Speak, memory

the postphenomenological analysis of memory-making in the age of algorithmically
powered social networks

Kudina, Olya

Citation (APA)
Kudina, O. (2022). Speak, memory: the postphenomenological analysis of memory-making in the age of
algorithmically powered social networks. *Humanities and Social Sciences Communications*, *9*(1), Article 7.
https://doi.org/10.1057/s41599-021-00972-x

Important note
To cite this publication, please use the final published version (if applicable).
Please check the document version above.

ARTICLE

OPEN

Check for updates

Speak, memory: the postphenomenological analysis of memory-making in the age of algorithmically powered social networks

Olya Kudina [1]✉

This paper explores the productive role that social network platforms such as Facebook, play in the practice of memory-making. While such platforms facilitate interaction across distance and time, they also solidify human self-expression and memory-making by systematically confronting the users with their digital past. By relying on the framework of post-phenomenology, the analysis will scrutinize the mediating role of the Memories feature of Facebook, powered by recurring algorithmic scheduling and devoid of meaningful context. More specifically, it will show how this technological infrastructure mediates the concepts of memory, control and space, evoking a specific interpretation of the values of time, remembering and forgetting. As such, apart from preserving memories, Facebook appears as their co-producer, guiding the users in determining the criteria for remembering and forgetting. The paper finishes with suggestions on how to critically appropriate the memory-making features of social network platforms that would both enable their informed use and account for their mediating role in co-shaping good memories.

[1] Department of Values, Technology & Innovation, Section on Ethics and Philosophy of Technology, Delft University of Technology, Building 31, Jaffalaan 5, 2628 BX Delft, The Netherlands. ✉email: o.kudina@tudelft.nl

Introduction

In recent years, much of human socialization has moved to the digital space. Social media platforms invite frequent and spontaneous sharing of the users' content in the form of text, images, video and audio clips. Following Floridi, we can refer to this representation of a person in the digital domain as "semantic capital" insofar as it contributes to our self-identification and making sense of the world (2018). The user-interface of online spaces is designed to facilitate the instantaneous evaluation, sharing, reposting, and commenting on the users' digital self-expression; multiplying and re-appropriating the originally posted content across contexts, cultures, geographies and meanings. While social media platforms facilitate interaction across distance and time, they in tandem solidify human self-expression and memory-making by consistently confronting the users with their digital past though recurring algorithmic scheduling. This presents inconsistencies to our semantic capital, requiring users to patch up the overall narrative and reevaluate its meaning. Meanwhile, the everlasting tropes of curated information produced by and about a user disable them from making (parts of) one's digital profile to "simply be quarantined, archived, forgotten, put away" (Ibid., p. 489). In this paper, I will explore the role social network sites play in the practices of memory-making.

While the paper will make a general point about the mediating role of social networks in the practices of memory-making, I will instantiate its relevance through the Memories feature of Facebook that periodically and systematically confronts the users with their past digital content. Facebook epitomizes the difficulty of managing one's digital legacy online because "Nothing is forgotten […] as nothing need be erased, not even those who were once friends. […] Facebook can be seen as sine qua non of digital memory-making and personal archive building" (Garde-Hansen, 2009, p. 144). More specifically, the algorithmic facilitation of memory-making on Facebook proceeds in at least three ways (Hod, 2018; Wood, 2019). Firstly, experiences and posts are selected for repeated engagement based on the preceding interaction rates (e.g., more or fewer reactions and "likes" than average). Secondly, to personalize a user's memories, Facebook grants the user an option to selectively discard events, posts or "friends", from which the algorithm will then learn to tailor "memories" in the future. This enables the user to actively manage the type of recollections with which to be confronted. Finally, the algorithmic memory recall functions within the idea of a linear timeline, where the temporal intervals are equal to one another and primarily distinguished by the rate of user engagement with certain posts. However user-tailored, such algorithmic processes of facilitating the memory-making are different from this process offline.

The cognitive psychology scholarship commonly thinks of autobiographical memory in terms of three stages of memory processing (Koriat, 2000). An event is encoded in the form of a memory trace, which includes a representation of the event itself as well as information about temporal and spacial context, emotional and physiological state, etc. After encoding, the memory trace is consolidated (i.e., stabilized and integrated into prior experience) and retained for later recall (Rasch and Born, 2013). Finally, by retrieving, or activating memory traces, we are able to access our prior experiences when needed. Retrieval can happen, for instance, when we are exposed to memory cues, or elements of the event or its context.

Recalling episodes of our past can affect accessibility of the memory for subsequent retrieval, and to some degree, even modify its content. When reactivated, our memories temporarily enter a labile state, where they can be "updated" to a certain extent to incorporate newly available information (Dudai, 2009).

