The practice of risk governance: lessons from the field

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The practice of risk governance: lessons from the field

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In contradistinction to generic and formal risk governance models such as the IRGC framework, this paper advocates the relevance of a contextual and practice-based approach to organizational risk governance. Three cases illustrate the socially situated dynamics of risk governance practice: public transportation management, river management, and railway planning. Risk governance is shown to derive from how actors, in their daily activities, mediate multi-level and regulatory institutional constraints, and solve actual problems through routines, trust, mutual understanding and not least, shared commitment to the societal role of infrastructure. Our findings underscore that risk governance takes place in contexts that are historically, spatially and institutionally situated. We therefore suggest that one needs to pay attention to the characteristics of this contextuality to understand the social dynamics of governance.

Keywords: risk governance; IRGC framework; practice; decision-making; regulation

1. Introduction: from risk government to risk governance

Risk governance has colonized the parlance of risk policy makers, risk practitioners and risk research scholars (Rothstein, Huber and Gaskell 2006; van Asselt and Renn 2011). In order to understand why risk governance has become so widespread it is first necessary to pay some attention to the concept of governance. The concept serves as an umbrella term to describe the practice and structure of today’s policy making (Duit and Galaz 2008; Kooiman 2003; Pierre and Peters 2005). It refers to the role and function of contemporary state government, the development of multi-level modes of public steering, or the increasing importance of inter-organizational interactions such as public-private partnerships or task-based modes of organizing public projects and the provision of public services (Rhodes 1997; Torfing 2005). While conventional rule by government is structured around hierarchical authority deriving from a single actor, namely the state, governance refers to horizontal networks consisting of multiple actors including public authorities, corporations and representatives from the civil society who initiate and implement public policy jointly (Mörth 2004). However, governance regimes do not exclude traditional

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regulation through state intervention (Sørensen and Torfing 2005). In governance networks negotiation plays a central role for policy outcomes and is related to the growth of flexible ‘soft-law’ or ‘soft-regulation’ approaches which are not legally binding (Ahme and Brunsson 2004). Governance models, it has been argued, have a potential to increase efficiency in policy outcome, and in combination with active stakeholder participation, to increase legitimacy of policy decisions. At the same time concern has been raised that governance regimes may threaten democratic values such as responsibility, accountability, transparency and legitimacy (Sørensen and Torfing 2008; Torfing 2005).

Governance is increasingly invoked to address emerging risk issues such as nanotechnology (Renn and Roco 2006), radioactive waste (Chilvers 2007), and GMOs (Walls et al. 2005), but also traditional risks within well-established regulatory systems (Tjörholm 2010). What is referred to, for example, risk regulatory frameworks, administrative tools, and methods of risk supervision and control (Hood, Rothstein, and Baldwin 2001; Power 2007; Power et al. 2009; Rothstein, Huber, and Gaskell 2006). A major policy challenge for risk governance is to bring together various local, national, and supra-national actors, private as well as public, in arrangements that can cope with global environmental issues and transboundary risk (Duit and Galaz 2008; Kasperson and Kasperson 2001; Lidskog Soneryd, and Uggla 2010). Key issues of risk governance concern ways to systematically involve stakeholders (Renn 2008; Stern and Fineberg 1996) and include the public in risk regulation (De Marchi 2003; Walls et al. 2005).

The considerable attention and approval from scholars and policy makers that the International Risk Governance Council (IRGC) framework (IRGC 2005, 2008) has received (Bouder, Slavin, and Löfstedt 2007; Deree-Birkbeck 2009; Löfstedt and Van Asselt 2008; North 2008; Renn 2008; Rosa 2008) is paradigmatic of this increasing interest in risk governance. This framework aims to provide policy recommendations to key decision-makers in government and to ‘help policy makers, regulators and risk managers both understand the concept of risk governance and apply it to their handling of risks’ (IRGC 2008, 2). The framework consists of a comprehensive sequence of risk pre-assessment, appraisal, characterization, evaluation, management, and communication. It stresses that, in a democratic society, all kind of public stakeholders should be involved in the governance process, albeit with varied intensity. It also emphasizes the necessity of taking into account the broader social, institutional, political, and economic contexts in risk-related decision-making. The IRGC risk governance model starts from the assumption that risk is identified and assessed by science and that public response to risk is driven by values and ethical concerns. By integrating conventional components of risk analysis such as risk assessment, risk management and risk communication in planned and pre-defined stages, the model aims to enable regulatory authorities, industry and other stakeholders to optimize their decision-making on risk. A key objective of the model is to balance and weigh, at each phase of the process, scientific knowledge against the values, concerns and priorities of the parties involved.

The IRGC framework has been criticized for being at the same time too complex and too simple, and for being biased towards complex, uncertain, and ambiguous risk (Löfstedt and van Asselt 2008). It has even been criticized for lacking a clear definition of risk, lacking internal consistency, and lacking guidelines for how scientific understanding and knowledge of risk can be balanced against public concerns (Rosa 2008). Moreover, the participatory mode of decision-making it
advocates has been criticized for opening the door to lobbyism and for increasing the influence of vested interests on policy (Tait 2008).

