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MEMORY IN THE AGE OF ALGORITHMS: RETHINKING THE PAST THROUGH DIGITAL MEMORY STUDIES

The article offers a systematic overview of the emergence and development of Digital Memory Studies–an interdisciplinary field that investigates memory in the digital age. Drawing on the theories of Maurice Halbwachs, Jan and Aleida Assmann, Astrid Erll, Andrew Hoskins, José van Dijck, Anna Reading, and other leading scholars, the study examines how digital platforms, algorithms, and new media transform fundamental concepts of cultural and social memory. In digital environments, memory is understood not as a stable archive but as a dynamic ecology produced through the interaction of users, media infrastructures, algorithmic processes, affective mechanisms, and artificial intelligence technologies.

The article identifies the central theoretical paradigms of Digital Memory Studies, including the "connective turn," the "new ecology of memory," algorithmic selection of the past, the globital memory field, and the phenomenon of automated memories. It demonstrates how the digitization of everyday life, the platformization of the internet, and the growing role of algorithms have generated new forms of remembering–instant memory cultures, memetic memory, emotionally driven networked communities, and deepfake epistemologies.

The methodological section analyses the hybrid approaches used to study digital memory: digital ethnography, multimodal discourse analysis, platform and algorithm studies, media archaeology, and affective methodologies. The article outlines their potential and limitations in conditions of algorithmic opacity, unstable digital archives, and ethical dilemmas related to privacy and the representation of traumatic materials.

The study concludes by outlining promising directions for the field's further development: the analysis of memory in the era of artificial intelligence and synthetic images, the study of digital war archives, decentralized models of data preservation, algorithmic justice, and the decolonization of digital memory practices. Ultimately, the article demonstrates that Digital Memory Studies constitute one of the key directions in the contemporary humanities, reshaping the very notion of memory in a world where data, platforms, and algorithms mediate society's engagement with the past.

Key words: *digital memory, algorithmic governance, platformization, connective turn, media ecology, digital archives, affective infrastructures, artificial intelligence.*

Problem Statement. The rapid digitalization of society has transformed memory from a stable archive into a dynamic, distributed, and algorithmically governed process. Social networks, platforms, and AI now act as key agents of remembering, generating and reshaping digital traces in ways that classical models of cultural and social memory can no longer adequately explain. Algorithmic opacity, unstable digital archives, platform governance, and global inequalities create epistemological and methodological challenges that exceed the scope of traditional Memory Studies. This article therefore addresses the need for a new interdisciplinary framework–Digital Memory Studies (DMS) –that can account for how digital technologies redefine processes of remembering, witnessing, preserving, and interpreting the past.

Review of Recent Research. Over the past two decades, memory studies have undergone a profound transformation driven by digital technologies and the platformization of everyday life. Foundational work by Maurice Halbwachs [22] and Jan and Aleida Assmann [4] established the basis for understanding memory as a social and cultural construct. The subsequent medial turn–led by Astrid Erll [14] – shifted attention toward the role of media infrastructures in shaping the circulation and transformation of memory.

In the 2010s, Andrew Hoskins [24], José van Dijck [35], and Anna Reading [33] reconceptualized memory as a dynamic digital ecology, emphasising the connective turn, the culture of connectivity, and the emergence of the globital memory field. Parallel research by Benjamin Jacobsen and David Beer [6;

26] demonstrated how algorithms automate and compute memory, while Helen Nissenbaum [31] and Ethan Zuckerman [39] highlighted the ethical and political implications of datafication and surveillance. More recent empirical work by Robin Ekelund [13] shows how platform architectures generate instant and unstable cultures of remembrance.

Despite these advances, current scholarship still lacks an integrated framework capable of accounting for memory as a human–algorithmic, social–technological, and affective–computational phenomenon. This gap underscores the need to systematically outline the structure, epistemology, and research challenges of DMS as an emerging field.

Purpose of the Article. The purpose of this article is to define a coherent conceptual and methodological framework for DMS. It traces the shift from classical cultural memory theories to digitally mediated models of remembering, synthesizes key theoretical contributions across medial, platform-based, algorithmic, affective, and techno-material approaches, and outlines a hybrid methodological toolkit suited to environments shaped by platforms, algorithms, and AI. The article also highlights the epistemological, ethical, and methodological challenges posed by algorithmic opacity, archive instability, and datafication, and identifies future research trajectories related to AI-generated pasts, digital war archives, memetic cultures, decentralized infrastructures, and decolonial perspectives. In doing so, it shows how DMS redefine the concept of memory in the digital age.

