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ABSTRACT

This conceptual article aims to promote research on organizational forgetting in the context of crises. Organizations do not only learn but they also forget: they lose previously acquired knowledge and practices over time. In contrast to a multitude of studies on organizational learning, the concept of organizational forgetting has been underdeveloped in the literature. Yet, organizational forgetting is equally important: what is the point of learning if lessons learned are quickly forgotten? In this article, we integrate organizational forgetting into theory on learning from crises. Studying the concept in a crisis context is particularly relevant, as lessons need to be retained over long periods and the consequences of memory loss can be severe. We provide a conceptualization of organizational forgetting and its critical and structural form: organizational amnesia. We explain how integrating forgetting in a crisis context results in a shift from a cumulative perspective to a cyclical perspective on learning over time, present an analytical framework for studying organizational forgetting in a crisis context, and identify six explanations for why it occurs.

1 | Organizational Forgetting in a Crisis Context

1.1 | The Difficulty of Achieving Learning From Crises Over Time

In societies, there is a widespread expectation that organizations learn extensively from past and current crises and, consequently, can prevent similar crises in the future. However, also contrary to long-standing theoretical expectations, a growing body of research suggests that organizations actually have great difficulty in learning from crises (Smith and Elliott 2007; Elliott 2009; Toft and Reynolds 2005; Birkland 2009; Elliott and Macpherson 2010; Roux-Dufort 2000). Learning from a crisis over time is neither self-evident nor straightforward, but a complex and challenging process. Organizations often struggle to substantially improve their performance over time (Gino and Staats 2015; Vaughn et al. 2019). Having experienced one crisis, organizations do not automatically

respond more effectively to the next one (Deverell 2009; Roux-Dufort 2000; Eburn and Dovers 2015). Sometimes problems regarding the same themes seem to recur in different crises (Donahue and Tuohy 2006; Juffermans and Bierens 2010; Smith and Elliott 2007). A lack of organizational learning over time creates the risk of having to "reinvent the wheel" (Broekema et al. 2017). Despite the many studies addressing organizational learning (Basten and Haamann 2018; Easterby-Smith et al. 2000), the literature does not seem to offer an elaborate explanation for why organizations have such difficulty learning over time.

1.2 | Incorporating Organizational Forgetting Into Theory on Learning From Crises

In this article we propose that the above discussed difficulty organizations have learning over time is not necessarily a

sign of a lack of learning, but may rather be due to the presence of "organizational forgetting" – a process antithetical to learning. Over time, organizations may be unable to retain all of the lessons they have learned. That is, organizations not only *learn*, but they also tend to "*forget*" previously learned lessons. Whereas learning increases an organization's crisis performance, forgetting reduces it (De Holan and Phillips 2012). We posit that high learning expectations present in both society and in theoretical scholarship are based on an incomplete picture due to a lack of attention to organizational forgetting. We advocate that organizational learning theory should incorporate organizational forgetting by default, moving from a *cumulative* to a *cyclical* perspective on learning over time. This is in line with several studies that suggest a more iterative approach to change, such as punctuated equilibrium theory (Baumgartner et al. 2018), and incrementalism (Johnson 1988). Current studies on organizational learning typically do not incorporate forgetting (Argote 2013, 58). In fact, rather than approaching it as a unidirectional process where organizations only accumulate lessons learned over time, organizational learning should be accepted as a continuously changing aggregation of ongoing processes of both learning new lessons and forgetting already learned lessons, with both processes alternating in dominance. This helps explain why organizations do not automatically increase their effectiveness in dealing with crises over time.

1.3 | Organizational Forgetting: A Blind Spot in Literature

Despite its undeniably large and long-term impact on the performance of organizations, organizational forgetting – in this article defined as the non-intentional process of organizations losing previously acquired knowledge and/or practices – has received surprisingly little attention in the literature. While a mountain of studies has been dedicated to organizational learning, and despite a recent increase in attention, still disproportionally few studies have addressed the opposing process of organizational forgetting (De Holan and Phillips 2004; Argote 2013; Becker 2018; Kluge and Gronau 2018; Besanko et al. 2010; Klammer and Gueldenberg 2019; Broekema et al. 2017). The condition in which organizations suffer from a structural inability to retain critical knowledge and practices – "organizational amnesia" – has gotten exceptionally little attention (Stark 2019; Pollitt 2000; Othman and Azuan Hashim 2004; Stark and Head 2019). The understanding of how organizations lose memory over time is still in its infancy and fragmented. The topic is in need of systematic conceptual and empirical research (Klammer and Gueldenberg 2019; Leon et al. 2024). Currently, commonly used conceptualizations of organizational forgetting and amnesia are lacking. Research on organizational learning focuses almost exclusively on how lessons are acquired rather than on how lessons are retained, that is, how to prevent them from deteriorating or being lost over time. A better understanding of the dynamic nature and role of time in knowledge retention is needed (Casey and Olivera 2011).

1.4 | Aims of the Study

With this conceptual article, we aim to advance research on organizational forgetting and amnesia. We discuss organizational forgetting in a crisis context because this is particularly illustrative and relevant. Crises, as low-probability high-impact events, create unique opportunities for profound learning (Birkland 2006). Crises typically generate vast amounts of new knowledge, through increased media attention, politicization, and crisis inquiries (Dekker 2004). Also, the infrequent occurrence of crises requires retaining lessons learned over the long periods between crises, which creates major risks of forgetting. We will conceptualize organizational forgetting, juxtapose it with related concepts of amnesia, learning and unlearning, and integrate them into theory on organizational learning from crises. We will discuss the proposed shift from a cumulative to a cyclical perspective on organizational learning. Building on theory of organizational learning, we will present an analytical framework for studying organizational forgetting in a crisis context. This analytical framework promotes systematic empirical research into how memory in organizations is lost and seeks to enhance the validity and comparability of empirical findings. We will then, building on the literature, formulate a list of explanations for organizational forgetting. We will end by formulating a research agenda, outlining avenues for further research into organizational forgetting. We need evidence-based theories on organizational forgetting to create a basis for developing practical tools that organizations can use to arm themselves against unwanted memory loss, and particularly amnesia.