We would like to add to this row of criticisms that the IRGC framework is representative of an approach to risk governance that pays too little attention to the contextual situatedness of risk and its management. In our view, any theoretical understanding of risk governance must allow the deconstruction of risk definitions to reveal how controversies and consensus, individual actions and organizational strategies, and, more generally, interaction and communication condition the social process of risk characterization and management. To understand the dynamics of risk governance, one must trace back risk definitions to the variety of administrative and political settings in which risk is ‘in practice’ characterized and managed. One must also account for inter-organizational interactions among actors and how power, control, and responsibility are distributed among them. Since risk cannot be considered to have an inherent and delineable science-based essence, account must be taken of its technical, economic, organizational, and political conditions. More specifically, one cannot characterize (as, for example, the IRGC framework tends to) risk independently of established institutional and practical arrangements with a risk governance purpose. As two of us have demonstrated elsewhere, risk definitions are situated within and inherently linked with risk management actions and operations (Boholm 2003, 2009, 2010a) and embedded in organizational settings (Corvellec 2009, 2010). Risk characterizations are culture-bound ways of conceiving of what a threat is, what is valuable, and what a cause is (Boholm and Corvellec 2011). Conceptions of risk therefore, are inseparable from the mixed influences of the contexts in which they emerge, are communicated, and shared.

Addressing the socially situated nature of risk characterization and management processes, this paper advocates the relevance of a practice-based approach to risk governance in organizational settings. We present empirical findings from three case studies of risk governance that rest on the combination of an interpretive view of risk (Boholm and Corvellec 2011) and a practice-near approach to organizations (Gherardi 2009a; Lipsky 1980; Schatzki, Knorr-Cetina, and Savigny 2001). We provide a realist, descriptive perspective on day-to-day risk governance in three organizational settings: a public transportation authority (Corvellec 2009, 2010), a river management network (Karlsson 2010), and an infrastructure planning project (Boholm 2009, 2010a, 2010b). To stay as close as possible to risk governance practice, these case studies have been designed around interviews and document analysis, but also make use of participant observation and other interactive techniques.

2. A practice-near approach to risk governance

‘Practice theory’ is not a theory per se; it is more a umbrella for a shared effort, drawing on phenomenology, pragmatism, ethnography, ethnomethodology, critical theory, and post-structuralism (Nicolini, Gherardi, and Yanow 2003; Reckwitz 2002; Schatzki, Knorr-Cetina, and Savigny 2001; Sztompka 2008), to ground social theory in what people actually do, for example, when they communicate, eat, work, play, travel, or simply experience the world.

For Corradi, Gherardi, and Verzelloni (2010, 277), the notion of practice refers to three interconnected dimensions:
1. the set of interconnected activities that, if socially recognized as a way of ordering, stabilize collective action and the common orientation;
2. the sense-making process that supports the accountability of a shared way of doing things and which allows the continuous negotiation (ethical and aesthetic) of the meanings of a practice by its practitioners;
3. the social effects generated by a practice in connection with other social practices. This is the dimension of the reproduction of practice that answers the question as to what doing the practice does.

Depending on the dimension emphasized, accounts will differ as to what actually constitutes a practice.

Focussing on what people actually do is not as innocuous as first appears; it implies rejecting transcendental explanations invoking rationality, subjectivity, structures, or power. As Reckwitz (2002) emphasizes, the distinctiveness of practice theory lies in putting the behaviour and mental activities of people at the heart of social theory and in seeking philosophical, social, and psychological explanations in the temporal interactions between bodies, spaces, and artefacts (i.e. objects as well as symbols or language), rather than in divine revelation, natural predispositions, or ontological logic.

A focus on practice is an invitation to follow and trace the minutiae of interactions involving human and non-human actors, in their contexts, and as they unfold over time; one must approach practices as they are understood and negotiated by those who do and do not participate in them, in their cultural, aesthetic, social, historical, and connective dimensions (after Nicolini, Gherardi, and Yanow 2003).

The domains of application of practice theory are various and rapidly expanding. To name but a few such areas, practice theory has been invoked in examining matters as diverse as work (Barley and Kunda 2001; Contu and Willmott 2006; Orr 1996; Yanow 2006), technology (Suchman and Blomberg 1999), knowing (Orlikowski 2002), ethics (McDonough 2006), and learning (Gherardi 2001; Nicolini, Gherardi, and Yanow 2003; Strati 2007), and in contexts as disparate as telemedicine (Gherardi 2010), haute cuisine (Gomez, Bouty, and Drucker-Godard 2003), consultancy (Méric 2008), and networks (Blackler, Crump, and McDonald 2000).

Several studies treating risk governance focus on practice, for example, Vaughan’s (1996) investigation of the Challenger disaster, Sauer’s (2003) analysis of the rhetoric of safety documentation, and Gherardi, Nicolini, and Odella’s (1998) and Gherardi and Nicolini’s (2002) studies of how people at work learn safety practices. Following these pioneering efforts, we aim to demonstrate the relevance of a practice-near approach to the study of risk governance. Three case studies – of public transportation management, river management, and railway planning – will serve the purposes of this endeavour.