Thus, our memory is not always a precise reflection of past events. Rather, it appears to be a dynamic reconstructive process that takes into account the totality of our prior experiences, beliefs, and expectations, as well as the environmental demands and situational context at the moment of retrieval (Bartlett, 1932; Loftus, 2005). This way, our narratives of the past can be re-shaped to a certain extent in the course of our normal lives.

By exposing us to memory cues via the Memory feature, Facebook inevitably brings algorithmically generated structure to this naturally occurring process. Triggering memory recall based on the calendar reoccurrence, the rate of user engagement or preferential bias of filtering out specific (undesirable) memories can to a certain extent alter the way we remember our past. This causes some episodes more accessible than others, or re-embeds them in a new context. Although beyond the scope of this paper, such implications from cognitive psychological theory of memory functioning illustrate important philosophical tensions related to the co-shaping role of algorithms in memory-making.

This paper will draw on an explorative blend of approaches largely based in the continental philosophical tradition to understand the practice of memory-making with Facebook's Memories feature. It will specifically explore the user practices that Facebook's Memories invite and study which perceptions and actions they motivate. The predominant theoretical backdrop of the paper is the theory of postphenomenology (Ihde, 1990). Postphenomenology is concerned with the way people experience themselves and others in the world ("phenomenology"), through the increased presence of technologies in our surroundings (+ "post"). A particular instantiation of the theory is its approach to technologies as active mediators of human relations and practices in the world, whereby technological design always co-shapes our access to ourselves, each other and the world in specific ways (Rosenberger and Verbeek, 2015). With postphenomenology, and specifically the technological mediation approach lens, I will show how facilitating human practices online enables active mediation of the digital presence—and past—of the platform users.

The postphenomenological embedding of the mediation approach positions it well to study the micro-perspectives of how people use and subsequently personalize technologies, inevitably leading to some new practices or value tensions (e.g., Aagard et al., 2018). However, to understand the implications of our digital existence for the practice of memory-making in a more encompassing way, I will additionally connect postphenomenology to the related concepts from the ancient practice-oriented philosophies at the intersection of experience and time. Namely the Greek concept of time, understood as experiential *kairos* and sequential *chronos* (Paul, 2014); and the Japanese concept of space *ma* (Fiadotau, 2018) that highlights the necessity of "in-between spaces" for meaning-making. Such a conceptual blend shares grounding relative the importance of space and time in deriving the meaning of experiences in the world, a theme, which will prove to be central in this paper. Together, this conceptual blend will enable a complex exploration of the mediating role of the algorithmic infrastructure for the values of time, remembering and forgetting as the dynamic counterparts of using social networks, as well as to problematize the responsibilities of the users in this regard.

The paper is structured as follows. I will first outline the tenets of postphenomenology and the technological mediation approach as embedded within experiential and relational philosophy and explain their ethical dimensions. Next, I will use the mediation approach to analyze the case of Facebook's Memories regarding the practices of memory-making, paying attention to how the concepts of memory, time, control and

space take shape in this context. Finally, I will reflect on the analysis and draw some conclusions in an attempt to foster a critical and informed use of online social networks without the tradeoffs of abandoning one's digital semantic capital to the mercy of the never-forgetting Internet.

Technological mediation and the lens of postphenomenology

Technological mediation is a philosophical approach that originates in the field of (post)phenomenology. While phenomenology studies the way people experience the world, postphenomenology takes this a step further to clarify the active role of technologies in co-shaping human lives, designated by the prefix "post" (Ihde, 1990). Postphenomenology was explicitly put on the philosophical agenda in the early 70 s to understand how fast and continuously technological progress changes the character of our lives and relations with oneself and others. Originating in the continental tradition of phenomenology, its task remains to scrutinize the role of technology in co-shaping specific access to the world by means of technologies in our environment (Rosenberger and Verbeek, 2015). Postphenomenology thus has a microfocus on the practices and experiences of people with technologies, encapsulated in specific spaces and timelines. Unlike other philosophical strands, it does not aim to pass a judgment on a certain technological innovation in and of itself. Rather, by understanding the kinds of relations the technology in question organizes between a person with other people as well as the surrounding world, it equips people to make informed choices on its use—or non-use (Ibid.).

