e.g. Döring, 1995, 2004; Riescher, 1994; Schedler and Santiso, 1998). Similar studies have been conducted on the executive branch: research on the US presidency shows that presidential behaviour is related to temporal dynamics caused not only by the electoral cycle but also by subjective time senses (Lewis and Strine, 1996; Skowronek, 1993, 2008). Recently, scholars have begun to analyse the emerging temporal order of objective and subjective time at the EU level (Goetz, 2009; Meyer-Sahling, 2007; Meyer-Sahling and Goetz, 2009). Although these authors ignore explicitly 'how unforeseen and unforeseeable events, crises and "bolts from the blue" may play havoc with well-laid plans and timetables' (Goetz and Meyer-Sahling, 2009: 181), their discussion of time properties can contribute to a theoretical conceptualization of time during crisis.

A TWO-FOLD PERSPECTIVE ON TIME DURING CRISIS

Building on the insights outlined above, this article conceptualizes time for organizational behaviour during crisis along the notions of objective and subjective time. Whereas the former refers primarily to time as a constraint, the latter recognizes the malleability of time during critical events. Such a dual understanding of time may result in circularity problems: the analytical status of time as an independent variable and a dependent variable is not confined to either of the two notions (Butler, 1995: 926). This pitfall is to be avoided through asking proper research questions and selecting appropriate methods (Abbott, 1990; Meyer-Sahling and Goetz, 2009: 327; Pollitt,

2008). To advance its theoretical claim, the article discusses the distinct properties of objective and subjective time during crisis and explores its consequences for governmental crisis responses.[4]

The relevance of objective time during crisis

This article distinguishes three concepts of objective time that likely matter during crisis. Each time concept imposes different consequences on governmental crisis responses, but they also interact.

First, the most prominent conceptualization of objective time is *political time*, understood as an external condition that unfolds in linear fashion or in cycles: actors 'may not always know the precise duration of any particular sequence, but [they] know for sure that once it passes it will come again when the cycle repeats itself' ('t Hart, 2011: 4). Many authors take the electoral cycle as key example of how political time influences decision-making (Martin, 2004; Pollitt, 2008: 53–4). In what has been termed the 'political business cycle', incumbent governments use expansionary policy to improve their economic performance before general elections (Nordhaus, 1975; Schultz, 1995). Other public administration scholars recognize the effects of political time by stressing the conflicts arising from politicians' short time horizons oriented towards re-election and bureaucrats' comparatively longer time horizons (Jacobsen, 2011; March and Olsen, 1989). Multiple political times exist, as illustrated in studies on policy-making in multi-level systems with more or less synchronized electoral cycles at different levels (Andrews *et al.*, 2012; Goetz, 2009). The key argument in these debates is that political time influences actors' behaviour because it sets irreversible temporal conditions for action.

This article argues that political time exists also in times of crisis, although these critical events have often a 'time compressing' effect – especially for political actors facing the threat of dismissal (Browne *et al.*, 1984; Dewan and Myatt, 2007; Diermeier and Stevenson, 2000). In contrast, bureaucrats are more likely to maintain their long time horizons, expressed in their attempts to apply standard operation procedures – also revealing the difficulties to synchronize different time horizons within and across bureaucratic organizations (McGrath and Rotchford 1983: 71–3). However, crisis responses often require coordinated efforts by various organizations and thus bureaucrats may also defend their areas of responsibility, which increases their perceptions of critical events as threats to their organization's survival (Peters *et al.*, 2011: 20). Consequently, a critical episode may also result in 'time integration' of previous rather divergent time horizons inside the bureaucracy (Schneider, 1995: 38–9).

Empirical studies on crisis management provide evidence for the impact of political time, mostly for critical events occurring at the end of an electoral cycle: think of governmental responses to the 100-year flood in Germany, which occurred a few weeks before the general election in 2002, or the 2004 terrorist attacks in Madrid 3

days before the election day. Incumbent governments aim to respond quickly – but consider also the effects of crisis management on the electoral turnout (Bytzek, 2008; Olmeda, 2008). Other effects have been observed for new governments in office facing a crisis, e.g. for the Obama administration coping with the emergence of the global financial and economic crisis (Masters and 't Hart, 2012; 't Hart and Tindall, 2009: 337). In addition, the lacking synchronization between national and transnational political times may pose problems as evidenced by the formulation of governmental responses to the global financial and economic crisis at the domestic level while crisis decisions were taken at the EU level (Hope, 2011).

