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# 'It is all about getting the volumes down'. Organizational framings of risk in relation to waste, waste management and temporality

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## ABSTRACT

Drawing on an ethnographic fieldwork at a waste facility site in the northern parts of Sweden, this article investigates organizational framings of risk (Hutter and Power 2005) in relation to waste and practices of waste management, employing the concept of temporality. The suggestion is that organizational framings of risk, as it contributes to steering the risk perception of the employees, also cater to a particular temporal register. In relation to the purposes of this article, the risks that my informants mentioned and/or perceived – as part of a particular organizational framework – were most often seen in terms of situated inconveniences and hazards that required technical, and logistic solutions. While this enabled them to take action, it also contributed to bounding risk and risk perception to a particular temporal register, intimately linked to what Barbara Adam (1998) refers to as the logics of industrial time. The logics of industrial time also suffuse formulations of current environmental policies and waste management plans, on a national as well as on an EU level where waste is seen primarily as a resource that continuously needs to be invented anew. As such, the logics of industrial time follow closely the beat of market fluctuations. Talking to representatives for the current waste facility site and observing some of their daily activities, potential risks with waste and practices of waste management were often weighed against other factors such as effectiveness, swiftness, and economic profits or losses: factors that also corresponded to short-time temporalities. While this reasoning, at first seemed to outperform any notion of risk, it actually conformed to the risks acknowledged by the organizational setting of which my informants were part.

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Controlled vocabularies support ontologies that have been mapped in advance. The promise of a future beyond what we can now imagine requires something different (Fortun 2014, 318).

## Introduction and aim

This article is written as a response to the frustration that I experienced after completing the interviews with representatives for a waste facility site in the northern parts of Sweden, and from observing practices of waste management at the same site. The reason for this frustration is that my overall

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aim: to investigate risk and risk perception in relation to waste and waste management, did not match the answers and thoughts provided by my informants. *The organizational framings of risk* (Hutter and Power 2005) simply seemed to concern other kinds of risks than I anticipated, something that left me unsure of how to actually interpret them. In addition, my suggestions that (an increased) risk awareness might be a potential reason for certain practices of waste management, were many times overshadowed by my informants, or diminished in favor of other factors such as efficiency, and economic profit. My informants also referred to regional, national and European regulations as the reason for why they pursued certain waste management practices, something that, at first seemed to outperform any notion of risk, but that I discovered only later, actually conformed to the risks acknowledged by the organizational framework of which my informants were part. Going through the material, I realized that one potential reason for the mismatch that I experienced was that the organizational framings of risk answered to particular, short-term, temporalities, something that also excluded risks that responded to other forms of temporalities. As such, these risks were part of what Fitz-Henry (2017, 1) refers to as ‘the temporal rhythms of late capitalism [...]’ that characterizes much of contemporary global economy. Saying this, I do not suggest that my informants denied that environmental risks and risks for human health would steer practices of waste management, only that the risks that they mentioned and/or perceived – as part of a particular organizational framework – were most often seen in terms of situated inconveniences and hazards that required technical, and logistic solutions. The results from the interviews and observations suggest that in order for something to be acted upon as a risk, systems of waste management and logistics are needed. At the same time, these measures contribute to bounding risk and risk perception both to an economic, market-driven system where waste is seen primarily as a resource (Gregson et al. 2015), and to short-term temporalities where this resource needs to be continuously invented anew. As a consequence, and drawing on the work of Kim Fortun (2014, 315), ‘[w]hat can’t be articulated isn’t flagged’.

Seeking to recast frustration into analysis, mismatches into conclusions, the aim of this article is to investigate organizational framings of risk (see for comparison Power 2004; Hutter and Power [eds.] 2005) in relation to waste and waste management, using the concept of *temporality* (see for comparison Adam 1998; Fortun 2014; Fitz-Henry 2017). The suggestion is that short-term temporalities that characterize many organizations today also affect their framing of risk. This article explores how the organizational framing of risk took place in the daily practices at the waste facility site, but also when it was overshadowed by, or integrated into factors such as efficiency, economic profit and references to regional, national and European regulations. Focus for the subsequent discussions is on how the notion of risk appear, metamorphose and disappear in relation to waste and practices of waste management, and how the organizational framework within which these practices take place serves to regulate this notion of risk, in this case, through its accommodation of a particular temporal register.