One of the central concepts here is technological *intentionality*, its specific dispositions and affordances communicated by the means of design that invite some use practices, while making the alternatives less visible. Ihde (1990) developed four types of human-technology-world relations that each manifest technological intentionality in a unique way, showcasing that technology is never neutral, even when used according to the designers' ideas. The *embodiment* relation highlights the way we experience the world through a certain technology (e.g., from glasses to smart watches). This technology disappears when in use, we can physically embody it as a part of us and its frictionless design increases our dependency on it, which we come to realize only when the artifact in question breaks down. The *hermeneutic* relation allows us to "read" the world from the dashboards and pages through graphs, numbers and scales that come to represent certain experiences and states (e.g., from a thermometer to IBM Watson's color-coded probabilities on a doctor's screen as a proxy for treatment recommendations). The *alterity* relation allows access to the world through a series of steps or manipulations with a technology, which makes it difficult to embody and disappear from view (e.g., from trains and ATMs to laptops). Finally, the *background* relation sketches the infrastructural role of technologies in providing an ecosystem, an experiential backdrop for our daily experiences (e.g., from air conditioning to WiFi signal and Internet). As in the case of all human-technology relations, we become aware of our dependencies and often, reduced abilities to intervene in technological processes, only at the point of malfunctioning, when instead of facilitating our practices, technology impedes them. These four types of technological relations show that technology in use is never neutral, rather it is actively co-shaping the way we perceive ourselves and others, and how we come to act on those perceptions.

Consider how pervasive Internet connectivity and digital technologies implicitly and explicitly help weave the canvas of our social and private lives. They foster an expectation of constant availability, as well as suggesting who to date, which music to listen to and what to read (Turkle, 2008). The proliferation of the "selfie" culture has raised concerns about pursuing unrealistic standards of beauty, while new medical and social norms appear to foster a fit with the new sociotechnical practices (Rajanala et al., 2018). Technologies, thus, while being the fruits of human creativity, manifest not merely as neutral tools but also as productive elements in co-shaping how people perceive the world, each other and themselves.

Within postphenomenological theory, the role of technologies in forming relations between people and the world is the explicit focus of the technological mediation approach. It suggests that technologies are not neutral "objects" in the hands of human "subjects." Rather, they are "mediators" of the relation between people and their sociotechnical environment within specific spaces and time (Verbeek, 2005). By virtue of their design, foregrounding some options and concealing others, technologies also co-shape the moral perceptions and inclinations of people (Verbeek, 2011). As technologies mediate our practices and experiences, they take a necessary part in the ethical dimension of our lives, helping to answer the questions of desirability and even the meaning of values we live by. Known as "value dynamism" (Kudina, 2021), this phenomenon explores how technologies reveal existing value conceptualizations and help to re-affirm them, shift accents between them, challenge the dominant definitions and enable new value meanings. Consider how life-support machines help to transcend the values of life and death (de Boer and Hoek, 2020); how self-driving cars give a new meaning to the value of autonomy (Ganesh, 2020); or how the pervasive use of digital technologies and the intentionally designed feature of the Internet to store the input forever, fostered both a legal and value change in the European context, mirrored in "The right to be forgotten" (Mayer-Schönberger, 2009). To be sure, the technological mediation approach does not conceive of technologies as moral agents; rather, moral agency appears distributed among both people and technologies.

The technological mediation approach, expanded with the considerations of value dynamism, could enable the exploration of a continuous development of values related to memory-making against an algorithmic background. Focusing on a case-study will grant the ability to identify and reflect on how specific technologies influence the lives of people and the normative concerns that (may) arise in this regard, synthesizing the conceptual elaborations without drawing sweeping conclusions (Kudina and de Boer, 2021). In what follows, I will apply the blended explorative approach based in postphenomenology to identify how social media platforms, such as Facebook, affect the practice of memory-making. This will allow me to provide several suggestions for making informed decisions about the use of social networks when our digital heritage is concerned.

Facebook's memories: a postphenomenological analysis

Social network platforms mediate the way users manage their lives online by encouraging and facilitating the mass creation of digital content, as well as its cross-platform sharing on the Internet. In parallel, they reduce the visibility of the depth and breadth of the amassed content by spotlighting the recent postings and pushing older ones down the vertically structured "timeline," creating an illusion of their disappearance akin to memories in everyday life. Highlighting the need to create and share with a subsequent reduction in visibility of how much content a user has already amassed, fosters a lack of care for the older content, trusting it to either disappear or to be somehow managed by the social network platforms. It may also be seen as an instance of what Danaher calls "algocracy," whereby "algorithm-based systems structure and constrain the opportunities for human participation in, and comprehension of" (2016, p. 246) the

memory practices, in this case. I would like to substantiate the general non-neutrality of memory-making on the social networks by turning to a case in point: the Memories feature of Facebook that offers the users recollections of their past activities. In this, I will pay close attention how a specific representation and identity of users that Facebook brings about (Smutradontri and Gadavanij, 2020).