3. Three case studies: public transportation, river management, and railway planning

These three cases illustrate how varied risk governance situations can be. The public transportation case illustrates how a regional public authority must govern risk via contractors; it is a contracting bureaucracy (Prager 1994) that operates only through contractors. The river management case presents private and public organizations that collaborate to manage the risk associated with a common boundary
object (Bowker and Leigh Star 1999). The railway planning case illustrates multi-level interaction between private and public actors in a highly regulated administrative setting governed by strong demands for efficiency and legality to construct a complex engineering artefact (Suchman 2000).

These cases of a contracting-based mode of operation, public–private collaboration, and multi-level institutional dynamics do not cover all possible risk governance situations. However, they do provide insights into how specific organizational arrangements shape specific approaches to risk governance.

3.1. Public transportation management

Skånetrafiken is the public transportation authority under the regional government of the southernmost region of Sweden, Region Skåne. It is led by an appointed traffic director, under the hierarchical control of elected politicians. Skånetrafiken’s mission is to plan, lead, and evaluate public transportation in the region in accordance with political goals. For this purpose, it enjoyed, at the time of the study (recent legal changes have markedly modified this right), the exclusive legal right and responsibility (SFS 1997, p. 734) to offer public transportation services in the region.

Despite the fact that Skånetrafiken sells 130 million trips per year, collects EUR 200 million in revenues from ticket sales, and receives EUR 100 million in tax-financed support from the regional government, it is an organization of fewer than 200 people. Skånetrafiken manages only a few transport related activities itself. It operates through public private partnerships (PPP) and procurement of transportation services from private contractors. This means that Skånetrafiken only indirectly faces operational risks that characterize public transportation, since these risks primarily affect contractors. The risks that concern the organization directly are contract related, for example that a contractor fails to fulfil its obligations or even goes bankrupt. The case study examines the consequences for risk governance of Skånetrafiken’s contracting-based mode of operation, and focuses on how managers handle the risk of damage to the Skånetrafiken brand name.

3.2. River management

The Göta River is a crucial transportation route between Vänern, Sweden’s largest lake, and Göteborg, the second largest city in the country and Scandinavia’s largest port. The river runs through a landscape of forests, and flatlands and is regulated by an extensive system of locks (dating back to the seventeenth century) and dams. It is a site of recreation and has riverside dwellings in the six municipalities it crosses; the river is also a tourist attraction, a significant source of hydropower, and the primary drinking water supply for the region.

Due to its geography and history, the Göta River is a drainage system in which several risk issues are systemically interlinked. As Lake Vänern’s only outlet, the river is prone to flooding. Flood risk is governed by the Vänern Water Decree of 1937 that regulates the water levels of the lake through dam discharge into the Göta River. The safety of the extensive dam system depends partly on the rate of discharge into the Göta River (Svenska Kraftnät 2003). Since several communities are located downstream from large hydroelectric dams, a dam failure would have catastrophic consequences in the area. In addition, the river valley is particularly prone
to landslides, and the flow rate of Göta River and variations in water level due to the regulation of Lake Vänern have been identified as factors contributing to slope instability (SOU 2006:94).

Risks of flood, landslide, and dam failure are managed by several risk governance actors, ranging from government agencies and municipalities to energy-production companies, subject to divergent organizational logics and regulations. The case study explores how the organizational actors involved manage these interrelated risk issues.

### 3.3. Railway planning

In Sweden, railway infrastructure is state-owned and decisions about building new lines and upgrading or closing down of existing ones are made by the national government. The Rail Administration is responsible for the railway system, while the trains are run by companies who hire rail capacity from the Administration. Railway infrastructure planning is regulated primarily by the Railway Building Act (SFS 1995:1649) and the Environmental Code (SFS 1998:808). Planning decisions must consider society at large, regional interests and local communities, the natural environment, cultural heritage, risks, benefits, technical alternatives and solutions, costs, and, not least, legal and administrative constraints.

Risk issues in railway planning are numerous and multifarious. They mix interdependent societal and institutional risks (Rothstein, Huber, and Gaskell 2006) with reputational risk (Power et al. 2009). More specifically, railway planning risk ranges from delays and budget overruns, to planning mistakes, technological failures, building accidents, environmental damages, licensing denials, or litigations. Railway planning may also run into uncooperative authorities, local objections, media critique, and contractors being incompetent or uncooperative.

### 4. Method

These three case studies build on textual analysis, interviews, meeting participation, and observations. Although we have not proceeded in a completely standardized manner across the three studies, each study has emphasized observation: we wanted to be able to register, in an unobtrusive way as possible, the topics civil servants, managers, experts, and consultants conceive as risk issues and how they address them. Observations have also provided occasions for numerous informal discussions of these issues with those present. Observations and interviews were documented through detailed note taking, and some interviews were also recorded. The data were processed and analysed in a conventional qualitative way. Table 1 presents an overview of the time taken for the three studies and the kinds of fieldwork undertaken in each one.