1.5 | The Practical Relevance of Studying Organizational Forgetting

Organizational forgetting is a widespread issue that can have a serious and long-term impact on organizations and on society as a whole. Forgetting can fundamentally undermine the performance of organizations (Stark 2019, 145). In the end, what is the value of learning if the lessons learned are quickly forgotten? All kinds of organizations, across all kinds of policy areas, in all countries of the world encounter memory loss regularly or on a daily basis. The impact can be severe for organizations that suffer from amnesia, as they are subject to a structural forgetting of critical knowledge or practices, not being able to retain them over time. In practice, there generally seems to be little awareness of the occurrence of organizational forgetting and the severe and long-term impact it can have. In addition, there generally seem to be few resources devoted to countering it. As Stark explains, it is time "to start taking institutional amnesia seriously. It can be the cause of lesson-learning failures, it can undermine the quality of emergency decision-making and operational processes, and it can fuel problematic forms of postcrisis politics" (Stark 2020, 9). Understanding forgetting is particularly relevant in the context of crises, because the extent to which lessons learned are retained co-determines how effectively will be responded to a next crisis (Deverell 2009).

2 | Conceptualizing Organizational Forgetting

2.1 | Defining Organizational Forgetting

Much like individuals, organizations do not only learn but they also forget.[1] We assume an organization can acquire new knowledge and practices through the process of organizational learning (Argyris and Schön 1978). We define organizational learning as the process acquiring new knowledge (the cognitive dimension) and the adopting of new practices based on that (the behavioral dimension) in an organization (see Fiol and Lyles 1985; Argote 2013). Despite the complexities that crises bring, they offer a unique opportunity for organizations to learn lessons (Dekker 2004). However, not all acquired knowledge and practices remain permanently present in an organization. These knowledge and practices can deteriorate and be lost over time. Building on previous studies on the concept (De Holan and Phillips 2012; Klammer and Gueldenberg 2019; Becker 2018), we can define organizational forgetting as the non-intentional process of an organization losing previously acquired knowledge and/or practices. We can perceive organizational forgetting as an opposing process to organizational learning, consisting of the same two dimensions: the outflow of previously acquired knowledge (the cognitive dimension) and of previously adopted practices (the behavioral dimension). If an organization fails to retain certain lessons over time, it will be unable to apply and use those lessons when needed at a later date. It creates the risk of an organization making similar mistakes repeatedly in similar situations (Kransdorff 1998). Knowledge and practices can be lost at a specific moment due to an event, such as a restructuring or inaccurate communication, or through gradual decay over time, such as a step-by-step loss of understanding of the origin and meaning of a lesson. Forgetting is a natural phenomenon, meaning that it occurs in each and every organization. We can perceive organizational learning over time as a dynamic balance between continuous flows of knowledge that enter an organization and those that leave the organization. The issue of organizational forgetting becomes especially prominent when lessons need to be retained over a long period without being actively used. While the process of forgetting is by definition not intentional, an organization may at a later time be aware that forgetting has occurred. Also, an organization may actively and intentionally seek to prevent forgetting.

2.2 | A Critical Form of Forgetting: Organizational Amnesia

When forgetting takes a critical and structural form in an organization, we can speak of organizational amnesia (see Stark 2019; Stark and Head 2019; Othman and Azuan Hashim 2004). In analogy with the medical condition of amnesia, we can assume that not only people but also organizations can suffer from a significant loss of memory. We define organizational amnesia as the state in which an organization suffers from a structural inability to retain critical knowledge and practices over time, which results in it to repeatedly forget previously learned lessons. Organizations

fail to retain experiences and memories over time, and recall and use them when needed, because they repeatedly fade away (see Pollitt 2000; Othman and Azuan Hashim 2004). Whereas forgetting is the process by which specific elements are lost in specific instances, amnesia is the state in which an organization finds itself when it is unable to avoid forgetting. Forgetting does not have to be problematic, whereas amnesia by definition is, because it is about a loss of significant memory, happens on a structural basis, and in an uncontrolled manner. Organizational amnesia obviously involves forgetting, but vice versa, forgetting may not involve amnesia. Forgetting may initiate amnesia, for example, if fundamental knowledge is lost that sustains critical practices or that enables to access critical knowledge. We derive insights from medical science by making an analogy with the human condition of amnesia, which distinguishes between retrograde and anterograde amnesia (Langer 2021). This metaphor may help us understand forgetting in organizations. Then, *retrograde organizational amnesia* may reflect an organization that, due to an impactful event or gradual deterioration, is no longer able to recall lessons already acquired and stored but is still able to acquire new lessons from what it is currently experiencing. Then, *anterograde organizational amnesia* may reflect an organization that can remember lessons it acquired in the past but, due to an impactful event or gradual deterioration, is unable to acquire and retain new lessons from what it is currently experiencing.

2.3 | The Impact of Organizational Forgetting

Organizational forgetting is not necessarily harmful, nor can it completely be prevented. The reality is that, much like humans, organizations forget things from time to time. Over time a lesson learned might be outdated. Memory loss can be critical when an organization's fundamental lessons are lost or compromised. It can cause organizations to repeatedly incur similar failures in similar situations, which can mean it needs to relearn previously available lessons or, worse, it will no longer be able to adequately carry out its core tasks. Avoiding forgetting can be necessary to maintain a reasonable performance level in an organization (De Holan and Phillips 2012). Organizational forgetting is problematic when memory loss concerns valuable expertise acquired at great effort and costs in terms of resources. It is particularly problematic when it occurs in organizations which are responsible for vital public tasks in society. Organizational forgetting can have devastating effects in policy areas where high-reliability organizations are needed (Weick and Sutcliffe 2015), such as in nuclear energy or health care, where organizations are tasked with safeguarding vital interests. These organizations build on high levels of expertise and with low tolerance of errors. Although forgetting has a negative connotation, it does not necessarily have to be detrimental. In specific circumstances, it can even be functional and advantageous for an organization that certain knowledge and practices are lost over time (De Holan and Phillips 2004). First, as with an individual, there is a limit to the amount of information an organization can process. Forgetting can create space. Also, an organization may suffer from "traumatic" experiences and ineffective routines (Stark 2019, 147). Organizational amnesia is by definition problematic, as is explained in

Section 2.2. Organizational amnesia can have a serious long-term negative impact on an organization's performance and may not be easily overcome (Stark 2019).