As Fuchs (2014) suggests, managing the temporal experiences of users is an important aspect of implementing the business model of social network platforms, geared towards prolonging the use time and frequency of their services. However, since other components of this business model (such as status changes, recent activity flags, friends' updates) emphasize newness, instantaneous production and sharing of content (Bolter et al., 2012), special mechanisms have to be designed to extend the lifecycle and utility of the older content. To this end, several features have been implemented across the years to capitalize on the past digital content of users and frame it in terms of valuable memories, such as a "Year-in-review" and "Look back" videos to review and commemorate the past "achievements" (Bucher, 2017, p. 38). On Facebook, the role of the recollections of and engagement with the user's past falls under the "Memories" feature.

Memories is a 2018 feature that represents an algorithmically curated collection of user experiences on Facebook, allocated in chronological time per days and years of their activity on the platform. Occasionally, the users will see their old posts, photos and reminders with whom they became "friends" with on the network on a certain day—"memories"—on their stream of news or via designated notifications (Hod, 2018). Alternatively, there is a Memories bookmark within the platform's interface to ensure that users can always access the bundles of memories on a monthly or seasonal basis. Facebook has also made a special Memories section to remind the users of what they may have missed: "If you haven't checked your memories lately, this section will show you the posts that you might have missed from the past week" (Ibid.). Memories stands on the shoulders of an earlier recollection feature of a similar nature, "On This Day," that was introduced in 2015 to invite the users to comment on older posts and share them among their friends once again, attempting to increase the falling interaction rates of older content (Efrati, 2016).

However, not all memories are equal on Facebook. On This Day became notorious for indiscriminately confronting the users with whichever "memories" received the higher amount of reactions, not being able to account for the emotional value or triviality of those events. As such, users were invited to "poke" their ex-partners, congratulate a deceased person with their birthday or react to the reoccurring postings, which meant little to them (Wood, 2019; Stokes, 2012). As a result, the updated Memories feature allows the users to manage their recollection preferences, filtering out certain people or a range of dates. Apart from giving more control over reminiscing to the users, Facebook itself is not passive in the process of memory-making. According to Carman (2018), "in an effort to only surface positive posts and not painful memories," the algorithm behind Memories analyzes the reactions of the users' friends to their posts and sifts through certain keywords to prevent negative recollections from re-appearing. Facebook thus problematizes one's practices of memory-making and their digital semantic capital because the users are no longer the only ones "rewriting [their] existential stories" (Floridi, 2018, p. 489). Rather, by artificially rearranging users' memories, flattening them and making them lifeless, Facebook inherently devalues them (Wood, 2019).

(Post)phenomenologically speaking, I see at least three problems here. The first one has to do with the idea and role of *memory* that Facebook explicitly co-shapes. The second deals

with the *control*, or an illusion thereof, that Facebook equips its users when dealing with their digital memories. Finally, Facebook's Memories reconfigure the role of *space* in the practice of memory-making, simultaneously expanding and reducing it. Next, I will explore each of these problems in more detail.

Mediating memory. Understanding the nature and role of memory is a longstanding philosophical problem that exceeds the scope of the present paper. However, two general functions of memory are usually acknowledged in the continental philosophical tradition: conservation and construction (Gadamer, 2004/1975). These functions epistemologically and ontologically underpin human existence as a "storehouse [and] interior decorator" (Krell, 1982, p. 492). This means that our memories join the productive structure of our interpretation to facilitate the continuous identity construction (i.e., the ontological function) and to make sense of new experiences and encounters, creating new meaning (i.e., the epistemological function)(Gadamer, 1977). When Facebook's algorithms curate and process the access to digital experiences in any way, they become a part of these complex memory-making processing, co-shaping who the users are, what joins their interpretative schemas and in which way.

Facebook frames Memories as an arrangement and recapturing of the past events (Hod, 2018). In this regard, the algorithms of Facebook continuously traffic the same static presentations of certain experiences in a calculated chronological manner to trigger their re-posts and user's reactions. This allows the reproduction of human lives (presented on Facebook) as a chain of events in a sequential order by literally positioning certain experiences as the points on a timeline (i.e., the conservation function of memory). The metaphor of time that Facebook invokes (and that goes unchallenged by its users) is that of a timeline, a vertically shaped accumulation of separate instances that can be individually accessed and retrieved on demand. Those events not represented on Facebook seemingly escape the remembering and forgetting as the measures of Facebook time.

However, by constructing a specific image of time and developing a designated Memories feature, Facebook assumes the role of interior decorator as much as the storehouse. In this arrangement, scheduled memories also appear as filtered, unprompted, decontextualized and divorced of the interrelated meaning found in the unexpected connections with the present, reducing the space for attributing new meaning to the recalled experiences (i.e., the construction function of memory). It seems that the passive and active roles that Facebook simultaneously assumes in co-shaping the users' memories assume a broader conception of time than Facebook's own timeline metaphor. I will appeal to Merleau-Ponty (2002/1945) to explain this point further.