### 5. Field findings on risk governance

Threats to public health, material assets, and the natural environment have a long-standing tradition of being subject to governmental regulation and state intervention. In many areas, substantial regulation is therefore already in place, engaging a range of authorities in implementing policy goals and overseeing regulatory compliance (Hutter 1997). Hood, Rothstein, and Baldwin (2001) observe that many risk
Table 1. Fieldwork – An overview.

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regulation regimes are far from coherent and that risk decision-making and enforcement are often fragmented over several institutional bodies at various administrative levels, shaped by internal institutional factors and external pressures, such as business lobbies or media salience. They further note that many risk regulation regimes are characterized by weak linkages between their control components, not least because of variation in the attitudes of the regulators and organizational cultures. They observe that risk regulation evolves through incremental changes that take place in existing, self-reinforcing regulatory and institutional frameworks rather than systematic and comprehensive redesigning (see also Paterson and Teubner 1998).

Our case studies confirm the observation that risk governance frameworks can be fragmented, path dependent, and sometimes incoherent (Hood, Rothstein, and Baldwin 2001). However, instead of being based on a systemic analysis of risk governance regimes, our analysis is grounded in observations of how organizational actors actually define and manage risk issues in their daily activities. Our analysis is focused on the rationale of organizational governance rather than the rationale of risk governance regimes. Correspondingly, in presenting the findings of the three case studies, we follow the three dimensions that, according to Corradi, Gherardi, and Verzelloni (2010) structure organizational practice, namely: interconnected activities, sense-making processes, and the reproduction of practice. This practice theory-based approach leads us to underscore that risk governance is not necessarily an activity in its own right, but rather a component of organizational governance in general, and, even more generally, something that is embedded in the intricacies of organizational practices.

5.1. Interconnected activities

For Corradi, Gherardi, and Verzelloni (2010), the concept of practice primarily refers to the work of organizing. Practices are socially recognized ways of ordering and stabilizing artefacts and collective action. Practices refer also to situated activities that, because they are interconnected, create and maintain common orientations, joint purposes, and shared goals. Our studies of public transportation, river management, and railway planning provide us with multi-faceted examples of the interconnectedness of risk governance practices.

Skånetrafiken does not operate trains and buses on its own, but operates through contractors who actually provide the transportation services sold in Skånetrafiken’s name. This arrangement requires Skånetrafiken to stay in close contact with its contractors. Contacts are formalized by contracts, and prolonged through multi-level dialogues and a shared commitment to the responsibility of providing public transportation (Corvellec 2009). Skånetrafiken also interacts regularly with other actors involved in public transportation, for example, competitors such as the former national carrier SJ, or the Swedish Transport Agency, which is responsible for the maintenance of the railway tracks, signal and information systems, and public roads. As a public authority, Skånetrafiken interacts regularly with many public organizations: the regional government of which it is part; municipalities, which, among other matters, have detailed monopoly plans; the Swedish Competition Authority, which supervises public procurement in Sweden; and the Ministry of Transportation, which plays a key role in developing new legislation. Notably, it is in, and through, these interactions that Skånetrafiken defines, avoids, shares, and mitigates
risk. For example, by means of contracts, Skånetrafiken retains macroeconomic risk, but transfers operational risk to contractors through an intricate system of economic rewards and penalties depending on customer satisfaction and delays. It lobbies for improved infrastructure maintenance to develop the region’s transportation capacity and to reduce the risk of not meeting its long-term growth objectives. As another example showing that interaction with other organizations is essential to risk governance, Skånetrafiken communicates intensively via the local media, to define and delimit its responsibilities in cases of delay and accident.

In a similar vein, Karlsson (2010) demonstrates that governing Göta River risk entails managing a number of systemically interconnected risk issues, namely, dam safety, flooding, landslide, and drinking water quality (M. Boholm 2009). These issues are addressed by various organizational actors (e.g. national regulatory bodies, local public organizations, and private companies) that represent specific viewpoints, concerns, and institutional logics of action. Moreover, the local administrative setting is intricate, and the rules and regulations to be followed are overlapping and not necessarily coherent. The Göta River is a paradigmatic case of transboundary risk (Kasperson and Kasperson 2001; Lidskog, Soneryd, and Uggla 2010; Linnerooth-Bayer, Löfstedt, and Sjöstedt 2001) that transgresses physical, organizational, sectoral, social, cultural, and even national boundaries – if one takes climate change into consideration. No organizational actor manages Göta River risk on its own; these risk issues are instead addressed by risk regimes in which actors act jointly. More precisely, risk governance for the Göta River consists of co-overlapping regimes composed of both public and private actors, in which many actors participate in more than one regime. From the governance regime for flooding risk, to the regime for landslide risk or the regime for dam failure risk, actors play different functional roles, operate according to different regulatory demands, and pursue different organizational goals – always in collaboration with others. Adding to the overall complexity is that the risk management measures one organization takes in one regime may conflict with other measures another (or even the same) organization takes. Risk management for the river system therefore actualizes risk–risk tradeoffs (Graham and Wiener 1995) and must address complex systemic interactions of risks, but under conditions of regulatory, administrative, and organizational fragmentation.