## Methods

During the autumn of 2017, I carried out interviews with three representatives for the waste disposal site of Sopberget<sup>1</sup>: the operational manager, the engineer of waste disposal and the head of the waste disposal site. My informants were all men in their fifties, and they shared a long-standing experience from the waste management industry. The waste disposal site of Sopberget is located next to a small city in the northern parts of Sweden. It is run by the municipality, and at the time of my fieldwork, it received approximately 10,000 tons of household waste, 1500 tons of waste from companies and 3000 tons of compost. The household waste – not including paper, metal, plastics and newspapers – and the compost were delivered to the waste disposal site by the municipal garbage trucks. While the household waste was stored and forwarded to an incinerator about two hundred kilometers away, the compost was treated on-site, through loaf-like strings arranged on a vast asphalt plane. Here, it was covered with tarpaulins and

allowed to decompose for one week (sometimes less) until it reached the optimal temperature, before it was turned around, investigated and treated again. This treatment process stretched over a couple of months until the strings were uncovered and left for some time before undergoing the final treatment, a step that included grinding and sorting. The waste that arrived from companies were temporarily stored and, depending on the particularity of this waste, picked up by different retailers when the maximum quantity allowances were reached.

The three representatives were active at the municipal commission of waste management and recycling. They were initially contacted through their phones, where I introduced myself and expressed my research interest: to investigate waste management in relation to risk. My informants all agreed to partake in an interview and we were, thus, able to set a time rather quickly. I also had the possibility to pursue two follow-up interviews with one of my informants where I asked him to clarify certain statements. Two interviews were done at the waste facility site of Sopberget, and the others (including the two follow-up interviews) were carried out at the main offices of the municipal commission of waste management and recycling. The interviews were recorded and later on transcribed. In addition to the interviews, I observed, and partook in the management of compost, and observed the weighting of trucks as they arrived at the waste facility site of Sopberget. I also partook in some of the weekly sampling of leachate<sup>2</sup> as it passed through the different stages of treatment, as well as the biannual sampling of surface, and ground water, both in the vicinities of the waste disposal site of Sopberget and at two closed landfills. One of these landfills was located approximately ten kilometers away and the other was located in a small community, approximately twenty kilometers away. During these occasions, I also had the possibility to ask questions and take short notes, and while the answers were not recorded, I summarized the conversations at the end of the work shifts. In order to acquire an overview of the activities that took place at the waste disposal site of Sopberget, I also observed one meeting where representatives from the neighbouring households were invited to discuss current waste management techniques, potential inconveniences that they might experience and potential changes in the practices of waste management that might affect the surroundings. The combination of interviews and participatory observations contributed to a diverse understanding of the relation between risk and waste/waste management, as I took into account, both the speeches and the practices of my informants.

Previous visits to, and observations of, the daily activities of Swedish electronic waste (e-waste) recycling plants provided the foundation for my current knowledge base, and as e-waste is classified as hazardous waste, I was eager to learn more about the potential risks and uncertainties connected to waste and waste management in general. In her article *The songlines of risk*, Sheila Jasanoff (1999, 136) notes that 'the social circumstance which matters most in our intolerably jumbled modern condition is risk'. As such, 'risk [...] is impossible to ignore for anyone professionally concerned with the making and evaluation of environmental policy'. As a member of the EU, practices of waste management in Sweden are subjected to regulatory frameworks, on a national as well as European level, and my initial idea was that the conceptualizations of risk that are found in these frameworks presumably saturate the daily activities of the current waste facility site. As it would turn out, while this was sometimes the case, it concerned other kinds of risks than I anticipated.

### **On risk as a social, and organizational construction**

The last 30 years, we have witnessed an increased focus on how it is to live with risk, most famously conveyed in Beck's (1986/1992) now classical *Risk society. Towards a new modernity*. Beck's study opens up for an understanding of the subjective characters of risk. Four years before the initial release of Beck's study, Douglas and Wildavsky (1982, 6, 182) discussed risk in relation to culture, noting that '[t]he perception of risk is a social process' and that 'public perceptions of risks and its acceptable levels are collective constructs [...]'. A couple of years later, Paul Slovic

(1987) introduced the term *risk perception* as a means to assess 'the complex and subtle opinions that people have about risk'. Jasanoff (1999, 150) talked about the *songlines of risk*, noting that risk 'is culturally embedded and has texture and meaning that vary from one social grouping to another'. More recently, we have noticed studies on the performative character of risks, how risk is *done* and *undone* according to social norms and regulations (Montelius and Girtili 2014; Nygren Girtili and Olofsson 2014). Risk here, is seen as a practice rather than a static phenomenon, something that points towards the subjective side of risk. As such, risk is also open to social definition and construction. This is evident, not least in relation to the aforementioned interviews where I assumed certain kinds of risks that my informants did not seem to have any interest in discussing. At the same time, it would be a mistake to refer to risk, exclusively as a social construction, something that can be made and unmade as we choose to engage in and/or perceive certain kinds of risks and neglect others. Beck (1986/1992) demonstrates this ambiguity as he distinguishes between *the perception of risk* and its *realities and consequences*. While it is true that we tend to concentrate only on selected aspects of the dangers that surround us, risks for pollution, global warming and pandemic diseases are simply not to be wished away, nor are their consequences freely available for social interpretation.