3 | Incorporating Forgetting: From a Cumulative to a Cyclical Learning Perspective

Studies on organizational learning tend to not take forgetting into account (Argote 2013, 58). In this section, we explain how the incorporation of organizational forgetting into theory of organizational learning after crises results into a shift from a cumulative to a cyclical perspective on organizational learning over time.

3.1 | A Cumulative Learning Perspective

The difficulty that organizations have with retaining lessons learned over time stands in stark contrast to the widespread, often implicit, assumption that learning is a cumulative, unidirectional, process. We label this "ideal type" the *cumulative learning perspective*. This perspective follows the rationale that all the lessons an organization learns are only ever accumulated. This logic implies that organizations only ever improve their performance over time. As such, this perspective represents an "ideal" situation. Learning over time is presented as a fairly straightforward process whereby once learned lessons remain in an organization forever. In a crisis context, this would mean that a crisis takes place, its causes are evaluated, recommendations are formulated, an organization learns lessons, retains them, and responds more effectively, after which the entire process repeats (see Birkland 2006).

This cumulative learning perspective, however, overlooks one crucial aspect: it ignores the fact that organizations are also continuously exposed to the opposing process of forgetting, that is, lessons drain away from the organization. This is especially persistent in case an organization suffers from organizational amnesia, because this entails a structural forgetting of lessons learned. In general, organizations seem to have difficulty with retaining knowledge and practices over time, especially when long periods have to be bridged, such as between crises. Countering organizational forgetting is a difficult and complex endeavor, and we must keep in mind that organizations do not have unlimited storage capacity.

3.2 | The Shift to a Cyclical Learning Perspective

Therefore, we propose a shift of focus in the literature: from the cumulative perspective to a more balanced and complete approach to learning over time, which takes forgetting into account (see Figure 1). In contrast to the cumulative perspective, we introduce the *cyclical learning perspective*, which assumes that organizations learn in cycles that include both learning and forgetting. The cyclical perspective assumes that, over time, organizations are subject to a continuous dynamic of both learning and forgetting: they are continually both absorbing and losing lessons. In this model, learning and forgetting can occur both simultaneously and alternately, depending on the situation. For example, an organization may peak in learning immediately after a crisis inquiry report is published, while, in regular times, forgetting predominates. We must also recognize that learning and forgetting are mutually interdependent. The more lessons are learned, the more lessons need to be stored, and the more lessons that are bound to be forgotten, due to limitations of an organization's focus and storage capacity. Following this logic, an organization will only increase its performance, if the degree of learning outweighs the degree of forgetting. Furthermore, lessons may be
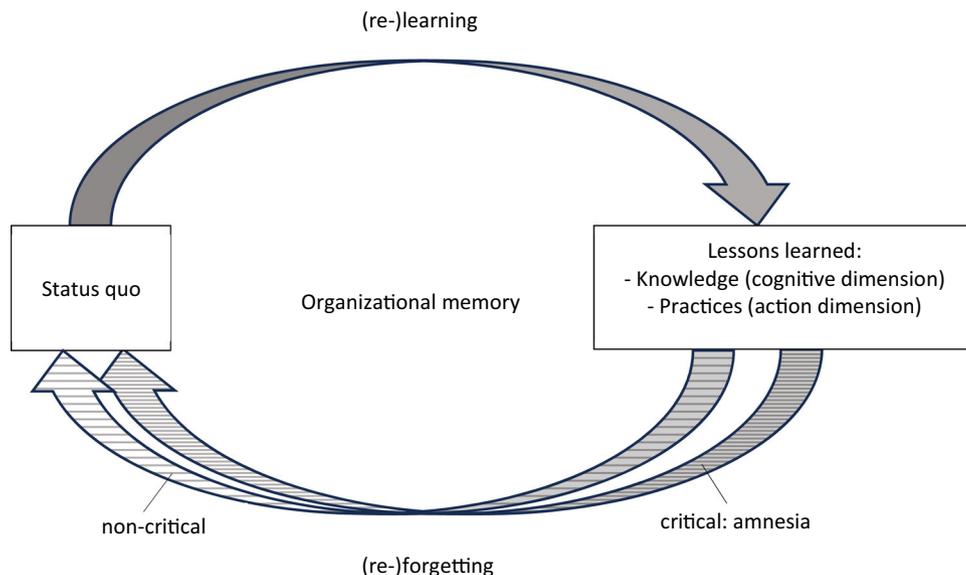

FIGURE 1 | A cyclical perspective of learning over time, which includes forgetting.

learned in different loops, or, after being forgotten, re-learned and potentially re-forgotten.

3.3 | The Two Different Learning Perspectives Visualized in the Context of Crises

We schematically illustrate "ideal types" of the two different learning perspectives in the context of crises in Figure 2. Figure 2a shows a typical cumulative learning pattern that follows a linear build-up. We see that an organization starts learning lessons during a crisis and continues to do so for some period after the crisis, after which it manages to retain all those lessons in the period until the next crisis occurs, during which it starts to learn additional lessons, and so on. Following this perspective, lessons learned are accumulated,

allowing an organization to perform significantly better in a new crisis than in a previous one.