The planning of a new railway line provides yet another illustration of the interconnectedness of risk governance practices. Planning a new railway involves numerous formal, practical, political, economic, spatial, and temporal restrictions and requires the co-operation of a range of governmental authorities, planners, and stakeholders in a consultation process that can take years to reach fruition. Railway planning is not only technically complicated. It is socially complex, since it activates many perspectives, values, beliefs, and divergent interpretations on the part of decision-makers, stakeholders, and the public. Communication regarding risk is essential (Boholm 2008). Railway planning requires the co-ordination or a great number of interrelated elements that differ in nature, for example, artefacts and people’s conceptions of what is reasonable. Risk refers to what can go wrong in a project, and many things can be imagined going wrong, since complex causal interactions (M. Boholm 2009) can be imagined between humans, organizations, technology, and nature (Suchman 2000).

All three cases indicate that risk governance practices involve intricate patterns of interconnected organizational activities. Some of these activities take place in
organizations, but many take place between organizations as well. The regulatory systems (e.g. ordinances) and other formal patterns of collaborations (e.g. contracts) structure both intra- and inter-organizational interactions. However, activities also follow patterns of collaboration that have emerged and established themselves over time (Chia and MacKay 2007). Bear in mind here that collaborations between organizations go through individuals, and that collaborations between individuals are formal as much as informal. Governance is worked out by real people in real settings, and actors let formality and informality, or rather formalization(s) and informalization(s), interact to get things done (Andrén, Sanne, and Linell 2010). How people have learned to co-operate in and out of their practice (Gherardi 2001; Nicolini, Gherardi, and Yanow 2003; Strati 2007) is therefore essential knowledge. Handbooks and standard procedures do not explain everything (Orr 1996), and the quality and intensity of individual relationships cannot be underestimated. Our observations provide numerous examples of individual bonds of confidence that seem to be born in functional constellations of the past surviving even when individuals change positions or companies. People in the field ‘know’ how specific individuals tend to react or prefer to communicate. Such interpersonal knowledge is essential in defining and managing risk and responsibilities, an understanding that reminds of Vaughan’s (1996) regarding the Challenger disaster.

Notably, public participation is lacking in all three cases. In fact, most of the risk issues are not highly contested, but are familiar and unambiguous. Moreover, they are institutionally embedded in a long tradition of governmental regulatory involvement. In Sweden, a consensual style of regulation and the relatively high level of public trust in science and government agencies (Löfstedt 2005) might explain the observed relative absence of public contestation of and participation in risk governance.

Inventing modes of operation that are both efficient and effective, and stabilizing horizontal and vertical interactions appear to be too recurrent – and pressing – concerns for actors involved in risk governance. Plainly, risk governance appears to be a matter of organizing patterns of interconnectedness that make it possible to understand and face uncertainty.

5.2. Sense-making processes
The second dimension of the concept of practice that Corradi, Gherardi, and Verzelloni (2010) identify is sense-making and account-giving. Springing from Weick’s social psychological studies (1979, 1995), sense-making has become widely acknowledged by organizational and management scholars as fundamental to organizing and leadership. The concept has even spawned related concepts: sense-giving (Gioia and Chittipeddi 1991, 442), which refers to ‘the process of attempting to influence the sense-making and meaning construction of others’ towards a preferred redefinition of organizational reality’; and mise-en-sens (Corvellec and Risberg 2007), which refers to the creation of meaning as a matter of orienting things (e.g. words, figures, metaphors, curves, models, narratives, and legislation) in a intended direction by bringing them on stage in an appropriate manner.

Our observations of risk governance practices provide us with many examples of sense-making, sense-giving, and mise-en-sens. The railway planning case indicates how, in practice, risk identification is a negotiated collective achievement that takes into account the formal expertise and practical knowledge of planners and
officials (Boholm 2010a). To determine whether something should be considered a risk, project managers assess a range of practical consequences that might arise from a hazard, such as how other key actors or stakeholders might respond and what consequences that might have for the project. For example, planners may consider a toxic spill in a river, classified as a risk emerging from the project, as a potential risk to the project if the media report the incident and blames the railway planning authority. Their risk assessment consists of anticipating a social (and political and legal) universe of perspectives, rationalities, and intentions, and of producing evaluative guesses about how these perspectives, rationalities, and intentions might actually affect the project’s budget and timeframe (Boholm 2010a, 2010b; see also: Johansson 2010 on road planning). The institutional context imposes a series of constraints on actors (e.g. where and what to build, and how to handle environmental values), but it is up to the actors in the field to decide how these constraints are to be met. A key finding of Boholm (2010a) is that even mandatory formal risk analysis, identification, and classification prove to be an intricate social process of negotiation, as this process relies more on the social status and expertise of the actors involved than on systematic, scientific assessment procedures. More often than not, managers appear to attend to risk issues through sense-making processes based on rules of thumb, ad-hoc solutions, experience, and routines. Railway planners, whether public officials or private partners, tend to rely on established practice and experience of other projects in which they have participated; they depend on what ‘usually works’ and on situated experience (sometimes shared) of specific planning cases or problems (Gherardi 2010; Gherardi and Nicolini 2002; Strati 2007). Because meaning emerges from practice (Ahrens and Chapman 2007; Corvellec 2010; Gherardi 2009b), practice construes micro–macro linkages (Coulter 2001) between, on one hand, macro webs in which actors are embedded (e.g. legal, symbolic, technological, and economic ones) and, on the other hand, micro routines, communications, or decisions.

