

The Ephemeral Nature of Digital Journalism and Its Structural Impact on Public Attention

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Abstract: *The ephemerality of digital journalism has evolved into a systemic paradigm of temporal compression, becoming, under the co-construction of technology and the platform economy, a "meta-rule" of the information ecology. This paper defines ephemerality from the three dimensions of temporal density, mode of existence, and value logic, analyzing its technological generation and normalization mechanisms. By constructing a model of attentional structure, the research reveals its transformation from a "steady state" to a "liquid state." The core findings indicate that ephemerality systematically reshapes the configuration patterns and long-term effects of public attention by driving the fragmentation of attention, dissolving the cycle of deep engagement, and promoting cognitive superficiality and the fluidity of identity. This, in turn, elucidates the profound structural interrelationship between the two, providing a critical analytical framework for understanding the information ecology in the digital age.*

Keywords: *Digital Journalism; Ephemerality; Public Attention; Attentional Structure; Fragmentation; Platform Ecology*

Introduction

The core characteristic of the digital journalism ecosystem lies in the highly compressed processes of information production, dissemination, and obsolescence, forming an ephemeral paradigm of a "perpetual present." This paradigm originates not only from technological efficiency but also profoundly reshapes media logic and cognitive structures. Concurrently, the structure of public attention—that is, the systemic allocation pattern of societal cognitive resources—exhibits significant fluidity and plasticity in the digital environment, with its traditional stability tending to dissolve. Existing research often focuses separately on the acceleration of news production or the fragmentation of attention. However, examining "ephemerality" as a systemic structural characteristic and delving deeply into its dynamic and mechanistic co-constitutive relationship with the structure of public attention still holds significant theoretical value and practical necessity. This study aims to move beyond phenomenological description by integrating perspectives from media studies, cognitive science, and political economy to construct an analytical framework. It seeks to explain how ephemerality, as both an environmental pressure and an architectural force, systematically shapes the structure of public attention—from allocation patterns and maintenance mechanisms to the levels of cognition and identity. This inquiry is significant for understanding the essence of digital journalism and for reflecting on cognitive quality and public agenda-setting in an era of information overload. The following discussion will unfold from three levels: the theoretical connotations and generative logic of ephemerality, the analytical framework of attentional structure, and the shaping mechanisms between the two.

1. The Theoretical Connotation and Generative Logic of Ephemerality in Digital Journalism

1.1 Defining the Concept and Core Dimensions of Ephemerality in Digital Journalism

The concept of ephemerality in digital journalism must be differentiated from mere notions of "speed" or "newness." It describes a systemic state of temporal compression, wherein the production, distribution, consumption, and obsolescence of news are compressed nearly onto a single, continuous temporal plane. Its core characteristic lies in the contradictory unity of "instantaneous presentation" and "instantaneous obsolescence": a news item begins the countdown to its value decay at the very moment

it gains its maximum attention potential (i.e., being pushed to the top of a user's interface). This creates a "perpetual present," where the past (news from just minutes ago) rapidly sinks away, and the future (impending updates) continuously floods in. The "now" thus becomes a constantly refreshed, elusive instant.

This concept can be discerned through three mutually constitutive core dimensions: temporal density, mode of existence, and value logic. Temporal density refers to the saturation of news events reported and the frequency of their updates within a unit of time, leading to cognitive overload. Mode of existence denotes the transformation of news from stable, bounded "texts" into fluid "data streams" or "information units" that can be recombined and nested infinitely. Value logic indicates a shift in the criteria for evaluating news, moving from accuracy based on facts and societal significance towards communicative immediacy, emotional resonance, and the capacity to generate traffic. These three dimensions interact to make ephemerality an omnipresent environmental pressure rather than an optional communication strategy. It compels all participants to adapt to its non-linear, pulsating temporal rhythm^[1].

1.2 The Mechanism of Instantaneous News Production and Distribution Driven by Technology

Technological drivers constitute the material foundation for the realization of ephemerality. On the production side, intelligent information collection tools, automated content generation technologies, and cloud-based collaborative editing platforms have restructured the editorial process from linear workflows to parallel processing. The application of sensor journalism, real-time data scraping, and algorithmic writing has achieved a high degree of automation, from information perception to the generation of news drafts, significantly eliminating the time lag between event occurrence and content output. Consequently, the operational rhythm of newsrooms has synchronized with the rhythm of online information flows, establishing standardized operating procedures for instantaneous production.

On the distribution side, algorithm-based personalized recommendation systems and global content delivery networks serve as the core engines for instantaneous distribution. Recommendation algorithms perform content matching and priority ranking within milliseconds based on real-time user behavior data, enabling the instantaneous connection between information and potential audiences. Concurrently, social media sharing mechanisms and push notification functionalities construct an immediate reach network spanning across platforms. This intelligent distribution mechanism, driven by data and executed by algorithms, ensures that once a news product is produced, it can be injected into countless personalized information flows with near-zero time lag, completing the "last mile" of ephemerality.