Merleau-Ponty (2002/1945) dedicated much effort to counter the metaphor of time as a line, a sequence of events seemingly connected by a narrative. Such an understanding alienates the users from the experienced events because it introduces an external observer of users' memories, someone to structure and narrate them. However tempting it is to conclude that Facebook is such an observer, I think this would miss Merleau-Ponty's relational point, namely that time cannot be diminished to a procedural succession of events to record and manage according to a disembodied perspective of a fixed observer. When Merleau-Ponty suggests that "Time is not a line but a network of intentionalities" (Ibid., p. 484), he offers to interpret time through relational intentions, whereby time arises always in the relation of people to the things around them. It is also within this relation that the past, present and future derive their meaning. Looked in this way, even though Facebook algorithmically curates and

manages the multiple interpretations of human experiences, the embodiment of memories in space, time and relational experiences cannot be reduced to the fixated shadows of memories shared on Facebook.

As the technological mediation approach holds, people very rarely, if at all, have a direct access to the world. Instead, the way they relate to it and themselves is mediated by the technologies they use. If we consider time, and by implication the memory-making practices of people, from a perspective of being embedded in the continuous back-and-forth flow of human relations to the world, then Facebook is an integral mediating counterpart to the practice of memory-making. Acknowledging this, however, fosters a responsibility to reflect on its productive role in the management of digital memories because Facebook, just as its users, is partly enabling both the conservation and construction of the users' digital memories. One way Facebook tries to account for its productive role in this regard is equipping users with some elements of control over digital recollections, which I will explore next.

Mediating control. Facebook approaches the idea of letting users manually filter their digital recollections through the lens of empowerment, putting the users in control of their data—usually in relation to privacy and now extended to managing good memories. I find this rhetoric problematic. The idea of control is a double-edged sword because it also assumes the responsibility for it. By emphasizing control that Facebook bestows upon the users in managing their digital memories, the company simultaneously obfuscates the consequent responsibility to produce good memories that it shares with users (and somewhat removes from itself). Responsibility to cultivate good memories is implied and mirrored in the type of new controls that Facebook provides to manage the Memories feature, allowing for the discrimination against specific persons, dates or date ranges. Good memories appear here as preferential, with Facebook providing a set of filters to enable such preferences. Such control mechanisms offered by Facebook contextualize users' responsibilities in a new way, suggesting not only what good memories mean but also how to manage them.

The feasibility of putting the users in control of the Memories feature with the present technological options is questionable, as is its widespread adoption. Here I cautiously draw parallels with the privacy settings on Facebook that were meant to put the user in control of their privacy. As demonstrated by Tsay-Vogel and colleagues (2018), there is a close correlation between the use of Facebook and "more relaxed privacy attitudes" (p. 154); facilitated in part by complex privacy settings and the effort required to implement preferential privacy safeguards. In relation to memory management, Facebook's interface does not give prominence to the preferential user filtering of Memories. Once the users are aware of such a possibility, they need to search through the numerous settings and manually filter the events they do not wish to be confronted with among the entirety of their experiences represented on Facebook (assuming they can accurately identify the dates for filtering). For these reasons, I question the extent and impact of the users' management of their digital memories. Facebook's algorithms, on the other hand, can be counted on to continuously, meticulously and invisibly curate the users' Memories.

I suggest to view Facebook's rhetoric of empowerment and control over one's memories as an opportunity to review the ensuing responsibilities of the users over their digital content. For while Facebook can imply the added users' responsibility in arranging their digital self, the users can—and should—enact a different meaning of good memories than that suggested by

Facebook. The scheduled re-presentation of life events on Memories complicates establishing a meaningful relationship with one's past in view of its continuous occurrence practically devoid of any other conditions than the regular time intervals and reactions from other users. As Garde-Hansen additionally questions,

> Whose memories and whose mental architecture are being projected here: those of the users, the digital designer or the media corporation? Are they even worth observing if [Memories] produce[s] a landscape of exclusive and specific text and images that make no sense to those outside the group of friends and may make limited sense to those within it? (2009, p. 148).

Questioning the nature and idea of memories invoked by Facebook, the considerations of ancient Greeks regarding time come in relevant. Time for ancient Greeks had an inalienable duality, represented in its conception as both *chronos* and *kairos*, as respectively sequential time and an indivisible experiential totality of time. While they somewhat reflect the discussed earlier phenomenological functions of conservation and construction, *chronos* and *kairos* emphasize the different nature of time, that of quantity and quality. The meaning of *chronos* can be witnessed in Facebook's timeline metaphor. *Kairos*, however, naturally connects to the notion of control and responsibility over one's time and memories; highlighting the significance of time and its quality, "an opening or opportunity and as due measure" (Paul, 2014, p. 44). Interpreting Facebook's time not only as *chronos* but also as *kairos* gives people space to reflect on their memories, thus cultivating that which is meaningful.