The Skånetrafiken case provides a different illustration of how sense-making processes underlie risk governance, as it depicts how a brand can serve as a tool with which to make sense of and manage risk (Corvellec 2009, 2010). Skånetrafiken managers believe that the Skånetrafiken brand should stand for a guarantee of seamless travel, aggregating the transportation offerings that Skånetrafiken makes through its contractors. Skånetrafiken managers highly value the Skånetrafiken brand, and are therefore very keen on protecting it from any kind of damage. They imagine all sorts of hazards that could threaten the Skånetrafiken brand, and devise corresponding means to neutralize or mitigate them and their potentially negative effects, for example, fines to contractors for delays, detailed rules about what name should be printed on buses or uniforms, and systematic explanations in the local media whenever Skånetrafiken responsibility is incorrectly invoked. Skånetrafiken managers also strive to develop a common understanding, in the organization and among its contractors, that the Skånetrafiken brand is something that everyone should work together to protect. However, the Skånetrafiken brand is not predestined by itself to become a threatened value. Over the years, a series of managerial decisions have established a shared view that a trustworthy Skånetrafiken brand is essential to the success of public transportation in the region. This shared view structures how Skånetrafiken managers make sense of and govern reputational risk (Power et al. 2009).

Finally, the Göta River case illustrates the fluidity of the meaning of risk. The Göta River is a ‘boundary object’ that has the capacity of ‘bridging social worlds’
Depending on who you ask, or rather what risk regime you turn to, the river is assigned a different ‘primary’ meaning, for example, as a transport route, an electricity generator, or a source of drinking water. This ‘primary’ meaning conditions risk definitions, risk hierarchies, and the priorities of risk governance. Whether you speak of dam safety, flood risk, or landslide, it is never certain beforehand which risk issue most needs attention, what is to be done, or who is to do it. Risk definitions, priorities, and responsibilities for the Göta River can never be reduced to formal or legal formulations, nor limited to specific kinds of risk. Instead, definitions, priorities, and responsibilities must be flexibly negotiated by actors who keep meeting on the occasion of one risk issue or another, but with different roles and formal responsibilities in the various risk regimes impinging on the Göta River. Fundamental to this working arrangement are personal relationships of trust and shared experience, which have evolved through historical organizational interdependencies and professional experiences of the river. The river is multi-faceted (Mol 2002) in that it is assigned multiple meanings by those who are to act on it, and in that it is the object of simultaneous, but not always related, interventions. Correspondingly, risk governance follows the multiple processes of sense-making, sense-giving, and mise-en-sens.

Our case studies highlight the situatedness of risk (Boholm 2003). They emphasize that conceptions of risk derive from what actors consider to be conditions for the success of their endeavours and therefore ‘of value’ (Corvellec 2010). Taken together the studies show how risk emerges from situated processes of meaning creation and diffusion in which actors establish relationships of risk linking risk objects and objects at risk through relationships that are causal and contingent (Boholm and Corvellec 2011). These processes of meaning creation and diffusion are collective ones. They are embedded in what people actually do when they participate in meetings or inspection tours, ask or answer questions, draft or go through checklists, and make an offer or approve contracts.

The many personal meetings, in combination with long-term working relationships and small-scale and somewhat closed expert-based interactive networks of key risk governance actors, serve to build a common understanding of what constitutes a risk (as opposed to what does not), the relative importance of particular risk issues, and how they should be addressed. Intra- and inter-organizational practice conditions risk governance actors’ conceptions of value and of possible threats to this value, hence their particular identifications and characterizations of risk. In all three cases, sense-making about risk (e.g. answering questions about what is a risk and why, what are values and what are threats, what are the principal contingent causal links causing harm, and what are the official responsibilities and how are they distributed) emerges through face-to-face interactions between actors. How actors approach and behave in these interactions draws more heavily than most would imagine on how actors have learned to recognize and trust each other’s expertise, credibility, and official responsibility.

5.3. Reproduction of practices

According to Corradi, Gherardi, and Verzelloni (2010), the third dimension of the concept of practice is the reproduction of practices. The reproduction of practices refers to the circumstance that a practice is not merely a ‘doing’, i.e. an action, but something recursive. This recursiveness of practices is not a mechanical (re)iteration
of the same activity, rather ‘it is a process of innovation by repetition, i.e. constant adaptation to changing circumstances, and innovation engendered by practice’ (Corradi, Gherardi, and Verzelloni 2010, 278). Our case studies provide insights into how risk governance practices are matters of reproduction.