Second, *quantic time* refers to the occurrence of irreversible breaks in the linear timeline. Such breaks have been analysed for the United States, distinguishing an 'early' and a 'modern' presidential time marked by the Roosevelt presidency (Lewis and Strine, 1996: 689–90). In a similar vein, the transition of Central and Eastern European countries after the breakdown of the socialist system signifies a break between two eras before and after this quantic event (Beyer *et al.*, 2001; Nunberg, 1999). Similarly, public administration scholars argue that New Public Management (NPM)-driven reforms can cause irreversible breaks of the machinery of government, heralding a new 'era' in public bureaucracies (Hood 1991). A key argument in these debates holds that quantic time often has long-term effects on the basic premises of organizational behaviour by ushering in a new era.

This article applies the same reasoning to crises. It suggests that extraordinary critical events such as '9/11' can impose consequences on immediate and future governmental responses because they configure distinguishable 'eras' of crisis management shaping the general principles of organizational behaviour in crisis responses (Boin *et al.*, 2005; Lagadec, 2006; Lalonde, 2004; Miller and Friesen, 1982). These studies reveal how an irrevocable punctuation such as an extraordinary crisis influences subsequent crisis responses, particularly in similar or adjacent policy areas. This effect has also been noted for the governmental crisis responses to Hurricane Katrina, which relied on a distinct crisis response machinery in the realm of homeland security that had been overhauled after 9/11 (Boin *et al.*, 2010; Kapucu, 2009; Kapucu and Van Wart, 2006; 't Hart *et al.*, 2009).

Lastly, *episodic time* refers explicitly to crisis episodes and describes the temporal realization of governmental crisis responses between the initial recognition of a critical event and its termination (Boin *et al.*, 2005; Stark, 2011). As such, episodic time influences the selection and application of crisis response measures; also affecting other time properties such as timing, sequences and tempo (see below). In addition, these objective elements of episodic time are inherently confronted with individual perceptions about the appropriate time available for crisis responses, which are very likely to differ across actors.

More generally, these expectations reveal different views among actors with regard to the cause of a critical episode, reflecting codifications of the *past* that offer knowledge on how to deal with the crisis (Brändström *et al.*, 2004; Neustadt and May, 1986), as well as different views of desired ends, expressing visions of the *future*. This article

argues that such expectations interplay with objective time properties and thus contribute to episodic time as a constraint for governmental crisis responses (Butler, 1995). Another aspect of episodic time that differs from political and quantic time is its likelihood of interruption, e.g. when one crisis overlaps with another, also across territorial boundaries (Ansell *et al.*, 2010) or when crisis effects are temporally linked to another critical event, revealing organizational incapacities to deal with the causes or unintended side effects of the crisis response.

The research on governmental responses to crises and disasters recognizes the importance of episodic time as an external condition, emphasizing time pressure and its effects on routine processing of information, compliant behaviour and functionally divided responsibilities (Hamblin, 1958; Hermann, 1963; Rosenthal *et al.*, 1991). Comparative crisis studies show that the episodic time available to actors influences governmental responses, which, in turn, may also change over time if crises occur repeatedly in a particular policy area (e.g. Hazelwood *et al.*, 1977). Other scholars discuss the challenges of overlapping episodic times of crises for policy-makers (Ansell *et al.*, 2010). Yet, we lack further studies on the crucial interaction between decision-making patterns and the varying episodic time properties, most notably the time horizons of crisis causes and outcomes.

The juxtapositions of these three types of objective time impose constraints on governmental crisis responses. From a time-centred perspective, each crisis emerges at a particular point in the electoral cycle, before or after a potential quantic break, and unfolds in a particular episodic time. The crisis management literature provides empirical evidence for the consequences of temporal interruptions especially for transboundary crises, such as the BSE crisis or the recent global financial and economic crisis (Sato, 2010; 't Hart and Tindall, 2009). These crises are particularly suitable to study the importance of interrupted objective times because they cut across different domestic electoral cycles, unfold in different episodic times at national and transnational levels and can be associated with a distinct era in crisis management. In turn, such transboundary crises are very likely to be perceived as extraordinary, because of their territorial outreach, and thus may even constitute the irreversible break that introduces a new era of crisis management.