While Facebook's Memories invites users to cultivate *chronos* as the sequential isolated understanding of time, it in parallel elevates the significance of *kairos* by confronting the users with at times trivial, isolated and decontextualized memories. Drawing on Bauman's analysis of the state's power to craft one's identity through individual and collective memory-making, the users of Facebook can question how exactly Facebook can "define, classify, segregate, separate and select" their memories (2004, p. 21). Facebook gives the users an opportunity to question the chronological monopolization of time by suggesting that time's quality is also at stake: Who are the people from this seemingly memorable party in 2009? Why do I see this picture now when I don't even remember being at that event? Do I need to be seeing this at all? Agreeing with Danaher that such measures might only scratch the surface of Facebook's algocricy in the memory-making domain and not remove the algorithmic opacity (2016, pp. 258–259); by asking the questions of this sort when confronted with the results of Facebook's Memories, the users still involuntarily reflect on the quality of their memories. Thus, besides equipping users with the physical control to manage their time as *chronos*, the Memories feature enables the users to re-appropriate time and cultivate it also as *kairos* by reflectively selecting what they deem as meaningful, significant and worthy to remember.

Mediating space. Finally, Facebook also mediates another inalienable counterpart of memory-making: the notion of space. The Memories feature mediates the idea of space by (1) *expanding* memory-making to the digital realm, where one can physically grasp their otherwise intangible digital recollections, and by (2) simultaneously *reducing* it, when continuously bombarding the users with the events of the past. To substantiate the mediation point and discuss the ideas of space and time further, I will next invoke the related concept of *ma* from the Japanese philosophy and discuss its significance for the memory-making and its complementarity to the phenomenological interpretation.

Ma roughly translates as "pregnant emptiness in between" to convey that the meaning of events originates not in their sequence or quantity but in the empty spaces between them (Fiadotau, 2018). Merleau-Ponty similarly suggests that to develop meaningful memory, one has to process "the determinate emptiness" (2010, p. 209) a past experience invokes, which can result in a certain spectrum of retention or even attempting to forget the event altogether. Thus, to capture the meaning of one's experiences one has to look not so much at their recollection or representation but rather at the gaps and pauses after their occurrence.

In relation to memory-making, *ma* highlights the consciousness of certain events as intensified by the distance to them. Curiously, the graphic character that represents the concept of *ma* in the Japanese language—"間"—pictures the sun, "日," radiating between the doors, or "門" (Nelson and Haig, 1997, p. 1132). This invokes a message that one can truly see the sun not by looking directly at it but through the space between the gates or the gaps between the doors. The doors, as it were, *mediate* the experience of seeing the sun and give it meaning. No mediation, however, is neutral, as the technological mediation approach suggests.

Translating *ma* to Facebook's Memories, one at first glance can suggest that Facebook deprives people of the distance they need to develop a meaningful relation to the past. I would like to suggest that this interpretation can be extended. Giving space is not a designed feature of social networks. On the contrary, the active Facebook users would mark everyday as the most memorable day of their lives, filled with multiple memory notifications and invitations to comment, repost and share the past events with others. With constant presence of the past as the programmed feature, the space for meaningful memory-makings seems to be reduced to zero because it is constrained by Facebook's algorithms of scheduled presentation and users' own preferential filters. However, it is precisely what Nora prophetically calls the "terrorism of historicized memory" (1989, p. 14) in relation to the increase in archiving practices that provokes confrontation and resistance as a space for reflection and production of meaning.

Actively managing the settings of Memories regarding the scheduled occurrence of notifications and/or the range of dates they would like to relieve from memory (even if temporarily), gives users the space to process the value of their digital content. Cultivating the values of remembering and forgetting while choosing to use Facebook must mean acknowledging and understanding the role of Facebook in co-determining which parts of our digital content go to a temporary oblivion (note, not deletion). In parallel, learning to value our present and thus our past may mean to be discriminate about what to remember and what to forget if we want to actively share Facebook's role as a memory keeper and manager. By questioning the productive role of Facebook in memory-making and reviewing their roles and responsibilities in this regard, the users of Facebook don't have to abandon their everlasting selves in the digital abyss but can continuously reshape their digital content in a way that accounts for the mediating role of technology in formation of their memories.