Methodology. The study applies a qualitative and theory-driven approach aimed at systematizing existing research rather than producing new empirical data. It conducts comparative conceptual analysis of key frameworks in Memory Studies, media theory, and platform studies to trace how digital infrastructures, platforms, and algorithms transform notions of memory. The article evaluates the main methodological tools used in Digital Memory Studies–digital ethnography, multimodal analysis, platform and algorithm studies, and media archaeology–assessing their relevance under conditions of algorithmic opacity, unstable digital archives, and restricted data access. This synthesis provides an analytical framework for understanding digital memory as a hybrid socio-technical phenomenon and for identifying the methodological limits of the field.

Analysis of Recent Research and Publications. *Historical Foundations of DMS.* Research on memory has undergone major theoretical transformations, leading to the formation of DMS as a distinct interdisciplinary field. Foundational ideas were laid by Maurice Halbwachs, who conceptualised memory as a social construct shaped by collective frameworks [22]. This approach was significantly expanded by Jan and Aleida Assmann, whose model of communicative and cultural memory offered a long-term perspective on how societies preserve and institutionalise the past [2; 3; 4].

A decisive role was also played by the digitalization of documentation in the 1990s–2010s. The work of Anne Gilliland, Terry Cook, and Geoffrey Bowker demonstrated that the archive ceased to function as a closed institution and instead became a distributed digital infrastructure–a model of *participatory archives* in which users themselves create, curate, and annotate data [8; 11; 21]. Scholars of digital culture such as Henry Jenkins, Axel Bruns, Nancy Baym, and José van Dijck showed that Web 2.0 generated new forms of participatory culture, produsage, and collective memory production, enabling a shift from the "archive as place" to the "archive as process" [5; 10; 28; 35].

A decisive shift occurred with the medial turn, introduced primarily by Astrid Erll, who demonstrated that memory is inseparable from the media through which it circulates and transforms [14]. This established the basis for treating media infrastructures–not only texts or institutions–as central agents of mnemonic production.

In the 2010s, the expansion of digital platforms prompted a major reconceptualisation of memory. Andrew Hoskins introduced the ideas of the connective turn and the new *ecology of memory*, arguing that platforms algorithmically resurface and reorganise the past in real time [24; 25]. Building on this shift, José van Dijck, Danah Boyd, and Tarleton Gillespie analysed social media as infrastructures of memory, showing that platforms actively shape what becomes visible, retrievable, or forgotten [9; 20; 36]. Van Dijck, in particular, demonstrated that the culture of connectivity operates through socio-technical architectures that govern the circulation, ranking, and institutionalisation of digital traces [36; 37; 38].

A parallel line of research investigates algorithmic memory. The work of Benjamin Jacobsen and David Beer shows that platforms automate processes of remembering through ranking, classification, and predictive systems, thus reframing memory as a computational phenomenon [26]. Ethical and political implications of this shift have been addressed by Helen Nissenbaum, who introduced the concept of contextual integrity in digital environments [31], and Ethan Zuckerman, who analysed the dynamics of surveillance and datafication [39].

Another important strand concerns the affective dimension of digital memory. Megan Boler and Elizabeth Davis have shown that emotions, reactions, and affective feedback loops structure online mnemonic communities and shape how events are collectively remembered [7]. Empirical studies by Robin Ekelund demonstrate how platform infrastructures produce unstable, constantly reassembled "instant memory cultures," making digital archives inherently fluid and ephemeral [13].

Finally, emerging research on synthetic media and AI-generated pasts highlights new epistemological challenges, as deepfakes and computational simulations undermine traditional criteria of authenticity and evidentiary value.

Overall, recent research reveals a shift from stable, institutionally anchored models of memory to dynamic, platform-mediated, algorithmically structured, and affectively driven ecologies of remembering. Despite substantial progress, the field still lacks a comprehensive synthesis integrating these disparate strands–an analytical gap that the present article seeks to address.