Troubled times? The relevance of subjective time during crisis

Various scholars of organizational behaviour perceive time as a social construct that actors can exploit in 'time tactics' (Butler, 1995; Lawrence and Lorsch, 1967; Meyer-Sahling and Goetz, 2009; Pollitt, 2008). They assume that time is experienced as longer or shorter according to the rate at which events occur or how quickly actions are taken by others and responses are needed (Butler, 1995; Waller and Uitdewilligen, 2009).

Similar time tactics are used in times of crisis, thus linking the different 'experiences of time' during critical episodes with deliberate actions of governmental actors, most

notably organizational leadership ('t Hart, 2011). Crises break the routine, but governmental actors may contribute to the 'how' and with what consequences.[5] Various time properties are discussed in the literature for time tactics during ordinary times (Adam, 2008; Pollitt, 2008); here, we focus on timing, sequences and tempo.

First, *timing* emphasizes the temporal synchronization of activities or rather distinguishes 'good and bad times for action'. It matters 'whether or not the times [of activities] to be synchronized are compatible to achieve good timing' (Adam, 2008: 3). Timing is most prominently discussed in the scholarly debate over policy agenda-setting. Here, timing is the bringing together of policy solutions with policy problems at a point in time when it is politically feasible to implement policy change (Baumgartner and Jones, 1993; Kingdon, 1984). Accordingly, timing has crucial implications for the dynamics of policy processes. In a similar vein, public administration scholars discuss the timing of administrative reforms and the relevance of attention cycles (Van de Walle *et al.*, 2005).

Timing is also a crucial tactic during crisis. Broadly speaking, crises occur 'in the eyes of the beholder' (Albæk, 2001: 454) and the announcement of a crisis can be regarded as a first attempt of timing (Pollitt, 2008: 177), although actors may not necessarily recognize the power that the initiation of a critical episode holds for influencing subsequent organizational processes. In fact, studies on governmental responses to crises argue that such announcements are often issued 'too late', because the critical threat to high-priority values of an organization cannot always be recognized before it happens, the notion of a crisis is often contested and the beginnings of critical episodes are often characterized by uncertainty over their intensity and progress (Boin and 't Hart, 2006: 48). More importantly, timing as a time tactic emphasizes that most governmental crisis responses require a complex temporal synchronization of very different activities and decisions – and actors may differ with regard to their preferences for good or bad timing – the latter being especially favourable for those organizational actors unaffected by the critical event.

Studies of inter-organizational coordination processes in governments responding to critical events refer to timing rather implicitly and mostly as a constraint. Contingency planning, which seeks explicitly to enable a good timing of different response measures, may exist, but opposing interests and additional decision features result regularly in bad timing and poorly synchronized action (Kapucu, 2006, 2009). We lack more systematic knowledge about deliberate activities of certain actors to ensure or sabotage a good timing in governmental crisis responses.

Second, the *sequences* of activities are closely linked to good or bad timing. Basically, the literature on sequences in ordinary policy-making suggests that policy processes incorporate different activities that are temporally linked. Their order is assumed to have considerable implications for the dynamics of the policy process (Abbott, 1990).

Sequences matter also in governmental crisis responses, not only as a chronological constraint, as expressed in writings about crisis management (Boin *et al.*, 2005), but also as a key object of 'temporal skirmishing' by actors – exploiting that 'during very

bad times (…) no routine will lead to success' (Levitt and March, 1988: 326). In other words, the sequences of action may be pre-formulated in contingency planning, but they are very likely to fall into disorder during crisis. Actors can exploit this situational context for their purposes. Moreover, sequencing signals priorities and posteriorities of action during crisis. But this 'temporal hierarchy' of action depends always upon the definition of the situation – which changes permanently during a crisis (Boin *et al.*, 2005: 57). In turn, the sequences of activities are a very suitable object for time tactics.