While the aforementioned studies convincingly demonstrate the social and cultural aspects of risk, less has been said about organizational framings of risk. Organizations have indeed worked extensively with risk management and risk analysis as a means to deal with risk and uncertainties (Power 2004), but a more critical understanding of the inherent temporality and heterogeneity of organizations as well as their effects on the framing of organizational responses to risk have only recently emerged (see for comparison Power 2004; Hutter and Power 2005). Seeking to contribute to this evolving field where organizations are seen as 'critical agents of any so-called risk society [...]' (Hutter and Power 2005, 1), the ambition is to frame my informants' risk perception, not merely as socially constructed, but as part of a particular organizational setting. Here, focus is on the normative status of organizations (Hutter and Power 2005; Schatzki 2005) *in relation to* their framing of risk. As Hutter and Power (2005, 9f) have it: 'risk language functions as part of a web of normative practices in organizations in which risk management can be conceived as a moral technology for the attribution of responsibility'.

Highlighting the organizational aspect of risk management, as well as its normative foundation, this section ultimately zooms in on temporality as one factor that steers not only organizational framings of risk but also the development of regulatory frameworks. I aforementioned that practices of waste management in Sweden are subjected to regulatory frameworks, on a national as well as European level and these regulatory frameworks steer, not only the organizational framing of risk; they also cater to a particular temporal register. Acknowledging the link between organizational framings of risk and certain temporal registers, this article employs what has been referred to as *industrial time* (Adam 1998) *late industrialism* (Fortun 2014) or *late capitalism* (Fitz-Henry 2017). These terms will be discussed more extensively below; for now, the suggestion is that the organizational setting that my informants were part of, as well as the regulatory frameworks that served to regulate practices of waste management also steered my informants' answers to concern a certain temporal register. It is through this multilevelled web of practices, materials and discourses that these answers are to be interpreted.

## Previous research on waste

Risk and waste/waste management might at first sight seem like an obvious combination, but looking closer, few sociologists who have investigated waste and practices of waste management have also engaged in questions regarding risk. Instead, focus has been on historical accounts of waste and practices of waste management (Strasser 1999; Gille 2007), waste management policies (Gregson et al. 2015; Kama 2015), but also how waste and practices of waste management intermingle with place (Hetherington 2004; Hawkins 2006), gender (Strasser 1999; Hawkins 2006)

and class (Reno 2009). While these studies convincingly show that waste disposal and processes of managing waste are steered by diverse sets of cultural beliefs, material compositions and socio-economic status, a more critical understanding of how risk emerge and disappear in relation to waste management issues is somewhat absent. Two exceptions are the works of Hird et al. (2014) and Reno (2011). Hird et al. build their case around the changing waste management practices of a small city in Ontario, Canada and how waste is invested with meanings due to factors such as risk. Investigating 'how and why publics assemble around waste management issues', the authors (2014, 441) argue that public engagement in waste management issues emerge and disappear as waste management issues are *made* (and *unmade*) into a public concern, when for example municipal governments undertake new landfill siting assessments. This is also when 'members of the public encounter what it means to live in a risk society' (Hird et al. 2014, 445). Informed by the work of Hird, Loughheed, and Rowe, I conclude that organizational framings of risks (or uncertainties) that are connected to waste and waste management tend to alternately emerge and disappear in discussions regarding, and practices of, waste management. Adding to this, the notion of temporality, I seek to take this insight one step further.

### Risk and temporality

Barbara Adam's (1998) study *Timescapes of modernity: The environment and invisible hazards* comprises an apt point of departure for anyone who is interested in the relation between temporality and environmental hazards. Adam (1998, 17) employs the term *timescapes* as a means to approach 'the complex temporality of environmental hazards [...]'. Environmental hazards, Adam stresses, are fundamentally temporal realms and as such, marked by multiple time lags, something that renders them largely invisible to the logics of industrial time. Hence, while environmental hazards 'are always symptoms of past actions which require responses' (Adam 1998: 81), the sources for their emergence are equally hidden and/or forgotten in relation to the logics that constitute industrial time. As such, the logics of industrial time turn the environment itself into a matter of economic concerns and also a commodity of time.