Task Statement. This article aims to conceptualize DMS as an independent research field by systematizing its theoretical foundations, methodological approaches, and current challenges, and by outlining how digital technologies transform the structures and functions of cultural and social memory.

Outline of the main material of the study. *Key Theorists of DMS and the Formation of the Conceptual Field*.

The emergence of DMS as an autonomous field has been shaped by scholars who reassembled the language and analytical tools of memory research for the digital age. Their contributions define four major axes of the field: theoretical, platform-based, affective, and empirical. Together, these axes show that digital memory is not a continuation of cultural memory in a new medium but a distinct media ecology formed at the intersection of human practices, algorithmic systems, and platform infrastructures.

Andrew Hoskins introduced the core conceptual vocabulary of digital-era memory, including the *connective turn, new memory ecology, restless past*, and *entangled memory ecologies* [24; 25]. He reconceptualized memory as a hyperconnected, continuously resurfaced network shaped by algorithmic processes, showing that user engagement with the past is mediated by platform interfaces and signals. His work established the theoretical paradigm of DMS and demonstrated the need for concepts beyond classical cultural memory.

Joanne Garde-Hansen was among the first to argue that everyday digital practices – selfies, posts, likes, shares – constitute authentic forms of memory rather than incidental by-products of communication [17; 18; 19]. Her notions of *digital memory practices, personal digital archive fever*, and *affective digital traces* foregrounded the emotional, distributed, and platform-dependent character of user-generated memory archives.

Anna Reading played a decisive role in the political and global turn of DMS. Her concept of the *globital memory field* describes a transnational, digitally mediated memory space shaped by bodily data, migration, and uneven infrastructures [32]. Through the *Body–Data–Memory nexus*, Reading demonstrated the structural inequalities of digital memory and introduced feminist and political dimensions to the field.

José van Dijck developed the platform-based strand of DMS. Her theories of the *culture of connectivity, platform scripts*, and *datafication conceptualize* social media as infrastructures of memory governed by moderation policies and algorithmic mechanisms [36; 37; 38]. She showed that digital memory is a privatized domain, where platforms actively script what becomes visible or forgotten.

Benjamin Jacobsen and David Beer advanced the theorization of algorithmic memory. They systematically described *automated memories*–platform-generated recollections–and introduced concepts such as *quantified nostalgia* and *sorting the past* [27]. Their work demonstrates that algorithms act as agents of memory, selecting, ranking, and emotionally calibrating the past.

Wolfgang Ernst contributed the techno-material dimension. His concepts of *operative memory* and *temporal microstructures* argue that digital memory is grounded in machine operations–clock cycles, storage protocols, and computational temporality [15; 16]. He distinguished between human symbolic memory and the technical memory of devices, reframing digital memory as an infrastructural phenomenon.

The ethical and political frameworks of DMS were shaped by Helen Nissenbaum and Ethan Zuckerman. Nissenbaum's concept of *contextual integrity* highlights how digital privacy is compromised through contextual redistribution of data [30; 31]. Zuckerman analysed platforms as infrastructures of surveillance and data capitalization [39], demonstrating that digital memory is embedded in political economies of control.

The affective dimension was developed by Megan Boler, Elizabeth Davis, and Mark Davis, who

conceptualized digital memory as an emotionally structured process. Their notions of *affective feedback loops* and *networked subjectivity* show how emotional reactions–likes, reactions, emojis–generate shared mnemonic communities [7; 12].

Finally, Robin Ekelund provided a key empirical foundation for the field. His studies of retrospective Facebook groups revealed that platform dynamics produce *instant memory cultures*: unstable, ephemeral, continuously reassembled archives shaped by algorithmic visibility [13].

Collectively, these scholars define the conceptual field of DMS. Hoskins provides its theoretical framework; Garde-Hansen and Reading foreground everyday practices, embodiment, and inequality; van Dijck and Jacobsen with Beer articulate the platform-based and algorithmic dimensions; Ernst clarifies its techno-material foundations; Nissenbaum and Zuckerman establish its normative boundaries; Boler and Davis theorize its affective mechanisms; and Ekelund anchors the field empirically. As a result, digital memory emerges as a hybrid ecology–simultaneously human and non-human, emotional and computational, material and platform-based.