Figure 2b and c show a cyclical learning pattern, which consists of consecutive loops. We see that an organization, during a crisis, learns significantly more lessons than it forgets, and continues to do so for some period after the crisis, after which learning slows down until, gradually, the forgetting of lessons gains the upper hand, after which it steadily loses lessons until the next crisis occurs, when learning restarts. We label the point at which learning and forgetting balance each other out as the "*learning-forgetting equilibrium*." Following this perspective, whether an organization will perform better in a new crisis than in a previous one depends on both its ability to retain lessons learned in noncrisis periods and the length of time until the next crisis. Figure 2b shows a situation where an organization is
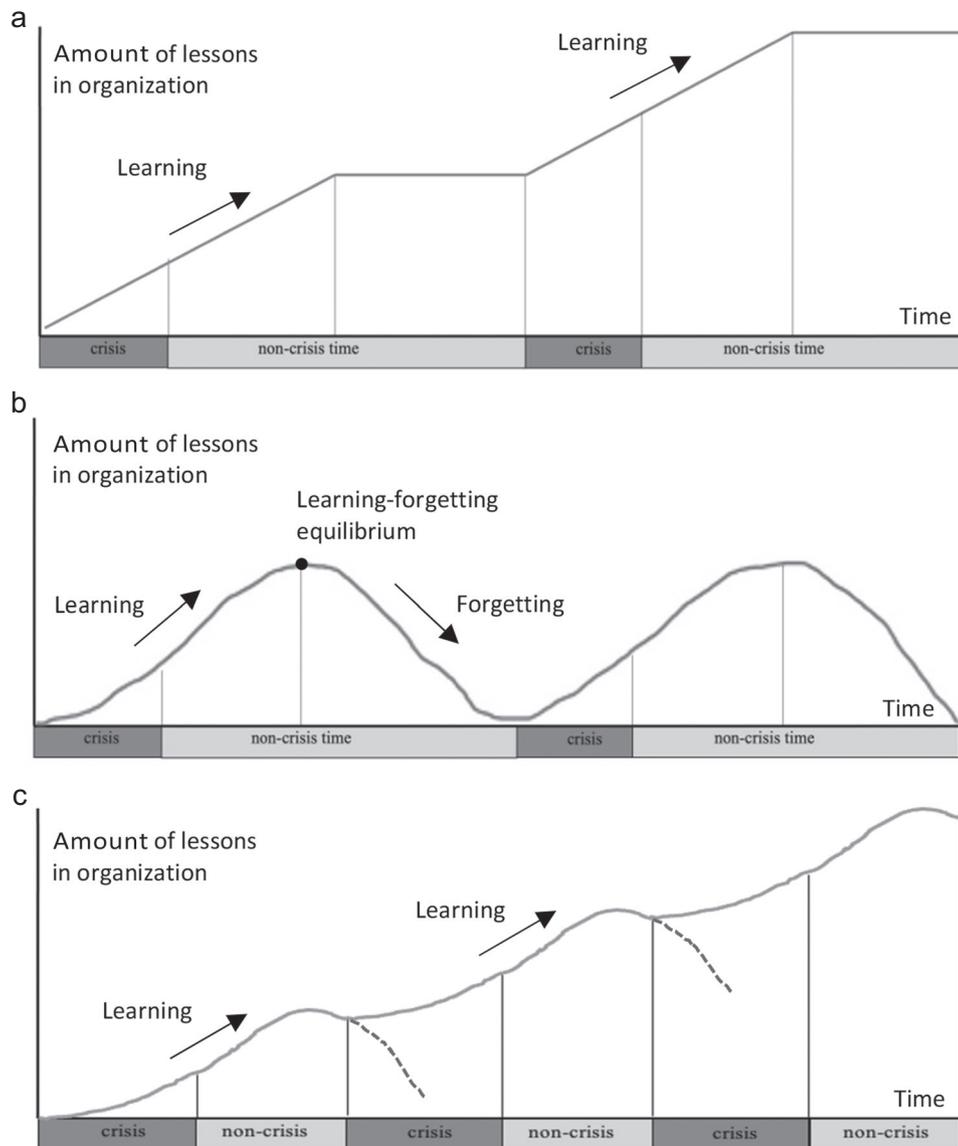
FIGURE 2 | The cumulative learning perspective versus the cyclical learning perspective in the context of crises. (a) A cumulative learning pattern, where an organization is not subject to forgetting. This learning patterns represents "ideal" learning. (b) A cyclical learning pattern, where an organization is subject to a strong degree of forgetting and faces a low frequency of crises. This may indicate organizational amnesia. (c) A cyclical learning pattern, where an organization has and strong ability to retain lessons and faces a high frequency of crises. A cumulative learning pattern is approximated.

not able to retain lessons and no new crisis occurs, which at some point leads to all lessons being forgotten. This may point to organizational amnesia. Figure 2c shows a cyclical learning pattern where there is a strong ability to retain lessons and a high frequency of crises. Here, the forgetting curve is interrupted and turned into a new learning curve, resulting in an improved organizational performance. The higher an organization's ability to store lessons and the frequency of crises, the more this learning pattern will approach the cumulative learning curve.

4 | Analytical Framework for Studying Organizational Forgetting

In this section, we present an analytical framework on organizational forgetting in a crisis context, distinguishing the key dimensions of the concept, see Table 1. Currently, in the literature, organizational forgetting is typically referred to in general terms. The concepts require further conceptual elaboration to enable further development of knowledge. With this framework, we seek to provide a basis for systematic empirical research into memory loss in organizations. Since the processes of forgetting and learning are closely related, in the development of this framework we were able to draw on studies of organizational learning (Crossan et al. 1999; Argyris and Schön 1978; Deverell 2009; Broekema 2018). In our framework, we istinguish the following six key dimensions of organizational forgetting: "who," "what," "what level," "how," "when," and "how structural," which we will discuss below. The framework has been developed to enable systematic retrospective study of forgetting.

Who has forgotten something? refers to the entity and the organizational level of the entity that loses a lesson. This could be an individual, a team within an organization, an organization, or a network of organizations (see Crossan et al. 1999). Note that forgetting by a larger entity is not necessarily the same thing as the aggregation of forgetting by the smaller entities within. If, for example, a network abandons its collaboration policy, this does not have to mean that the organizations within the network lose their routines for collaboration that are part of this policy.

What has been forgotten? refers to the kind of lessons that were lost. We distinguish losses of knowledge, understanding, skills, and routines (see Broekema 2018). A loss of *knowledge* could,

for example, be the loss of data on the health impact of a chemical substance because experts leave an organization. A loss of *understanding* could be that people no longer understand why a protocol is effective and under what circumstances to apply it. A loss of *skills* may be the loss of competences by an expert to carry out a complex technical task due to a lack of periodic training. *Practices* may, for example, be lost when a first response organization abandons or changes the automatic standardized response to a certain type of crisis. When the knowledge, understanding, skills, and practices that have been lost are critical to the organization, it may indicate organizational amnesia.