That time is part of, and caters to a certain political, and economical system is clear, also in the study of Erin Fitz-Henry (2017). Fitz-Henry focuses on the recent restructuring of the natural world into what she refers to as the terms of *natural capitalism*, and how this fuels the emergence of short-term temporalities. Urging us to think 'more carefully about the timescales within which to understand the depths of the current environmental crisis' (Fitz-Henry 2017, 2), Fitz-Henry strikingly shows the connections between time and environmental awareness. As such, her study bears resemblances to the arguments put forth by Adam. Mairal (2017) ultimately, investigates the sinking of the oil tanker *Prestige* off the coast of Galicia, Spain in 2002, and the subsequent measures to prevent oil spillage. Mairal employs the concept of temporality to distinguish between risk and danger, arguing that latency is the property of risk. Put differently, 'temporality makes a clear difference between a risk and a danger' (Mairal 2017, 1582). In relation to the management of the sunken oil tanker *Prestige*, Mairal argues that the situation was understood as a risk while it should have been treated as a danger, something that in turn would have facilitated more timely actions. While Mairal does not discuss the management of *Prestige* in terms of organizational framings of risk, his study is interesting as it investigates the intimate link between conceptualization of risk and organizational settings.

### The framing of risk

The remaining text engages in how risk was framed, but also *unmade* through national and European regulations, as well as through retrospects, daily practices of waste management and in relation to citizens and potential retailers, and how this related to temporality. With regards to

the former: national and European regulations, it is noteworthy that waste is primarily framed as a resource that is to be circulated within an internal economic, market-driven system that also exclude global actors (Gregson et al. 2015). The idea of waste as a resource is explicitly connected to a certain temporal register in that it is subjected to market fluctuations. This means that in order to be realized as a resource, waste needs to attain an economic value, a requirement that also seem to trump environmental concerns. Adam (1998, 113) notes that:

[a]t the level of EU policy, the common market has been and will continue to be the primary consideration of the EU. Environmental policy, therefore, can be created only in the context of that 'higher authority'. That is to say, environmental policies are only acceptable to the extent that they do not interfere with the economic goals of the Union (Adam 1998, 113).

Hence, while the focus of EU policies is precisely environmental concerns, the framing of waste as a resource caters first and foremost to an economic, market-driven system. Within this system, temporality follow closely the beat of market fluctuations. This *industrial order*, as Fortun (2014, 313) describes it, 'can't make environmental sense. But it leaves a mess'.

In relation to the purposes of this article, EU environmental policies and waste management plans also steer the outline of the Swedish waste management plan *Från avfallshantering till resurshushållning* [From waste management to resource management] (Naturvårdsverket 2012). This in turn largely determines the formation of the municipal waste management plans as well as the subsequent practices of waste management at Swedish waste facility sites. From the title, we note that the Swedish waste management plan has adapted much of its rhetoric from EU waste regulations. Not only is waste framed as a resource; the title also indicates a move from managing waste to managing resources. While mentioned in the Swedish waste management plan, risk was nothing that my informants acknowledged when I asked about the underlying reasons for certain practices of waste management. Interviewing the operational manager for example, he concluded that directives steer a considerable amount of the activities at the waste facility site of Sopberget, as well as how their goals are attained. Asking the engineer of waste disposal about his response to someone who asks why s/he should pursue recycling, his immediate answer was: because it is stated in the legislation. Here, regulations and directives are in themselves enough reason for why to pursue recycling, and as such they also affect the organizational framings of risk.

The economic, market-driven system that pervades much of contemporary regulations and policies was also incorporated into the everyday activities at the waste facility site of Sopberget, something that was clear as one of my informants and I discussed the division of household waste into fractions, in this case glass, metal, plastics, cardboards, magazines and newspapers. My initial suggestion: that the current amount of fractions might be the result of an increased awareness of the risks connected to waste management, was dismissed by my informant who explained that fractions are used in order to increase economic profit. Here, the concept of risk was unmade, or trumped by the strive for economic profit. Again, as waste is framed as a resource, the key is to optimize the economic profit of these resources.

Saying this, my informants did not simply conform to current legislations. Sometimes, they raised questions regarding the regional implementations of national and European directives. One example of this is the national directive that requires the Swedish waste facility sites that temporary store pressure treated wood, to set up roofs to prevent rain from percolating through the piles of pressure treated wood. Storing pressure treated wood in the open might result in pollution of ground, and surface water. In Sweden, the county administrative boards serve as the supervisory authority, thus, making sure that this directive is adhered to. During the time of my study, a roof was subsequently built at the waste facility site of Sopberget. As I contemplated the construction, one of my informants scornfully mentioned that other waste facility sites, particularly in the southern parts of Sweden were still able to store their pressure treated wood in

the open, simply due to less restrictive county administrative boards. The same phenomenon was mentioned by yet another of my informants a couple of weeks later. In both cases, the national regulation seemed to make little or no sense, not so much due to the risks with storing pressure treated wood in the open, but rather the fact that that other waste facility sites got away with what, according to national directives, are regarded as unsatisfactory solutions.