Methodological Approaches in DMS. The methodology of DMS has emerged in response to the increasing complexity of digital memory and the need to study it simultaneously as a social, medial, algorithmic, and techno-material system. In contrast to classical memory research–traditionally grounded in textual and cultural analysis–DMS requires a hybrid methodological toolkit combining digital ethnography, multimodal analysis, platform studies, algorithmic inquiry, media archaeology, and affective methodologies. Such an approach makes it possible to understand how memory is produced in environments where human practices are continuously intertwined with platform infrastructures and algorithmic decision-making [24; 25; 36; 37; 38].

One of the key approaches is *digital ethnography / netnography*, which enables researchers to analyse how users create and reproduce memory within digital communities [29]. Robin Ekelund's studies of retrospective Facebook groups [13] demonstrate that digital memory emerges as a process of collective emotional coordination–through the exchange of photographs, comments, likes, and nostalgic triggers. This method foregrounds the affective nature of digital interactions, previously identified by Garde-Hansen and Boler [7; 18].

Another important methodological strand is *multimodal discourse analysis*, developed by Gunther Kress and Theo van Leeuwen within visual studies and adapted by Astrid Erll for Memory Studies. This approach makes it possible to examine how memory is shaped through the interplay of language, visual structures, memes, emojis, sound, and interface design. Multimodal analysis is particularly relevant for studying digital nostalgia, memetic representations of war, and circulating visual archives that undergo continual remediation across platforms [14].

A third methodological axis is defined by *platform studies and software studies*, which examine the architecture and logic of social media platforms as structuring forces of memory [20; 37; 38]. Ranking algorithms, moderation practices, interface scripts, and features such as "Memories" or "On This Day" determine which recollections are resurfaced to users, which remain hidden, and which disappear. This approach enables memory to be conceptualized as a product of platform infrastructures of visibility governed by corporate actors.

Developments in *critical algorithm studies* have deepened this understanding. Research by Jacobsen and Beer [26; 27] shows that platforms autonomously generate pasts through mechanisms of *automated memories* and *quantified nostalgia*. Analyses of recommendation patterns, disappearing posts, and algorithmic sorting reveal that algorithms act as active agents of memory, capable of constructing and dismantling collective digital archives.

The field is complemented by *trace studies* (Rogers, Helmond [23; 34]) and *data ethnography*, which examine digital traces – geotags, timestamps, deleted posts, metadata – as empirical sources for reconstructing event histories, including war crimes, migration trajectories, and the evolution of digital archives. These methods have become particularly significant in the study of Ukrainian digital war archives.

The techno-material underpinnings of DMS are illuminated through *media archaeology*, developed by Wolfgang Ernst [15]. This method shows that digital memory is not only a social or cultural process but also a computational temporality embedded in device operations, data formats, storage codecs, and server architectures. Media archaeology clarifies the differences between human and machine memory and helps identify the technical limits of digital archiving.

Finally, *affective methodologies* [1; 7] enable the analysis of emotions as the basis of digital memory. In social media environments, memory circulates through "affective loops" – cycles of likes, hearts, emojis, and shares that create communities bound by shared feelings. In this sense, memory becomes less a representation of the past than an affective

practice, a process particularly evident in studies of digital nostalgia, trauma, and online commemorative cultures.

The combination of these approaches allows DMS to examine digital memory as a hybrid ecology situated at the intersection of technologies, social relations, bodily and emotional mechanisms, algorithmic data processing, and the materiality of media. It is precisely this methodological hybridity that enables the analysis of phenomena such as digital war archives, platform-driven nostalgia, algorithmic selection of the past, and collective affective practices shaping contemporary experiences of history.

Challenges and Methodological Limitations of DMS. Despite the rapid development of DMS and the expansion of its research corpus, the field faces a broad set of methodological, epistemological, and ethical challenges. These limitations stem from the nature of digital memory itself, which emerges within opaque algorithmic infrastructures, commercial platforms, unstable digital archives, and an ever-changing media ecology. Understanding these difficulties is essential for critically assessing the capacities of DMS and identifying areas where new concepts, methods, and research practices are urgently required.