What has been the level of forgetting? refers to the depth of lessons that are lost. This dimension is based on the distinction between single-loop and double-loop learning developed by Argyris and Schön (1978) and adapted to the opposing process of forgetting. *Single-loop forgetting* is about losing the techniques once present in an organization to achieve its existing goals and correct mistakes effectively, and thus could be viewed as somewhat superficial form of forgetting. An example would be the abandonment of certain protocols for conducting a periodic quality check. *Double-loop forgetting*, in contrast, concerns the decay of the underlying assumptions, goals, and strategies of an organization, and therefore could be viewed as a more fundamental form of forgetting. This could, for example, present itself when an organization loses the rationale behind a particular management strategy due to a change of the executive board.

How has the lesson been forgotten? refers to the process of how lessons are forgotten. Lessons can be suddenly forgotten as a result of an unexpected event or organizational change. This can happen when knowledge and skills disappear due to a major reorganization or when an experienced professional retires. Lessons can also gradually decay, in incremental steps over an extended period. For example, employees who have experienced a rare type of crisis may, over the years, little by little forget how to respond to this type of crisis.

When has the lesson been forgotten? refers to the moment in time when lessons are forgotten in relation to the event that led to the lessons being learned (see Deverell 2009). Lessons might already be lost shortly after being acquired, while an event is still ongoing. In this case, the lessons have usually not yet become embedded in the organization. Lessons can also be lost long after an event, when lessons have been embedded and

TABLE 1 | Dimensions of organizational forgetting.

Dimension	Categories
Who has forgotten something?	Individual, team, organization, network
What has been forgotten?	Knowledge, understanding, skills, practices
What has been the *level* of forgetting?	Single-loop forgetting, double-loop forgetting
How has the lesson been forgotten?	At a specific moment, incremental decay
When has the lesson been forgotten?	During a crisis, in the aftermath, in calm times
How structural has been the forgetting?	Sporadic, temporary, structural

institutionalized in the organization. In considering crises, the moment that lessons are forgotten can be categorized into the precrisis, in-crisis, and postcrisis phases of the crisis cycle.

How structural has been the forgetting? refers to how persistent forgetting is. *Sporadic* forgetting – once every so often – is normal in any organization. This does not mean it is harmless, because important knowledge can still be lost. If forgetting is *temporary*, it can be problematic, but the organization may succeed in recapturing the memory at a later point in time. For example, temporary forgetting may be the result of a reorganization or impactful event that requires so much effort that no attention can be given to retaining knowledge. If forgetting becomes structural, a failure to address it at some point will inevitably lead to serious and unnecessary errors in the organization. Therefore, a structural form of forgetting may indicate organizational amnesia.

5 | Explanations for Organizational Forgetting

The extent to which forgetting occurs within organizations, meaning the ability of organizations to retain memory, seems to vary significantly (Argote 2013, 57–81). In this section, based on the literature, we provide an overview of explanations for organizational forgetting. We distinguish seven explanations for why forgetting does (or does not) occur, which we identify at the level of (individual) lessons and at the level of the organization; see Table 2. The first type involves processes of lessons management within an organization, whereas the second type concerns processes that pertain to organizational developments. We will discuss the seven explanations below.

5.1 | Level of Explanation: Lesson

5.1.1 | Challenges in Dissemination: Communicating Lessons to the Right Place

Lessons may be lost because they are not effectively disseminated through an organization. Dissemination can be seen as a key process in organizational learning over time: "information distribution is a determinant of both the occurrence and breadth of organizational learning" (Huber 1991, 100). Lessons may be lost along the dissemination process (Wolbers and Boersma 2013) at each stage of this chain. After an organization

TABLE 2 | Explanations for organizational forgetting.

Level	Explanation
Lesson	Challenges in dissemination
	Challenges in implemention
	Challenges in storage
	Challenges in retrieval
Organization	Employee turnover
	Organizational restructuring
	A changing environment

has learned a lesson, it needs to be distributed to the appropriate locations within the organization, in terms of employees, teams, units, or divisions. In case of inadequate dissemination, the knowledge may be present in an organization but not at the right place. A lesson needs to be disseminated from the place where it is learned to the place where it is stored and then be disseminated from the place where it is stored to the place where it is applied. Problems may arise depending on whether the locations of the three processes of lesson-drawing, -storing, and -applying coincide or diverge.

We can distinguish four paths that describe why forgetting can occur in the dissemination process. The risk of forgetting depends on the paths that lessons follow from where they are learned, stored, and applied, as illustrated in Figure 3. The risk of forgetting is expected to be low when the three processes (learning, storing, and applying) take place within a single organizational unit (Path 1), especially if these activities are carried out by the same people. The risk of forgetting is expected to be moderate when lessons are applied by another organizational unit than where the lessons were learned, and thus need to be transferred to a different unit (Path 2). When lessons are learned in one organizational unit, stored at another, and then applied by yet another unit, the risk of forgetting is expected to be high (Path 3). This risk is expected to be highest when lessons are acquired by an external organization, such as a crisis inquiry body, and therefore first need to be transferred into the organization before internal dissemination can commence (Path 4). We further expect the risks of forgetting in the dissemination processes to increase when the organizational units involved in learning, storing, and applying lessons have little regular communication and have significant differences in terms of tasks, responsibilities, organizational level (operational vs. strategic), and use of language (see Smith and Elliott 2007).