### **Recycle. [because] it feels right**

During one of the sampling excursions, I discussed previous practices of waste disposal and processes of managing waste with another informant, and the ways in which they differed from current dittos. His longstanding experience, not only from the waste management industry, but more specifically from the waste facility site of Sopberget, allowed for rich comparative examples. Recalling his and his colleagues' vivid accounts of the initial waste management solutions at the waste facility site of Sopberget, where everything, from household waste and car batteries to empty oil barrels and carcasses was disposed in a giant dump and later on covered with soil, I asked how he looks upon the changing practices of waste disposal and processes of managing waste where focus is on sorting and recycling, and what he thinks has changed these practices and processes. Saying this, I also steered the question to specifically concern risk; perhaps, I suggested, an increased risk perception might be a potential explanation for these changing practices of waste management. My informant shook his head: it is all about getting the volumes down, he stated. Again, risk as a potential explanation was overshadowed by alternative explanations where focus was on efficiency, but also economic profit. The division of waste into fractions such as glass, plastics, metal and cardboard increases the salability of these materials. As these materials enter the recycling market, rather than being simply disposed of, we witness an overall decrease of waste being landfilled (Corvellec and Hultman 2012). Saying this, recycling is 'an economically productive enterprise no less lucrative and no less morally complex than other modes of material transaction' (Alexander and Reno 2012, 15).

Recalling the above question: Why to engage in practices of recycling, the engineer of waste disposal also mentioned the importance of simplicity, convenience and effectiveness in order to optimize practices of recycling. More specifically, I was told that both instructions for, and practices of recycling need to be *simple, clear and convenient* to the individual citizen. Simplicity is also mentioned in the Swedish waste management plan (2012, 31). Listening to my informant, it seemed as if the three terms composed part of the municipality's internal goals for waste management. This means that they are not communicated to the citizens of the municipality but confidently *experienced* as citizens engage in practices of recycling. These three terms also appeal to smooth and straightforward processes of disposal. The (internal) goal to provide simple, clear and convenient disposal solutions to the municipal citizens can be compared to the public appeal that is printed on the municipal garbage trucks: *Recycle. [Because] it feels right* (author's translation). Noteworthy, while the internal goal emphasizes simplicity, convenience and effectiveness, the latter applies to emotions. Saying this, it is interesting to speculate in whether the internal goals of the municipality and its public appeal challenge, or complement each other.

The public appeal to recycle because it *feels right* appears rather vague. Upon watching the garbage trucks passing by, I found myself pondering: how exactly do I know that it feels right? Noteworthy, the emotionally based appeal also comprises a goal in itself: we recycle because it feels right, and as it feels right, we continue to recycle. This contributes to a recursive chain of events, and while the feeling of 'rightness' might include environmental concerns as well as ethical aspects (as also mentioned by the engineer of waste disposal), the overall aim for why we pursue recycling is because it feels right. This, however, does not provide further instructions for *how* to actually pursue recycling; we are simply left to our feelings, something that might create uncertainty at the same time as it enables discussions concerning people who recycle in the

'wrong' way. Many of my informants expressed a lack of understanding over *those* who cannot seem to recycle adequately, alternatively, and as the engineer of waste disposal explained, those who just pursue 'recycling', and not recycling. My informant used his hands to indicate citation marks as he emphasized the former – inadequate – practice of recycling where irregular practices of recycling take place, and where paper, cardboard boxes, plastic bottles and metal cans sometimes end up in the garbage bin rather than being recycled. Noteworthy, the problem with inadequate practices of recycling (wrong thing in the wrong bin) was not primarily framed as a matter of risk but rather as an insufficient use of resources. Browsing through a pamphlet that informed the citizens of the municipality of the benefits with recycling, I found the same line of argumentation. Again, framing waste, primarily in terms of a resource is part of an economic, market-driven system that also cater to a certain temporal register. Inadequate practices of recycling were also framed as an inconvenience, primarily for the workers who engaged in the work of decomposing. Partaking in the turning of the compost strings, I detected a large amount of plastics: cups, containers and plastic bags, but also metal scrap and clothes. My informants smiled at my flabbergasted face, and told me that these are things that are normally found in the compost. Later, and on a more serious note, one of my informants mentioned that due to the households' inadequate practices of recycling, the work of decomposing is severely affected as the final product, that is, soil, now needs to undergo additional processes of sorting.