One of the most fundamental issues is *algorithmic opacity*–the well-known *black-box problem*. Memory in digital environments is structured by ranking mechanisms, recommendation systems, automated resurfacing of "memories," and post-sorting operations. Yet these algorithms are proprietary, mutable, and inaccessible to researchers. As a result, much empirical analysis relies on interpreting effects rather than causes: scholars must operate in a mode of "algorithmic inference," reconstructing system logic from indirect traces [27]. This renders empirical research structurally incomplete, as the primary agent shaping digital memory remains hidden.

A second limitation is the *instability and unpredictability of digital archives*. Platforms constantly modify interfaces, feed-sorting mechanisms, search tools, and access conditions, leading to disappearing posts, content relocation, and loss of API accessibility. As Robin Ekelund [13] demonstrates, the Facebook timeline is a "moving target," with the archive continuously reassembled by algorithms. This undermines the replicability of studies and makes classical longitudinal observations–central to Memory Studies–virtually impossible.

A third challenge concerns *platform dependency and restricted data access*. Most digital memory resides within privately owned corporate infrastructures (Facebook, Instagram, TikTok), which control API access, restrict automated data collection, and impose legal and technical barriers. This creates a situation of "platform methodological colonialism," where researchers are constrained by conditions entirely determined by Big Tech and lack access to the core mechanisms of data formation [36;37; 38].

Another cluster of issues is tied to *ethics and privacy*. Digital memory consists of personal photographs, family archives, everyday chronicles, and traumatic testimonies. This raises critical questions: Can public posts be used without the author's consent? How should visual data be anonymized? How can vulnerable groups be protected? These dilemmas are particularly acute in studies of war memory, migration, and trauma.

A major obstacle is the *operationalization of key concepts*. Many categories from classical Memory Studies–*communicative memory*, *cultural memory*, *lieux de mémoire*–prove insufficient for describing automated recollections, affective loops, deepfake memory, algorithmic selectivity, or the "instant memory cultures" identified by Ekelund [13]. The absence of a unified conceptual vocabulary leads to fragmentation across studies and methodological incommensurability of results.

At the level of data, DMS confronts the *hyper-fragmentation of digital traces*. Memory on social media is produced in the form of short posts, ephemeral stories, memes, and visual fragments that do not form extended narratives or stable mnemonic structures. This limits the analysis of repetition, durability, and collective mnemonic alignment.

Another significant issue is the *disconnect between micro- and macro-levels of analysis*. Digital ethnography captures user practices but not algorithmic operations; platform studies reveal infrastructures of visibility but not the meanings, affects, and interpretive structures emerging within specific communities. This split complicates attempts to build integrated models of digital memory [24].

To these challenges we may add the *risk of technological determinism*. Research on digital memory sometimes tends to explain everything through algorithms while neglecting cultural, political, national, and historical contexts. In certain cases, DMS overstates the rupture between "traditional" and "digital" memory–even though many forms of collective remembrance display considerable continuity.

Finally, the field faces a serious *global knowledge inequality*. Much of the scholarship is concentrated in the United States, the United Kingdom, and Northern Europe. The experiences of Eastern Europe, Ukraine,

the Middle East, Latin America, and the Global South remain only partially studied, resulting in the production of "universal theories" based on limited empirical material.

Taken together, these limitations illustrate that digital memory is an unstable, algorithmically mediated, commercially conditioned, and ethically vulnerable system. DMS investigates an object that is simultaneously open and opaque, accessible and inaccessible, preserved and disappearing, human and non-human. It is precisely this set of tensions that makes the continued development of the field so critical: DMS require new methods, new analytical technologies, and new concepts capable of describing twenty-first-century memory as a hybrid, dynamic, and contested ecology.

Futures of DMS: Where Is The Field Heading? DMS are entering a new stage of development in which the central challenges concern not simply the description of a "digital turn," but the fundamental transformation of infrastructures, agents, and forms of producing the past. Whereas the 2010s were defined by analyses of platformization and the connective ecology of memory [24; 25; 36; 37; 38], the 2020s are shaped by rapid advances in artificial intelligence, war and global crises, the decentralization of digital systems, and growing political demands for algorithmic justice. Under these conditions, DMS become an interdisciplinary field seeking simultaneously to explain, anticipate, and critically assess the changing nature of the digital past.