5.1.2 | Challenges in Implementation: Turning Cognitive Lessons Into Organizational Change

Lessons may be lost because they are not implemented, or not implemented well. To accomplish the full learning curve, newly acquired knowledge and insights must be translated into changes in an organization (Fiol and Lyles 1985; Argote 2013). When lessons learned are not translated into changes in the organization in a reasonable timeframe, they are likely to be neglected and forgotten over time. As Donahue and Tuohy explain, "truly institutionalizing a new process requires long-term commitment" (2006, 21). Lessons learned can be embedded in an organization by creating new, or modifying existing, systems, legislation, regulations, policies, programs, plans, protocols, culture, and/or practices. Although regulations or protocols can be adjusted relatively easily, this may only amount to a superficial level of learning. Changing an organization's culture – creating new "shared ideas, values, and norms" – can be difficult and take long-term effort but, once achieved, may address underlying problems, and therefore reflect a more fundamental learning (see Schein 2017; Argyris and Schön 1978).
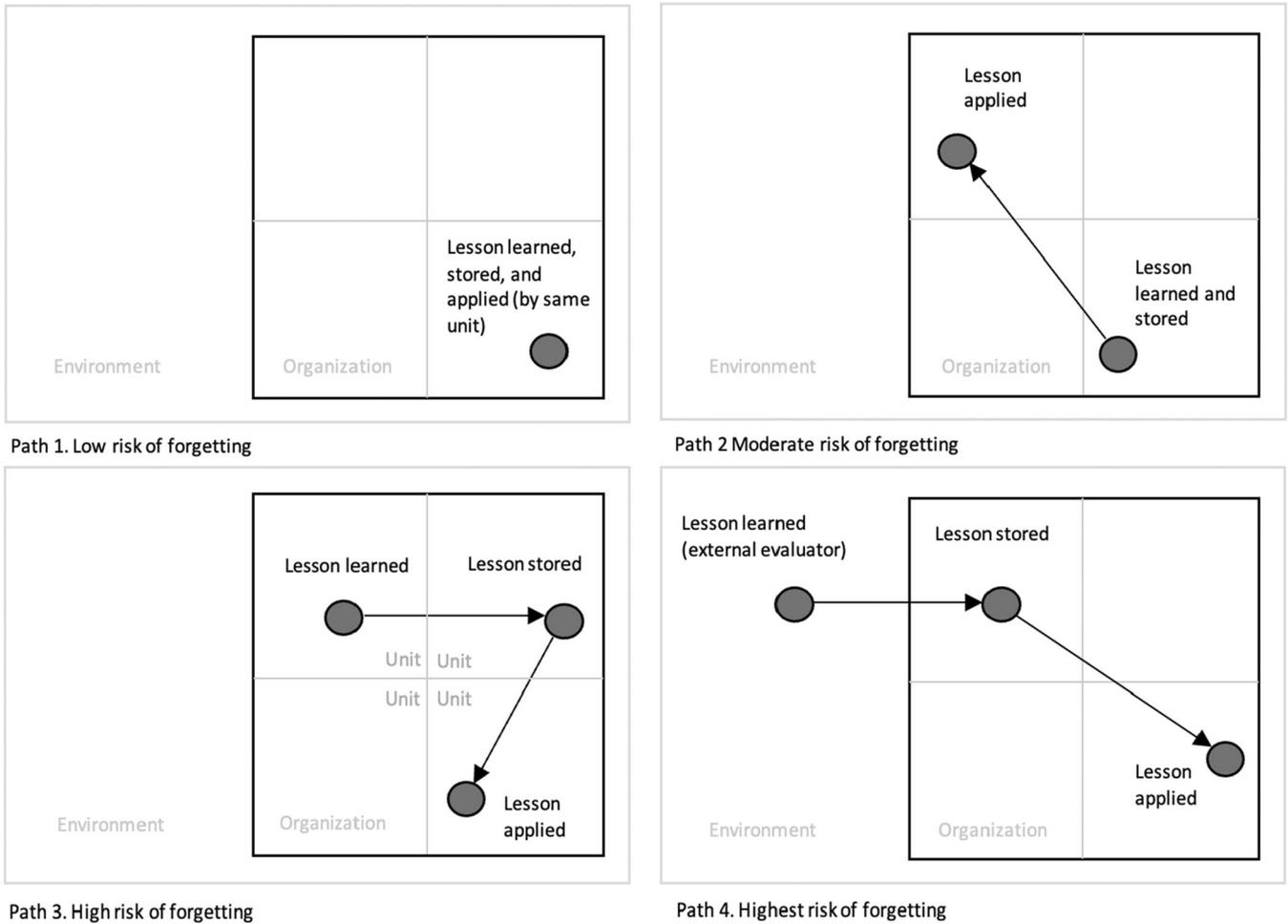
FIGURE 3 | The risk of forgetting in disseminating lessons based on four paths.

In the process of getting lessons implemented, organizations face several challenges (Howlett et al. 2009, 185–204). First, learned lessons, for example, through crisis inquiries or the direct experiences of employees, may not be picked up by decision-makers. If lessons are picked up, decision-makers have to interpret the new knowledge and make it manageable, which risks misinterpretation (see Crossan et al. 1999). Rigidity of beliefs and assumptions of decision-makers and a bias towards well-defined lessons may be a barrier (Turner 1978). Then, decision-makers have to translate the new knowledge into organizational changes, requiring an assessment of appropriate and feasible alternative courses of action. After a crisis, crisis inquiries can take a considerable period. By the time lessons are learned, public attention and political consensus for change may have faded, while other issues on the agenda may have risen in prominence (Kingdon 2011). Having major changes implemented can be challenging, require extensive time, expertise, resources, and absence of external pressure. Consider, for example, an organization that is under scrutiny in the media due to a scandal: the associated uncertainty, pressure, and stress may cause all attention and resources to be focused on limiting reputational damage, which makes it unable to absorb new knowledge. Further, changes determined by decision-makers may not be implemented as intended at the operational level (Pressman and Wildavsky 1984). Crises may also trigger a blame game that complicates implementation because people

do not agree on what should be changed (Boin et al. 2016). Overreacting may result in quickly adopting new regulations that do not solve the problem and may even create new ones, known as the risk-regulation reflex. Finally, organizational changes may be implemented merely to give the impression of learning, for example, as window-dressing, and therefore not represent "real" learning (see Birkland 2009).