Returning to the (internal) goal to provide simple, clear and convenient disposal solutions to the municipal citizens, I note that this goal actually works in conjunction with the public appeal to recycle because it feels right. Failure, both to perceive feelings of rightness and to acknowledge the straightforwardness and swiftness in practices of recycling, give rise to mockery, something that turns practices of disposal and waste management into tossing the right thing in the right bin *and* also, to *feel* right about it. Writing this, I recall that the joint mockery of *others'* inadequate recycling practices also allowed me, both to partake in discussions during coffee breaks, and to prove myself as a knowledgeable subject during interviews, something that – I imagine – served to elevate my position.

### **Organizational memory. Risks in retrospect**

I aforementioned that my initial aim: to investigate risk and risk perception in relation to waste and waste management – did not match the answers and thoughts provided by my informants as their perception of risk responded to, and emerged within the temporal register of the particular organizational framework of which they were part. One way in which this mismatch was – partly – resolved was through approaching potential risks with waste and waste management retrospectively. It simply seemed easier to detect and discuss the risks connected to previous practices of waste management than to current dittos. This was evident, for example in relation to the composition of new landfills. As opposed to their predecessor, recently founded landfills are equipped with impermeable liners that prevent leakage of leachate into ground, and surface water, the latter a risk that was not acknowledged during the 1970s, at least not at the waste facility site of Sopberget. While the risk of leakage of leachate into ground, and surface water might seem obvious now (and adequate measures taken to mitigate this risk), my informants' demonstrations of the composition of the old landfill showed that this risk was rather absent when the old landfill was founded.

Discussing risk and risk perception as well as waste and waste management retrospectively, the long-term experiences of two of my informants were especially beneficial as they worked as bin men when the waste facility site of Sopberget opened in 1973. Asking about the processes of waste management at that time, I was provided with vivid accounts of the giant dump where – as also aforementioned – all kinds of waste were disposed and covered with soil. Later on, and as a means to save space, the waste that arrived to the waste facility site of Sopberget was also

compressed, crushed and grinded. These – rather rudimentary – treatment techniques included little or no sorting of waste, something that made me both laugh and slightly terrified. The primary focus at that time, one of my informants told me, was to get the volumes down, so as to be able to hold a larger amount of waste. Noteworthy, while potential risks (for the environment as well as for human health) with previous treatment techniques – or the lack thereof – was acknowledged only years later, early discussions must still have been held regarding the importance to cover the waste with soil and/or to compress, crush and grind it.

Thus far, and curious about today's well-known waste category *hazardous waste*, I asked one of my informants about the underlying reasons for the emergence of this waste category, my intention being to close in on the concept of risk. My informant explained that this category emerged during the mid-1980s, and that it, at that time, included oil, solvents and color. The oil was sent to a company in the Southern parts of Sweden. Solvents were shipped northward by trucks. When I asked my informant if he knew what happened to the solvents as they left the waste facility site of Sopberget, he shook his head. I don't know, he said. The lack of overall understanding is interesting, and something that I would say characterizes the waste/recycling industry (including electronic waste) in general. As waste often is subjected to extensive transportation, the processes of waste management are geographically distributed and split up to concern numerous actors, something that in turn affects risk perception in that it tends to concern the situation at hand. As a consequence, any long-term engagement (with waste as well as the potential risks that emerge as a result of waste) is obstructed. One example of the short-term engagements that occurred as a response to the inconvenience was seen as my informant recalled the continuous struggles to load, stack and fixate barrels with unknown content onto trucks. No matter how you tried to fixate these barrels, he told me, they had a tendency to move during transportation.

A couple of months later, another informant introduced two old photo albums that depicted the activities at the waste facility site of Sopberget from the early 1980s and onwards. Browsing through pages of company parties, the digging of gas pipes and visits to other waste facility sites, I found a photo of a truck with tilted oil barrels on pallets. The ropes that had been used to fixate the oil barrels were loose and a couple of men engaged in restoring the cargo so that it would withstand further transportation. Bearing in mind what I had been told about the struggle to manage containers of hazardous waste, I noted that stories like these contribute to emphasizing the situated managing, and subsequent forwarding of hazardous waste, to the extent that what happens before and after is of less importance. Rather, focus is on trying to attend to problems and dilemmas as they emerge. Noteworthy, this story, as part of the linear temporality in which the photos were arranged and gained meaning, was intimately linked to an organizational or collective memory (Schatzki 2006). Here, the situated managing of waste, in this case, the oil barrels, was but one part of a chain of occasions. The very act of turning pages strikingly illustrates this linearity.