Empirical studies provide evidence for tactics in the conduction of these sequences, including their selection and order (Boin *et al.*, 2005; 't Hart *et al.*, 2009). Yet, these sequences are still often perceived as a challenge rather than as a distinct resource that can be exploited. Here, the scholarly debate on crisis management would benefit from more systematic research into the moves and countermoves of actors involving the selection and order of sequences of action during crises. Moreover, 'blame games' during governmental crisis responses could be regarded as a specific sequential tactic because actors involved in these activities expedite deliberately the sequence on accountability and responsibility attribution at the expense of other sequences (Boin *et al.*, 2010; Hood, 2010; Stark, 2011).

Lastly, *tempo* refers to the pace and intensity at which activities are conducted and have to be completed. A time tactics perspective asks 'whether or not the speed is the same across various [activities] and (…) who establishes the pace for whom and on what basis' (Adam, 2008: 3). Broadly speaking, the literature discusses two time tactics involving tempo during ordinary times: delay and advance.

Delaying seeks to avoid the completion of certain activities in order to influence other activities depending on their completion. It is generally exploitable by more and less powerful actors, especially if actors' competencies cannot be substituted (Pollitt, 2008: 177). The public administration literature perceives delayering as the 'oldest and most lethal weapon in the arsenal of public bureaucracy' (Pollitt, 2008: 62, citing Warwick, 1975: 68), although bureaucratic actors do not always delay in order to influence other activities in government policy-making. Instead, delaying is often caused by the 'time-consuming modus operandi' (Rosenthal and Kouzmin, 1997: 293) of bureaucracies, caused by legal frameworks or consultation mechanisms that have to be followed (Hood, 1974: 447). Moreover, the slow speed of bureaucratic actors regularly conflicts with other social subsystems operating on a higher speed such as industry or science (Laux, 2011).

In contrast, speeding aims to quicken the completion of certain activities in order to enable the beginning of another activity. Scholars studying organizational behaviour suggest that speeding has particularly strong effects on decision-making when the different accelerated activities move in the same direction (Lindblom, 1959; Lindblom, 1979: 517). Speeding up can also result in the deliberate neglect to conduct certain activities within a particular sequence that would be necessary to be finished in regular decision-making.

Tempo tactics are also applied in times of crises. The general time-compressing nature of critical events is often argued to reduce the time available for certain activities (Hermann, 1963; Rosenthal *et al.*, 1989: 10). As a response, it is very likely that actors advance processes with the explicit reference to the general speed necessary to terminate the critical episode. Delaying also occurs, either as an explicit strategy to avoid the completion of certain activities or because actors orient their behaviour towards temporal cognitions of ordinary policy-making and are not willing (or able) to advance the pace of their activities (cf. Moynihan, 2012).

Much of the literature on governmental responses to crises discusses tempo as a constraint, reasoning that the notion of a crisis inhibits a sense of urgency that can only be controlled with prompt action (Van Wart and Kapucu, 2011). But multi-actor response constellations are often informed by 'diverging perceptions of the necessity for prompt action' (Rosenthal *et al.*, 1991: 212). The existing scholarly debate refers to delaying tactics mostly with regard to communication strategies during crises, i.e. organizations confronted with a threatening event favour the disclosure of embarrassing information about their performance (Boin *et al.*, 2010; 't Hart *et al.*, 2009). In addition, governmental responses in the aftermath of a critical episode are described in terms of delaying when policy-makers 'set up a committee or an inquiry in order to "kick the ball into the long grass" and defuse current criticism' (Pollitt, 2008: 177; see also Boin *et al.*, 2008; Parker and Dekker, 2008). A more systematic analysis of delaying would offer important insights into the comparative study of governmental crisis responses – especially if it includes not only those governmental actors directly engaged in crisis management but also other actors who may not be involved directly but can influence the tempo of crisis response measures.

In contrast, speeding is particularly advantageous for policy-makers to formulate quick policy responses, even if perhaps not the best solutions, to improve the situation for stakeholders and citizens suffering from a crisis (Peters *et al.*, 2011: 20). The speeding tactic can include the temporal suspension of pre-existing rules, as observed in governmental responses to the global financial crisis in 2008 when rescue packages were adopted in parliaments unusually quickly (Fleischer and Parrado, 2010; Laux, 2011). Again, the literature on governmental crisis management lacks more systematic studies on speeding up; we do not know which activities are particularly suitable for such time tactics during critical episodes.