5.1.3 | Challenges in Storage: Retaining Lessons for Later Use

Lessons may be lost because they are not adequately stored. In general, organizations seem to focus more on acquiring new lessons than on maintaining those that have been learned. Knowledge and practices need to be stored sustainably if they are to be retained over extended periods and applied at a later point when needed (see Crossan et al. 1999). If lessons learned are not consolidated by embedding them in an organization's main structure, knowledge will quickly disappear, gradually fade away, or decay over time (De Holan and Phillips 2012). In organizations, there is a natural tendency for knowledge and practices to deteriorate over time. Therefore, storing lessons learned for extended periods without applying them can be challenging. In crisis management, lessons from a previous crisis may have to be stored for years, or even decades, until

they can be applied in a similar crisis. Storing lessons durably in an organization requires a continuous effort, maintaining them and keeping them up-to-date, as well as considerable human capacity and resources. Moreover, lessons are not isolated elements but often interconnected (Broekema 2018), meaning that the loss of one lesson may mean that part of another lesson is also lost.

Lessons may be retained in written documents, such as notes of meetings, contingency plans, protocols, or policy documents, which are archived on paper or digitally. The advantage of storing lessons in written documents is that they can be retained for a long period and are easily transferable. However, complex lessons are difficult, if not impossible, to capture in written documents. Lessons can also be stored in the memory of people who have obtained important knowledge and skills, or have experienced the situations from whence lessons were learned. Through storytelling, a shared memory of how and why lessons were learned can be created, which may be retained even when experienced people leave the organization (Stark 2019: 155–157). Lessons from crises are largely stored in people's memories, as knowledge and practices often require first-hand experience. People may be unaware what knowledge they have (Howells 1996), which makes it difficult to pass on to other people. To keep lessons actively present in an organization and fresh in people's minds, they require practice on a regular basis. Knowledge and skills need to be internalized by people to prevent them from draining away over time. Maintaining effective practices and establishing reflex actions can be achieved, for example, through education and training programs, or crisis exercises and simulations. In short, knowledge retention requires engaging in a variety of practices and long-term commitment (De Long and Davenport 2003).

5.1.4 | Challenges in Retrieval: Recalling Lessons When Needed

Lessons may be lost because they are not adequately retrieved when needed in a specific context. In a crisis situation, lessons need to be quickly accessible and applied. When an organization has the necessary knowledge and expertise for handling a certain situation, if not available at the appropriate place and time, it will not be utilized. Employees need to recognize the characteristics of a situation, understand what is needed, locate the relevant knowledge and expertise, quickly retrieve it, and know how to apply it. Important steps in knowledge retrieval are "'why I need the knowledge', 'what do I know', 'what I need to know', the evaluation, selection and access of the suitable knowledge retention structure, and the final step of the retrieved knowledge use" (Mariano and Casey 2007, 324). An organization may remember a lesson, but lost its origin, context, and meaning. Over time, people may forget why certain protocols were put in place in the first place. Shared narratives can help recalling their origin, reason, and context (see Stark 2019). Retrieving lessons is a particular challenge in large organizations with many divisions and levels, and when lessons involve tacit knowledge (Howells 1996).

Since practices and protocols generally do not exactly correspond to a situation that crops up in practice, people need to interpret a situation and connect it to relevant knowledge (Crossan et al. 1999). This means that a lesson may have to be reshaped to be applicable in the new situation. Lessons that can be deployed flexibly and are applicable in a variety of contexts, such as in different types of crises (see Crichton et al. 2009), are easier to retrieve and apply. Routine behavior is recalled and applied more automatically than lessons held in written documents. In a crisis situation, there is no time to wade through documents before acting. Organizations can retrieve memory through so-called retrieval cues, such as signs, sights, forms, people, or instructions. Through retrieval cues, a particular situation can be associated with specific memory available in the organization. Retrieval cues help identify what knowledge is needed and provide access to that. A decay in retrieval cues over time may result in parts of the memory not being activated and gradually being forgotten (Kluge and Gronau 2018, 8–9). Finally, retaining an overload of lessons can make it difficult to quickly recall the appropriate information or follow the right protocol in a stressful new situation.

5.2 | Level of Explanation: Organization

5.2.1 | Employee Turnover: The Outflow of Lessons

In any organization, there is employee turnover: a natural flow of employees who leave and new ones who are hired. People may change jobs for career reasons, leave because of retirement, or be forced out, for example, as a result of austerity measures. Turnover and the departure of key employees can complicate retaining knowledge (Argote 2013; Rao and Argote 2006). In crisis management in particular, lessons are largely retained by experienced employees who have acted in previous crises and form the memory of the organization. Employees often vividly remember what did and did not go well in those previous crises. When experienced employees leave an organization, the lessons they have collected over the years may be lost with them (see Toft and Reynolds 2005). In particular, a large outflow of staff over a short period, for example, because of a high average employee age leading to mass retirement, can be difficult for an organization to absorb. Important expertise may not be fully transferred to the next generation of professionals, leaving an organization vulnerable to forgetting. Tacit knowledge, important in crisis management, is especially prone to erosion through employee turnover (Howells 1996): it is difficult to transfer to colleagues, to include in education programs, and to capture in written documents. Forgetting also depends on how quickly officials move from one position to another: by staying longer in one position, they can accumulate more knowledge and develop greater expertise (Stark 2019, 150–152).

5.2.2 | Organizational Restructuring: The Breakdown of Group Structures

The restructure of an organization can lead to a loss of memory in the entire organization. It can disrupt an established organizational structure built up over years, creating uncertainty for

employees about their future roles and responsibilities. Employees in new positions tend to focus on the new assignment instead of on learning from the past, such as through sharing past experiences or looking into existing records (Pollitt 2000). Large and complex lessons are generally stored by teams of people, who are often scattered among different divisions in an organization. Based on experience and mutual trust built up over time, people in these teams have learned to collaborate and exchange knowledge effectively with each other. Transferring employees can lead to an instant loss of group-held lessons, as team structures may be broken, routines may be disremembered, and information channels, group experiences, and accumulated expertise may be lost. Restructuring can be closely related to the explanation of employee turnover, as people may be forced to leave an organization. This way, restructuring may even cause organizational amnesia when a major reorganization results in a large group of people suddenly leaving an organization taking important knowledge and skills with them that the organization can no longer draw on in the future.