### **Situated inconveniences**

At the same time as risk was largely absent in discussions on why to sort, manage and recycle waste, or overshadowed by other factors, it was equally present in the daily activities of my informants, but then as *situated inconveniences* or hazards. As such, risk was individualized in that it did not seem to concern anyone else than my informants and – sometimes – myself. The notion of risk that emerged also followed a particular time-frame that was possible to surveil and act upon, as opposed to my questions and inquiries on potential future risks with for example waste and waste management. This was evident, for example in sampling of leachate. The status of leachate as polluted waste water renders it an object of recurring practices of sampling and analyses. Sampling of leachate therefore occurs due to the risk of contamination of

ground, and surface water. During the time of my fieldwork, however, potential risks of elevated levels of certain substances, questions regarding the long-term effects of discharge of leachate and regulatory measurements to prevent this succumbed to searches for traces of wild animals. One of my informants stressed that one of the best things with leachate sampling is the encounter with wild animals, and another informant taught me how to detect different traces of moose. Hence, the sampling excursions turned into expeditions where instructions of how to take samples of surface, and ground water were sandwiched with demonstrations of moose beds. This also prompted a rather detached relation to the long-term risks with leachate.

Saying this, while risk was largely absent in leachate sampling, it emerged every now and then as I observed and partook in this activity. As a means to determine the level of contamination in ground, and surface water, samples of the PH level was taken twice per year. For this purpose, a probe was dipped in streams and small creeks for a couple of minutes. During the last sampling excursion, I had grown familiar with some of the procedures, and took the initiative to prepare plastic bottles and small plastic bags with zip locks, as well as test instruments and related probe, while my informant went back to the car to pick up something that he forgot. When he came back after five minutes, I was on my way out in the stream, holding the test instrument and the related probe in my hand. Inquiring whether the selected probe was the right one, my informant nodded, but pinpointed that I had forgotten to remove the lid that protected the probe. Let me remove it, he continued and explained that the probe was capsulated in a caustic substance, something that serves to protect it, but also poses a risk to human health.

A couple of weeks later, as I followed the work of decomposition, one of my informants informed me about the risks connected to breathing the dust that swirls up after the machine that turns the compost strings around. I aforementioned that the strings of compost are covered with tarpaulins. This is also why at least three people are needed in the work of decomposition: one person who manouvers the machine that turns the compost around, and two persons who remove the weights that hold the tarpaulins in place before the compost is treated, and also put them back as the machine has passed. This means that the two latter persons work in close conjunction with the machine, positioning themselves so that they can reach, and adjust the giant tarpaulins to cover the compost strings immediately after the treatment is finalized, at the same time as they also are required to keep necessary safety distances. As I followed one of my informants alongside a newly treated compost string, he drew my attention to the clouds of dust that swirled up when the machine passed by. Proposing that we should move to the other side of the machine in order to avoid breathing in the dust, my informant highlighted simultaneously the risk (inconvenience?) with the dust *and* the solution to it. In sum, and drawing on the two examples above, while the risks with waste and waste management were present in the everyday work of my informants, they seemed to focus on situated inconveniences rather than long-term, latent dangers. As such, it is interesting to speculate in whether the risks of waste and waste management were acknowledged, *because* they were also trailed by immediate measures.

## **Risk, logistics and systems of waste management**

Thus far, I have shown that the organizational framings of risk that pervaded the activities of the waste facility site of Sopberget tended to emerge and disappear in relation to waste/waste management practices as they were trumped, overshadowed by, or integrated into other factors such as efficiency, and economic profit. Saying this, these (and other) factors do not simple challenge risk and risk perception; they equally work to reinforce the same, making the organizational framings of risk acknowledgeable and, more importantly, possible to act upon. During the interview with one of my informants, I realized that *a simple awareness* of the risks that

subsequent certain kinds of waste management practices and/or materials and substances is not enough; in order for this risk to be acted upon, *a system of waste management* has to be deployed and put into force. The framing of (certain) risks then, emerges in reciprocal action with systems of waste management. Asking another informant about the emergence of certain fractions of household waste, he told me that the municipal citizens were offered collection points for glass recycling already in 1991. Noteworthy, the initiative stemmed from the citizens themselves. My informant mentioned that in the beginning of the 1990s, he and his colleagues received a couple of calls per week from citizens who required collection points for glass recycling as they had seen this service in other municipalities. According to my informant, this request was motivated by concerns regarding the perceived risks with disposed glass if it remains untreated, a perception that he, however, questioned. Glass, he explained to me, is not hazardous, which is why the subsequent decision to establish some collection points in the municipality was of mere symbolic character. In fact, as no waste management system for recycled glass was established in the municipality, problems emerged regarding what to do with it, once collected. My informant mentioned that attempts were made to make use of the recycled glass in, for example construction of roads. Saying this, the citizens of the municipality had access to collection points where they could dispose of glass, and that, my informant concluded, was what mattered.