More generally, the mismatching tempi of actors impose consequences on decision-making processes, especially if one actor depends on another in gaining knowledge and information (Rosa, 2005). In times of crisis, the effects of this incongruent speed between actors depending on each other in terms of knowledge and communication about causes and consequences have been illustrated for the Challenger and the Columbia disaster (Garrett, 2004), for 9/11 (Kapucu, 2006) and for the recently accelerating ecological crises, revealing how the decisions of governmental actors respond not quickly enough to decisions made by faster actors in industry or science (Galaz *et al.*, 2011).

CONCLUSION

This article makes a case for a more explicit and systematic study of time during crisis in order to sensitize the study of governmental crisis responses to the varying properties and consequences of time. It not only shows how the current literature treats time as a linear constraint for decision-making under extraordinary circumstances but also highlights studies examining time as an employable resource for governmental actors during crises.

Admittedly, temporal features can be more difficult to observe than institutional or sectoral features. And this article's plea for a more explicit and systematic time-centred research on governmental crisis responses is not to say that a time-reckoning explanatory perspective trumps other explanations. Instead, it acknowledges that time always coexists 'within a wider organizational and institutional setting' (Butler, 1995: 936; cf. Ekengren, 2002). Moreover, it argues that none of the temporal elements discussed above operate in isolation; instead, they 'mutually implicate each other' (Adam, 2008: 4). If time-centred analyses focus on one particular temporal element, the other elements have to be taken into account. As a consequence, a more explicit and systematic time-centred research perspective on governmental crisis responses also seeks to illuminate the dynamics of temporal relationships, interdependencies and embeddedness.

This article calls for comparative studies of governmental crisis responses from a time-oriented perspective, analysing how objective time properties at the level of political, quantic and episodic time influence governmental crisis responses. One could also study this temporal contextualization of crises as a dependent variable, e.g. examining whether policy-makers with the formal authority to determine electoral cycles use their prerogative in critical episodes, whether they are involved in attributing a crisis as quantic in order to shape radical changes in the foundations of the crisis management or whether and how they engage in defining the episodic time of a crisis. This research perspective may also inform studies on incipient crises (Lalonde, 2007), examining how governmental preparations for critical episodes emerging over longer time periods are influenced by the properties of their distinct objective time.

Similarly, the perspective on time as a resource advocates more comparative empirical research into time tactics during crisis, including the selection of tactics by distinct actors, their moves and countermoves, as well as the conditions under which certain time tactics are more likely to be deployed. Although one of the key research interests of current studies in governmental crisis management is to examine the consequences of time tactics on such responses, more research could be done on time tactics as an independent variable, especially with regard to the consequences of timing, sequencing and tempo on other actors rather than on organizational leaders.

The time-centred research perspective highlights the relevance of time in research methods and emphasizes the implications of our 'temporal framework of observation' (Adam, 2008: 2) on the research results. The time span of empirical research is crucial

for the detection of temporal dynamics. In turn, a time-centred perspective may not only favour retrospective analyses of past critical events but also offers new research avenues into real-time observations of emerging crises and governmental preparations to respond to such potential critical events of the future.

NOTES

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2 In May 2011, an Escherichia coli bacterial outbreak occurred in Germany, causing in many cases the life-threatening haemolytic-uremic syndrome. Only in late June, several weeks later, the government had formally identified its cause, fenugreek seeds imported from Egypt. During the outbreak, a total of 4,321 EHEC infection cases were officially reported, fifty people in Germany died (RKI, 2011).

3 An exception is the Scandinavian school of project studies in 'temporary organizations' (see Lundin and Söderholm, 1995; Sahlin-Andersson and Söderholm, 2002; see also Bennis, 1965; Goodman, 1967; Goodman and Goodman, 1976).

4 This article's argument is confined to governmental organizations.

5 The article neglects the temporal characteristics of policy measures adopted in governmental crisis responses (Goetz and Meyer-Sahling, 2009: 189–90).

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