Conclusion

In this paper, I reflected on the non-neutral role of social media platforms in the memory-making practices of their users with the example of Facebook's Memories feature. Specifically, I showed how Memories, designed to preserve the everlasting profile of the users, simultaneously conserves and co-produces the users' recollections. With the help of the postphenomenological approach, I explained how Memories influences the management of the users' digital content by mediating the quality, occurrence and preferential sorting of memory and by suggesting specific ideas of control and space. I also showed how a specific notion of

time as a timeline runs through all these technological mediations and further qualifies them. By actively suggesting to the users which events to remember and making other digital recollections less visible, Facebook mediates the notion of memory by both preserving and producing it. By offering the users a specific control mechanism to manage their Memories, Facebook produces both a certain conception of "good memory" and the consequent implication of user responsibility in attaining it. By constantly confronting the users with at times trivial and decontextualized representations of their past, Memories reduces the space to develop a meaningful relation to them and decide which elements to keep and which to delete. In short, Facebook actively takes part in the memory-making practices of its users.

Adopting the technological mediation approach allows vision beyond a reductionist framework of technologies as the modern-day villains and the users as passive recipients of their bidding. According to Verbeek (2011), "By developing analyses of the structure of the relations between humans and technologies, and by investigating the actual roles of technologies in human experience and existence, [post]phenomenology came to analyze technology as a constitutive part of the lifeworld rather than a threat to it" (p. 14). Following the mediation approach, while technology reduces some aspects of reality, it simultaneously expands others. By recognizing that Facebook's Memories feature both preserves and creates digital recollections, the users can inquire which ideas and mechanisms permit Facebook to co-create their digital legacy and (re)consider their actions accordingly. By realizing that Memories insists on a linear chronological conception of time, the users can question which of their memories do not fit such an interpretation and why, thus cultivating the relational and quality ideas of time as represented in the Greek concept of *kairos*. By reducing the space to cultivate meaningful memories, the frequent encounters with their past Facebook experiences in parallel invite the users to employ different mechanisms to consciously choose which recollections to keep and which to delete, thus enlarging a space for the making and management of memories while acknowledging their technological mediation.

Freedom to act with technologies and not shying away from them is achieved in understanding the ways in which they help give shape to our perceptions and actions. Cultivating and managing valuable memories in the age of social media platforms does not mean stopping use of these technologies altogether (although some may choose to do so). It does imply critically engaging with the broad spectrum of features these technologies promote, questioning their design affordances and limitations, which new habits they promote and how the habitual practices are affected. Approached in this way, the everlasting selves that people continuously produce in the digital spaces do not follow a linear trajectory and can be dynamically managed as per the evolving collaboration of people with algorithmically powered social networks.

References
Aagard J, Berg Friis JK, Sorenson J, Tafdrup O, Hasse C (eds) (2018) Post-phenomenological methodologies: New ways in mediating techno-human relationships. Lexington Books, Lanham
Bartlett FC (1932) Remembering: a study in experimental and social psychology. Cambridge University Press, Cambridge

Bauman Z (2004) Identity: conversations with Benedetto Vecchi. Polity Press, Cambridge, UK

Bolter JD, MacIntyre B, Nitsche M, Farley K (2012) Liveness, presence, and performance in contemporary digital media. In: Ekman U (ed) Throughout: Art and culture emerging with ubiquitous computing. The MIT Press, Cambridge, MA, pp. 279–310

Bucher T (2017) The algorithmic imaginary: exploring the ordinary affects of Facebook algorithms. Inf Com Soc 20(1):30–44

Carman A (2018) Facebook is launching a new memories page to remind you of the days when Facebook was good. The Verge 11 June 2018. https://www.theverge.com/2018/6/11/17442720/facebook-memories-on-this-day-month-launch. Accessed June 2021

Danaher J (2016) The threat of algocracy: Reality, resistance and accommodation. Phil Tech 29(3):245–268

de Boer B, Hoek J (2020) The advance of technoscience and the problem of death determination: a promethean puzzle. Techné 24(3):306–331

Dudai Y (2009) Predicting not to predict too much: how the cellular machinery of memory anticipates the uncertain future. Phil Trans Royal Soc of London 364(1521):1255–1262. https://doi.org/10.1098/rstb.2008.0320

Efrati A (2016) Facebook struggles to stop decline in 'original' sharing. The Information 7 April 2016. https://www.theinformation.com/articles/facebook-struggles-to-stop-decline-in-original-sharing. Accessed June 2021

Fiadotau M (2018) Phenomenological hermeneutics as a bridge between video games and religio-aesthetics. In: Sister V, Radde-Antweiler K, Zeiler X (eds) Methods for studying video games and religion. Routledge, New York, NY, pp. 101–114

Floridi L (2018) Semantic capital: Its nature, value, and curation. Phil Tech 31(4):481–497

Fuchs C (2014) Digital prosumption labour on social media in the context of the capitalist regime of time. Time Soc 23(1):97–123