We have mentioned that the past influences how people govern risk. Historical agreements, strategic decisions, or legislative provisions have a decisive impact on how risk governance actors define risk, delimit their responsibilities, or decide how to act. Risk governance systems are not written on a tabula rasa, they develop from historically situated processes of practice. For example, today’s risk governance for the Göta River originates in historical water regulation modes that have evolved over decades of practical problem solving, for example, regarding sea transport, flooding, or shore stability, and still reflects the fact that the power producer Vattenfall has long been a state-owned monopoly. Current risk governance at Skånetrafiken has inherited the original political decision that Skånetrafiken would not operate public transportation through contractors. The legal framework of railway planning is the product of more than a hundred years of public transport infrastructure engineering and state planning. The practices of risk governance, occurring under strictly regulated conditions of which the actors are well aware and the demands of which they are anxious to meet, are strikingly informal. Moreover, established patterns of collaboration let many inter-organizational interactions survive the intra-organizational changes that affect the actors involved, largely due to privileged inter-personal trust bonds that may exist between individuals. To understand the dynamic nature of risk governance, one must consider its historical dimensions: the development of risk governance institutions, inter-organizational networks, modes of work, and communication practices.

Routines come immediately to mind when one thinks of the reproductive dimension of practice. Managers turn to routines when they encounter a situation they find risky or simply unusual, since routines represent stored behavioural capacity (Hogdson 2008) and recognizable patterns of behaviour (Pentland, Hærem, and Hillison 2010). Routines are both structures and actions, and they are sources of stability as well as change (Feldman and Pentland 2003). Our observations confirm that, all in all, routines are the backbone of everyday work, and their structuring function helps managers make sense of and tame the ‘unusual’, which is not necessarily so unusual since few problems are genuinely unique. Risk governance actors display a mundane but sophisticated knowledge of the established repertories of existing actions. Moving in and out of these repertories, they invent solutions that are rooted in established experience. Embedded in all kinds of organizational routines, the governance of risk is interwoven with the full scope of organizational activities from budgeting or managing operations, through strategizing or branding the organization, to individual and organizational learning.

A less predictable finding is that social bonds, sense of purpose, and joint commitment (Bratman 1992) among key actors play a central role in risk governance. We have found that a key purpose and outcome of ‘doing practice’ is to establish and maintain joint commitment (Boholm 2010b) to public transportation, railway planning, and the Göta River. People who work with infrastructure turn out to be genuinely committed to its societal value. Indeed, they often refer to themselves in Swedish as ‘society builders’. We consider such joint commitment to be a crucial component of risk governance. Joint commitment is not something static or simply contractual; it unfolds over time and must be continuously negotiated and
re-established, answering to changing circumstances and upcoming events. Networks encompassing several organizations may be viewed as communities of practice, which are at the same time outcomes of continuous collective engagement in common practice and a condition for ongoing (effective) working relationships (Wenger 1998; Wenger, McDermott, and Snyder 2002). Joint commitments are significant contributions to communities of practice as they make it easier for actors to negotiate tasks, responsibility, and accountability among themselves. We have seen how joint commitment to public transportation, railway planning, or the Göta River enables actors to interact with other actors, understand other organizational rationales, negotiate future courses of action, and assesses possible consequences for themselves and others.

Finally, risk governance involves the standing reproduction of practices; it is a learning process. Practice lets actors learn formal procedures as well rules of thumb, official and informal objectives, and even how to speak of risk in particular contexts (Corvellec 2009). We are nor speaking of formal and abstract learning, but of practice- and experience-based learning (Gherardi 2001; Nicolini, Gherardi, and Yanow 2003; Strati 2007). To put it plainly, risk governance is not a framework on which you build; it is something that you learn how to do.

6. Concluding remarks: situating risk governance

Political scientists claim that governance takes place in multi-level networks of private and public actors (Mörth 2004), often combining flexible ‘soft law’ or ‘soft regulation’ (Ahrne and Brunsson 2004) with conventional and legally binding regulatory statutes. A variety of stakeholders participate in these networks, and any governance perspective on risk policy making should search ‘for processes and mechanisms through which significant and resource-full actors coordinate their actions and resources in the pursuit of collectively defined objectives’ (Pierre 2005, 452). Taking note of these claims, but adopting a different theoretical stance, this paper looks into risk governance by combining two theoretical perspectives: an interpretive view of risk (Boholm and Corvellec 2011) and a practice-near approach to organizations (Gherardi 2009a; Lipsky 1980; Schatzki, Knorr-Cetina, and Savigny 2001). We present three Swedish case studies of decision-making concerning risk in real-life governmental, administrative, and organizational settings: a public transportation authority (Corvellec 2009, 2010), a river management network (Karlsson 2010), and a railway planning project (Boholm 2009, 2010a, 2010b).

Against our general claims about the nature of risk governance it could be argued that Sweden is a special case, characterized by a tradition of consensual regulatory culture building on trust and collaboration among elite stakeholders with a limited degree of public involvement and participation (Löfstedt 2005). Being well aware that there are other regulatory systems around the world based on different cultural principles, such as for example an adversarial idiom with an emphasize on litigation, we do not claim that risk is in general governed through networks based on trust and co-operation. What we do argue, based on these three case studies, is that risk governance is a complex social activity historically, spatially, socially and institutionally situated. Our findings corroborate the results of others (Hall, Scott, and Hood 2000; Hood, Rothstein, and Baldwin 2001; Hutter 1997) that regulatory cultures are dynamic and that, on a day-to-day practical basis, risk governance is carried out in multi-level, multi-directional networks. In these networks, regulatory levels overlap, risk issues go from local to trans-boundary, and discursive practices
have a capacity to encompass issues that actors find relevant to the occasion. Risk governance links national, regional, and local public authorities, private companies, including consulting companies, and other stakeholders – although the public was notably absent from our three case studies. Even individual officials, politicians, experts, and private persons can play determinant roles. Actors jointly manage various aspects of risk and the boundaries between management, regulation, and enforcement roles tend to be fuzzy and overlapping.