One of the most significant emerging directions is the study of memory in the age of artificial intelligence. Generative neural networks produce synthetic images and videos, reconstruct plausible "archives," create deepfake testimonies, and generate "memories" that never belonged to any individual or community. This shifts DMS toward an analytics of *post-human memory*, in which the past is produced collaboratively by users, platforms, and algorithms. It necessitates a new theory of the authenticity of digital heritage and an examination of the "synthetic past," which increasingly blurs the boundaries between documentation and simulation.

A second major direction concerns *real-time war memory*. The full-scale Russian–Ukrainian war has radically transformed the structure of digital remembrance: TikTok, Telegram, and X have become primary event archives; OSINT communities function as alternative investigative bodies; memes, video fragments, and livestream clips shape collective emotions and narratives more rapidly than institutional media. DMS increasingly turn to the analysis of digital witnessing, platform memorial politics, visual regimes of trauma, and disinformation strategies.

In parallel, growing attention is paid to *post-platform and decentralized memorial infrastructures*. The rise of blockchain, distributed archives, and autonomous storage systems raises the question of the future of memory beyond Big Tech. As commercial platforms delete data, restrict APIs, and alter rules of storage and privacy, the need for independent digital archives–insulated from corporate decision-making–becomes more urgent. This shifts the field toward questions of durability, resilience, and community-managed modes of preserving digital memory.

Another rapidly expanding direction is the study of *algorithmic justice in memory infrastructures*. Platforms decide which memories are resurfaced, which are hidden, how historical topics are ranked, and how traumatic content is treated. The algorithmic production of the past [26] requires normative critique: in what ways do algorithms reinforce colonial memory structures, penalize or privilege particular communities, and generate biased "curves of nostalgia"? This moves the field toward the analysis of algorithmic governance, transparency, and the ethics of memorial practices.

A further promising area relates to *affective and biometric technologies*. Memory is becoming increasingly embodied: devices track emotions, facial expressions, and biometric signals, enabling platforms to construct "affective trajectories" and predict nostalgic triggers. Emotional memory thus becomes not only a social but also a computational object embedded in architectures of personalization and advertising targeting. Scholars of affect [7] note that future digital memory will be shaped around algorithmically mediated affective loops.

At the same time, *memetic memory* is gaining prominence. Memes already function as new *lieux de mémoire*: they capture reactions to trauma, document key events of war, protest, and political crises, and serve as central carriers of historical experience for younger generations. Visual sociology and meme studies are becoming critical for understanding the collective dynamics of digital memory.

It is also essential to emphasize that the further development of DMS depends on the *globalization* and *decolonization* of memory research. Currently, leading theories and datasets are predominantly grounded in material from the United States, the United Kingdom, and Northern Europe. Yet research on digital archives in Ukraine, the Baltic states, the Middle East, Africa, and Latin America is rapidly expanding–especially in the context of war, protest,

and post-conflict reconstruction. This opens space for a polycentric understanding of digital memory, sensitive to political and cultural diversity.

Finally, one of the most pressing issues concerns *the right to be forgotten, the security of digital archives, and data longevity*. The tension between privacy rights and the right to memory becomes increasingly acute as the volume of digital information grows. Research trends shift toward digital forensics, cybersecurity, archive resilience, and the ethics of long-term data preservation.

In sum, the future of DMS is defined by the expansion of both objects and methods: from the analysis of interfaces and algorithms to the study of AI, blockchain, OSINT archives, global conflicts, affective infrastructures, and decolonial perspectives. The field is moving toward an understanding of memory as a complex hybrid system in which human actors, platforms, algorithms, technical devices, and political forces interact. This makes DMS one of the central areas of humanistic inquiry in the twenty-first century.

Conclusions. Digital Memory Studies (DMS) emerged in response to the profound transformations that digital technologies introduced into practices of remembering. Unlike classical Memory Studies, which focused on stable archives and institutional preservation, DMS view memory as a continuous, distributed, and algorithmically mediated process.

The historical shift toward network infrastructures, everyday digitization, and the platformization of the internet made traditional concepts of cultural memory insufficient. New frameworks–such as the connective turn, new memory ecology, automated memories, quantified nostalgia, and the globital memory field–reconceptualize memory as the product of interactions between humans, platforms, and algorithms.