Gadamer H-G (1977) Philosophical hermeneutics (trans: Linge DE). University of California Press, Berkeley

Gadamer H-G (2004) Truth and method (trans: Weinsheimer J & Marshall DG, 2nd. edn., orig. publ. 1975). Crossroad, New York, NY

Ganesh MI (2020) The ironies of autonomy. Humanit Soc Sci Commun 157 (7). https://doi.org/10.1057/s41599-020-00646-0

Garde-Hansen J (2009) MyMemories?: Personal digital archive fever and Facebook. In: Garde-Hansen J, Hoskins A, Reading A (eds) Save as… Digital memories. Palgrave Macmillan, London, pp. 135–150

Hod O (2018) All of your Facebook memories are now in one place. Facebook June 11 2018. https://about.fb.com/news/2018/06/all-of-your-facebook-memories-are-now-in-one-place/. Accessed June 2021

Ihde D (1990) Technology and the lifeworld: From garden to earth. Indiana University Press, Bloomington and Indianapolis

Koriat A (2000) Control processes in remembering. In: Tulving E, Craik FIM eds The Oxford handbook of memory. Oxford University Press, Oxford, pp. 333–346

Krell DF (1982) Phenomenology of memory from Husserl to Merleau-Ponty. Phil Phen Res 42(4):492–505

Kudina O (2021) "Alexa, who am I?": Voice assistants and hermeneutic lemniscate as the technologically mediated sense-making. Hum Stud 44:233–253

Kudina O, de Boer B (2021) Co-designing diagnosis: towards a responsible integration of Machine Learning decision-support systems in medical diagnostics. J Eval Clin Prac. https://doi.org/10.1111/jep.13535

Loftus EF (2005) Planting misinformation in the human mind: A 30-year investigation of the malleability of memory. Learn & Mem 12:361–366

Mayer-Schönberger V (2009) Delete: The virtue of forgetting in the digital age. Princeton University Press, Princeton

Merleau-Ponty M (2002) Phenomenology of perception (trans: Smith C, orig. publ. 1945). Routledge, London/New York, NY

Merleau-Ponty M (2010) Institution and passivity. Course notes from the Collège de France (1954-1955)(trans: Lawlor L, Massey H; foreword: Lefort C). Northwestern University Press, Evanston, IL

Nelson AN, Haig JH (1997) Ma. The New Nelson Japanese-English Character Dictionary. Tuttle Publishing, North Clarendon, p. 1132

Nora P (1989) Between memory and history: Les lieux de mémoire (trans: Roudebush M). Representations 26:7–25

Paul J (2014) The use of Kairos in renaissance political philosophy. Renais Quart 67(1):43–78

Rajanala S, Maymone MB, Vashi NA (2018) Selfies—living in the era of filtered photographs. JAMA Fac Plast Surg 20(6):443–444

Rasch B, Born J (2013) About sleep's role in memory. Physiol Rev 93:681–766. https://doi.org/10.1152/physrev.00032.2012

Rosenberger R, Verbeek P-P (eds) (2015) Postphenomenological investigations: essays on human–technology relations. Lexington Books, Lanham

Smutradontri P, Gadavanij S (2020) Fandom and identity construction: An analysis of Thai fans' engagement with Twitter. Humanit Soc Sci Commun 177(7). https://doi.org/10.1057/s41599-020-00653-1

Stokes P (2012) Ghosts in the machine: Do the dead live on in Facebook? Phil Tech 25(3):363–379

Tsay-Vogel M, Shanahan J, Signorielli N (2018) Social media cultivating perceptions of privacy: a 5-year analysis of privacy attitudes and self-disclosure behaviors among Facebook users. N Media & Soc 20(1):141–161

Turkle S (2008) Always-on/always-on-you: The tethered self. In: Katz JE (ed) Handbook of mobile communication studies. MIT Press, Cambridge, MA, pp. 121–137

Verbeek P-P (2005) What things do: Philosophical reflections on technology, agency, and design. Pennsylvania State University Press, University Park

Verbeek P-P (2011) Moralizing technology: Understanding and designing the morality of things. University of Chicago, Chicago/London

Wood M (2019) The rise and fall of Facebook's memory economy. Wired 26 April 2019. https://www.wired.com/story/rise-fall-facebooks-memory-economy/. Accessed June 2021

Acknowledgements

Competing interests
The author declares no competing interests.

Ethical approval
This article does not contain any studies with human participants performed by any of the authors.

Informed consent
This article does not contain any studies with human participants performed by any of the authors.

Additional information
Correspondence and requests for materials should be addressed to Olya Kudina.

Reprints and permission information is available at http://www.nature.com/reprints

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.