We observed that people in organizations relate to and manage specific risks. They do not relate to risk in a general or generic way. Officials, experts, managers, and other practitioners do not engage with risk in itself or with abstract versions of risk. They engage with particular risk issues that are embedded in the practical, everyday, and interpersonal world of their tasks and responsibilities. How people understand what constitutes risk rests on their establishing contingent relationships between an object at risk and a risk object (Boholm and Corvellec 2011). Therefore, their risk governance practice does not always sharply distinguish risk analysis, risk characterization, risk management, and risk communication. Actors merge risk analysis, characterization, management, and communication, but they do so for risk issues that they experience as concrete and relevant to their risk governance practice (Boholm 2010a). In our cases risk governance is a co-operative achievement between actors with divergent roles, objectives, and understanding of their responsibilities. Our results give proof of Sweden’s penchant for consensual regulatory solutions (Löfstedt 2005) and illustrate the workings of governance networks based on micro-social relationships and interdependencies based largely on trust that develops over time.

A more general conclusion is that our findings illustrate the lack of realism of a generic and formal risk governance model such as the IRGC framework (IRGC 2008). The IRGC framework claims an integrative purpose and aims to unite the physical with the psychological or social by means of an integrated managerial and organizational architecture that builds on communication – or ‘co-operative discourse’ in Renn’s (2008, 343) terminology – as a neutral means to govern. However, by characterizing risk in isolation from the societal structures and dynamics in which risk characterization and risk management are embedded, the IRGC framework proposes an approach to risk governance that is idealistic and detached from the actual world of human concerns, hopes, and worries to which risk governance essentially belongs.

We therefore challenge the IRGC’s decontextualizing approach to risk governance, an approach that stays at a methodological and theoretical distance from the micro contexts in which risk understanding gets born and risk decisions are made. Much research has established the relevance of micro contexts to decision-making, from starting a nuclear war (Allison and Zelikow 1999), assessing the resilience of an O-ring (Vaughan 1996), to interpreting construction codes for coal mines (Sauer 2003). Likewise, if one follows at close range how actors actually deal with risk issues, one discovers that it is at the micro level that risk is actually managed. Not that risk decisions are immune to, or independent of, macro influences. However, the macro apparatuses of risk governance go unheeded until people translate the norms, recommendations, and imperatives of these apparatuses into actual choices and decisions. Actual risk decisions are made by actual people at the micro level of the here and now, involving all possible micro- and macro-contextual influences.
Approaching risk governance at a macro level has the strength of providing a comprehensive picture; but it also has the weakness of missing how people actually manage to gain such an overview. We find it paradoxical that the IRGC framework (2008) aims at remedying the rational idealism of conventional technocratic planning and regulation, by adopting a decontextualizing perspective on risk governance that stays at arm’s length from actual decision-making as it unfolds in micro-social, institutional, and political processes.

Contrary to what decontextualizing approaches to risk governance imply, we want to situate risk governance in the contexts in which it takes place. Our claim is that risk governance entails a complex cultural dynamic of constructing risk issues in terms of political, economic, legal, and administrative socio-logics (see Paterson and Teubner 1998), to which science is not immune. To address the dynamic interplay of perspectives and rationalities activated in risk governance, we need a theoretical approach that lets us deconstruct issues of risk as they are constructed and produced in social spaces. A practice-based approach to risk governance is one such theoretical approach, although we acknowledge that other theoretical approaches may serve a similar purpose. Embedded in all kinds of organizational routines, the governance of risk does not stand out as an activity in and of itself. It instead appears to be interwoven with the full scope of organizational activities from budgeting or managing operations, through strategizing or branding the organization, to individual and organizational learning.

Our findings confirm that regulatory systems are historically, spatially, and institutionally situated in the sense that they are the social products of local and historical processes. People and, beyond them, the organizations that collaborate in the system, have learned how to work together. In particular, they have learned how other actors in the system can be expected to behave. Soft cultural factors such as trust, legitimacy, social competence, personal networks, anticipation, and sense of responsibility emerge as key components of efficient risk governance. The practice-near perspective that we use gives precedence to naturalistic context-sensitive data, a neglected dimension in generic and formal approaches to risk governance. An interest in practice does not only involve an interest in a certain kind of object, or only assimilate insights from a certain kind of theory (Corradi, Gherardi, and Verzelloni 2010, 277); rather, it must also encompass adequate research methods.

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Note

1. The Rail Administration was an independent government authority up to 1 January 2009; as of this date, the Swedish transportation authorities for road and railway were merged to form the Swedish Transport Agency.
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