5.2.3 | A Changing Environment: Lessons Are No Longer Useful

To prevent lessons from being lost, an organization needs to continuously update lessons over time, adjusting them to its ever-changing environment. Dynamics in an organization's environment, that is, within the network or policy field in which it operates and society as a whole, can render previous lessons learned useless or of little relevance (Crossan et al. 1999). Further, lessons may be lost as a result of a high focus on learning in the media and parliament in the aftermath of a crisis that quickly wanes and shifts to other issues (see Kingdon 2011). Retaining "technical" knowledge and experience after a crisis can be hard when disagreements over accountability culminate in a blame game (Boin et al. 2016; Brändström and Kuipers 2003). In the aftermath of a crisis, temporary workers who have supported the crisis management return to their own organizations, which can lead to an immediate evaporation of knowledge. In addition, forgetting may occur when lessons are overtaken by another impactful event that initiates new lessons that undermine the original ones (Birkland 2006). Also, lessons learned from a specific type of crisis can become less useful or obsolete over time as the threat gradually diminishes or disappears altogether. Over time, technological developments may mean that long-established and therefore well-trained crisis management operations become obsolete. Think, for example, of the introduction of a digital information system that makes a particular meeting between officials redundant. Finally, the usefulness of lessons may be lost due to a change in a network or policy field that alters the tasks and responsibilities of an organization.

6 | Discussion

6.1 | Discussion

Organizational forgetting is a profound issue that all kinds of organizations worldwide struggle with. It deserves more research attention, as it significantly affects the performance of organizations, including the ones that carry out crucial tasks in society. In this article, we integrated organizational forgetting in a crisis context, which created a new perspective. We sought to contribute to a conceptual clarification of the concept, provide a basis for systematic research into it, and define directions for future research. First, the article shows a further integration of organizational forgetting in theories on organizational learning is needed. Currently, there is little understanding of the cyclical nature of learning and how this hinders performance. In further studies, organizational forgetting could, for example, be positioned in relation to established theories on single- and double-loop learning (Argyris and Schön 1978), high-reliability theory (LaPorte and Consolini 1991), incrementalism (Johnson 1988), the learning organization (Senge 1990), and policy learning (Bennett and Howlett 1992). Second, the framework presented provides a basis for operationalizing organizational forgetting in a crisis context: the development of indicators for measuring its different dimensions and, ultimately, a measurement scale for organizational forgetting. Third, this article showed there is need for a better understanding of the factors causing organizational forgetting, which calls for robust empirical testing across a large number and variety of organizations. This is necessary to develop effective tools for countering forgetting. Fourth, we defined the condition of organizational amnesia which has received exceptionally little attention in the literature (exceptions are Pollitt 2000; Othman and Azuan Hashim 2004; Stark 2019; Stark and Head 2019). Relevant topics for further research on organizational amnesia include questions of how to "diagnose" organizations, how to "treat" them and the applicability of the concepts of retrograde and anterograde amnesia to organizations. Fifth, in order for our conceptual framework to be broadly applicable, we have deliberately taken a general definition of organizational learning and forgetting as a starting point in this article. Further research is needed to reveal the impact of the "who/what/what level/how/when/how structural" distinctions on the process and causes of forgetting. For example, lessons at the organizational level may be more likely stored through formal policy documents and therefore less prone to staff turnover. Lastly, we found that sound empirical studies on both forgetting, amnesia, and learning require that the retention of knowledge and practices in an organization are captured over time. We recommend more studies to adopt a longitudinal design, which allows that lessons are monitored, possibly even in "real-time," during, between, or over multiple crises.

6.2 | Study's Limitations

This conceptual article has several limitations. First, the conceptualizations are based on the limited number of studies that are available on organizational forgetting, amnesia, and learning from crises. The presented frameworks warrant further elaboration and require empirical validation. Furthermore, we must be aware that the explanations for organizational forgetting put forward may occur simultaneously and be interrelated. The restructure of an organization, for example, may complicate the dissemination of lessons within that organization and the way lessons are stored may affect how quickly they are retrieved. Furthermore, in this article, we decided to approach

memory loss from a "technical," lesson management, viewpoint. We are aware that a "political" viewpoint, meaning that underlying values are taken into account, would create a different perspective. In addition, in this article, we did not distinguish between types of crises in this article, while organizational forgetting and its degree may vary depending on different crisis events. For example, some types of crises occur relatively frequently which is expected to reduce the likelihood of forgetting and some crises have multi-layered and difficult-to-identify causes, which may complicate consensus and transfer of lessons over time. We recommend the relationship between the type of crisis and forgetting of lessons as subject for future research. Furthermore, in this article, we did not incorporate the process of "unlearning," because that is about an intentional elimination of lessons that have proven to be ineffective and obsolete (Klammer and Gueldenberg 2019; Kluge and Gronau 2018). However, unlearning may be a relevant subject of future research, because it may affect both learning and forgetting (see Tsang and Zahra 2008). Finally, we did not distinguish between forgetting in public and private organizations in this article, which deserves attention in future research, as, for example, differences in the role of politics, accountability, and data-sharing may be relevant.

6.3 | Final Remarks

We argue that countering organizational forgetting should be featured more prominently on the agenda of organizations, academia, and politics. Both policy-makers and researchers should be more aware of the fact that preserving organizational memory over time is as important as learning. A lack of attention to forgetting creates unreasonably high learning expectations in the aftermath of a crisis, and can therefore, when not met, erode trust in organizations with vital tasks in society. Once new lessons have been acquired, the challenge of retaining these lessons over time only begins. The focus of learning should not only be on implementing "quick fixes," but also on sustainably embedding lessons within organizations. However, we recognize that countering organizational forgetting is a complex and challenging endeavor for which there is no silver bullet. Embedding lessons sustainably so they are retained for a long time requires continuous and long-term attention and efforts from organizations. Learning for crises requires organizations to adopt a long-term perspective in their regular policies (see Pot et al. 2023). We are aware that fully eliminating forgetting is not only impossible but, in certain situations, also undesirable. However, repeating the same mistakes in similar situations, especially when the stakes are as high as during crises, is difficult to justify. Therefore, we must learn not to forget.

Conflicts of Interest

The author declares no conflicts of interest.

Endnotes

[1] We must be aware that organizational forgetting can be perceived to some extent as metaphorical. One could argue that unlike the people who work within them, organizations do not have the cognitive abilities to acquire, interpret, remember, or recall knowledge and practices.

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