The methodological section demonstrated that DMS rely on hybrid approaches: from netnography and multimodal discourse analysis to platform studies, algorithmic inquiry, and media archaeology. Such methodological synthesis is necessary because digital memory is a multilayered, dynamic, and distributed structure involving human practices, digital traces, visual forms, algorithmic operations, and storage infrastructures. These methods allow researchers to study both micro-level forms of digital nostalgia and emotional coordination, and macro-level processes of algorithmic selection, platform moderation, and structural control over access to the past.

However, the field faces significant challenges: algorithmic opacity, unstable archives, platform dependency, ethical dilemmas, data fragmentation, and a methodological divide between micro- and macro-level analysis. These challenges not only restrict research possibilities but also compel us to critically reconsider the nature of digital memory–its vulnerability, political character, and material embeddedness.

In the future, DMS will increasingly focus on memory under conditions of artificial intelligence, digital war, memetic culture, algorithmic justice, and post-platform archives. The memory of tomorrow will be shaped not only by humans but also by algorithms, neural networks, distributed storage systems, and digital infrastructures that act as key agents in producing the past. This requires a new epistemology of memory that accounts for post-human, post-platform, and post-canonical forms of remembering.

Thus, DMS represent not merely a response to the challenges of the digital age but a fundamental rethinking of memory itself. The field offers a new vision of how the past is created, who controls its circulation, and what place memory occupies in a world where data, algorithms, and platforms are inseparable from everyday life. In this sense, DMS is not a temporary research trend but one of the central vectors in the development of the humanities and social sciences in the twenty-first century.

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Гармаш Л. В. ПАМ'ЯТЬ У ДОБУ АЛГОРИТМІВ: ПЕРЕОСМИСЛЕННЯ МИНУЛОГО КРІЗЬ ПРИЗМУ ЦИФРОВИХ СТУДІЙ ПАМ'ЯТІ

У статті подано систематичний огляд виникнення й розвитку цифрових студій пам'яті (Digital Memory Studies) – міждисциплінарної галузі, що досліджує пам'ять у цифрову епоху. Спираючись на концепції Моріса Гальбвакса, Яна та Алейди Ассман, Астрід Ерлл, Ендрю Госкінса, Жозе ван Дейк, Анни Рідінг та інших провідних дослідників, у роботі розглядається, як цифрові платформи, алгоритми й нові медіа трансформують фундаментальні уявлення про культурну й соціальну пам'ять. У цифрових середовищах пам'ять постає не як стабільний архів, а як динамічна екологія, що формується у взаємодії користувачів, медіаінфраструктур, алгоритмічних процесів, афективних механізмів та технологій штучного інтелекту.

У статті визначено ключові теоретичні парадигми цифрових студій пам'яті, зокрема «конективний поворот», «нову екологію пам'яті», алгоритмічна селекція минулого, глобітальне поле пам'яті (за Рідінг) та феномен автоматизованих спогадів. Показано, що діджиталізація повсякденного життя, платформізація інтернету та зростання ролі алгоритмів породили нові форми пам'ятання – культури миттєвої пам'яті, міметичну пам'ять, емоційно керовані мережеві спільноти та deepfake-епістемології.

Методологічний розділ аналізує гібридні підходи до дослідження цифрової пам'яті: цифрову етнографію, мультимодальний дискурс-аналіз, студії платформ й алгоритмів, медіаархеологію та афективні методології. Розглядається їхній потенціал і обмеження в умовах алгоритмічної непрозорості, нестабільності цифрових архівів та етичних дилем, пов'язаних із приватністю та репрезентацією травматичних матеріалів.

У заключній частині окреслено перспективні напрями подальшого розвитку галузі: дослідження пам'яті в добу штучного інтелекту та синтетичних зображень, аналіз цифрових воєнних архівів, децентралізованих моделей збереження даних, алгоритмічної справедливості та деколонізації цифрових практик пам'яті. Показано, що цифрових студій пам'яті становлять один із провідних напрямів сучасних гуманітарних наук, переосмислюючи саму природу пам'яті у світі, де взаємодія із минулим опосередковується даними, платформами й алгоритмами.

Ключові слова: *цифрова пам'ять, алгоритмічне врядування, платформізація, конективний поворот, медіаекологія, цифрові архіви, афективні інфраструктури, штучний інтелект.*

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