The above example shows the reciprocity between, and mutual dependency of organizational framings of risk and the emergence of systems for waste management. In this case, the municipal citizens' perception of risk – while questioned by my informant – gave rise to altered waste management routines. The above example is also interesting as it shows that the involved stakeholders, in this case the municipal citizens and the representatives for the waste facility site of Sopberget, assume different positions in relation to glass recycling, where the former's acknowledgement of the risk with disposed glass fosters changes in the organizational waste management practices. As Douglas and Wildavsky (1982, 198) have it: '[i]f the selection of risk is a matter of social organization, the management of risk is an organizational problem'.

Yet another factor that determined the ways in which perceived risks were framed and acted upon in this particular organization is logistics. Even though systems for waste management of certain (hazardous) fractions exist, it might not be logistically (economically) feasible to forward these fractions to specialist recycling plants as the transportation costs are too high. This was the case with, for example plasterboards. Plasterboards comprise a somewhat problematic waste fraction as they contain sulphur, something that obstructs incineration. During the time of my fieldwork, the plasterboards that arrived at the waste facility site of Sopberget were subsequently landfilled in a distinct part of the new landfill.<sup>3</sup> Observing the meeting between two of the representatives for the waste facility site of Sopberget and representatives for the neighbouring households, the latter were informed that the amount of plasterboards that is landfilled has increased dramatically the last years, something that stands in stark contrast to the growth rate of the remaining landfill. In order to secure a similar growth rate, and in turn a simultaneous final coverage of the new landfill in about twenty years, the representatives for the waste facility site of Sopberget mentioned alternative solutions such as recycling of plasterboards. At the same time, they both concluded that economically, it makes little or no sense to transport the plasterboards. 'There is no business opportunity in this particular waste', one of them concluded. Here, the perceived risks with the dramatic increase of plasterboards are weighted against, and gain meaning in relation to, the costs for alternative solutions, in this case transportation.

## Concluding remarks

The ambition of this article has been to shed light, not only on the ways in which risk tends to alternately emerge and disappear in discussions regarding, and practices of, waste management,

but also how the organizational framings of risk seem to cater to what Adam refers to as the logics of industrial time. Risks with waste and waste management were indeed part of the daily activities of my informants, but it emerged *in relation to* systematic and logistic solutions, and seemed to concern situated inconveniences. While this enabled my informants to take action, it also contributed to bounding risk and risk perception to a particular temporal register. As has been shown, the risks connected to caustic substances and dust from the compost were obvious in that their effects were immediate and seemingly uncontested. Moreover, they were relatively easy to remedy. And because of the relative easiness with which to remedy potential risks, these risks were also considered as such.

The logics of industrial time also suffuse formulations of current environmental policies and waste management plans, on a national as well as on an EU level where waste is seen primarily as a resource that continuously needs to be invented anew. As such, the logics of industrial time follow closely the beat of market fluctuations. In relation to the purposes of this article, potential risks with waste was often weighed against other factors such as effectiveness, swiftness, and economic profits or losses. While this reasoning, at first seemed to outperform any notion of risk, it actually conformed to the risks acknowledged by the organizational framework of which my informants were part.

Returning to my initial feelings of frustration and insecurity; while indeed most peevish, they also helped to reveal the importance of considering, not only the normative status of organizations in relation to their framing of risk, but also how this framing caters to a particular temporal register. As such, this article ends with a call for an increased focus on the temporal aspects of risk, and their boundedness to organizational settings.

## Notes

1. In order to retain the privacy of my informants, a pseudonym is used for the name of the waste facility site.
2. Leachate is polluted waste water that is generated as a consequence of precipitation on sanitary landfills.
3. The solution to landfill plasterboards at the waste facility site of Sopberget was possible as the new landfill did not contain organic waste. The combination of organic waste and plasterboards creates hydrogen sulphide. Hydrogen sulphide is toxic to breath, and also flammable. Besides, it contributes to corrosion of instruments and equipment that are used for leachate treatment and treatment of landfill gas (Swedish Environmental Protection Agency, Hantering av gips på deponier).

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