1.3 The Normalization Process of Ephemerality in the Evolution of the Information Ecology

The solidification of ephemerality in digital journalism from a technological possibility into a norm co-constructed by the industry and users has undergone a profound evolution within the information ecology. Users' expectations and consumption habits regarding information have undergone a fundamental shift, with "access anytime" and "instant gratification" becoming prevalent demands. This demand, in turn, feeds back to the production side, further incentivizing news organizations to prioritize speed competition. Consequently, ephemerality has been internalized from an external technological characteristic into part of the organizational culture and professional ideology of digital journalism, shaping practitioners' perceptions of time and their criteria for value judgment.

The logic of the platform economy has deeply participated in this process of solidification. Attention, as a key resource, relies heavily on the rapid turnover of information for its allocation mechanism. Ephemerality effectively sustains users' continuous immersion in information flows, generating longer user dwell times and more interaction data for the platforms. Therefore, ephemerality is not only a communication characteristic but also an economic model that sustains the vitality of platforms. The information ecology continuously reinforces itself within this cycle: attracting and retaining attention with greater speed, while the accumulated attention demands an even faster supply of information, ultimately making ephemerality an irreversible structural constant within the digital information environment^[2].

2. A Theoretical Model and Analytical Framework for the Structure of Public Attention

2.1 Attention as a Scarce Resource and Its Intrinsic Constituent Elements

From the perspective of information economics, the scarcity of attention has a dual dimension: first, an absolute scarcity based on the finite capacity of human cognition, and second, a relative scarcity intensified by the competition for attention in an environment of information overload. This scarcity renders it a fundamental "currency" within the digital ecosystem, driving comprehensive innovations in platform design, content production, and marketing strategies. The operational logic of the attention market lies in continuously optimizing stimuli to capture user focus at minimal cost, converting it into quantifiable data traffic and potential commercial value. Consequently, the allocative efficiency of attentional resources has become a key metric for evaluating the effectiveness of information dissemination.

Analyzed from the perspective of cognitive composition, attention constitutes a multi-dimensional, composite capability system. The intensity dimension reflects the depth of cognitive processing and the degree of neural resource mobilization, which is crucial for the effectiveness of information encoding. The breadth dimension pertains to the scope of the attentional field and the capacity for multitasking, influencing the parallelism of information reception. The sustainability dimension measures the ability to maintain an attentive state over time, serving as a prerequisite for forming long-term memory and facilitating in-depth thought. The directivity dimension embodies the selectivity of attention, guided by both intrinsic goals and extrinsic cues. Within the context of continuous interaction with digital interfaces, these dimensions often face inherent trade-offs. For instance, the "stickiness" designed into interfaces aims to enhance sustainability but may, through multi-window prompts, undermine the intensity and autonomous control of directivity, leading to an imbalance among the constituent elements of attention and the dissipation of cognitive resources.

2.2 The Foundations of Attentional Structure Stability in Traditional Information Environments

In the era of traditional mass media, the structure of public attention was established upon a set of institutionalized spatiotemporal norms. Information dissemination adhered to strict cyclical rhythms, such as the 24-hour cycle of daily newspapers or the fixed schedules of television programming, which provided synchronized "temporal anchors" for social cognition. The capacity limitations of physical media acted as natural gates for information flow, while editorial professional norms and agenda-setting functions imposed a socially prioritized ordering of information. This "filter-publish" model produced a scarcity of authoritative, processed attentional foci, thereby directing the public's cognitive resources toward a limited and relatively stable set of public agendas, forming a highly consensual social attention map^[3].

The stability of the attentional structure was also deeply rooted in its ritualistic integration with the practices of daily life. Media consumption behaviors were endowed with specific spatiotemporal contexts and social meanings, such as families gathering around the television in the evening to watch the news. This ritual not only reinforced media habits but also reproduced familial and social bonds. In such scenarios, information reception was a primary activity with limited distractions, allowing attention to maintain focused concentration over extended periods within a low-competition environment. This stable, synchronized, and predictable structure of attention supported the construction of collective memory and social integration based on shared informational experiences, providing a relatively homogeneous cognitive foundation for the formation of widespread public opinion.

2.3 An Analysis of the Plasticity of Attentional Structure in the Digital Context

The digital context has fundamentally reconfigured the spatiotemporal parameters of information supply and consumption, shifting the structure of public attention from a "steady state" to a "liquid state." The continuous online availability and asynchronous access to information flows have dissolved the periodicity and synchronicity of collective attention. Mobile internet devices embed information interfaces into every crevice of daily life, forcing attention to adapt to a pervasive state of "always-on, ready-to-switch." The traditional model of "focal attention" has been, to a large extent, supplemented and even replaced by "background monitoring attention" and "rapid-switching attention." Consequently, the attentional structure has lost its fixed form, exhibiting a high degree of context-dependence and individual heterogeneity.

This plasticity is manifested in multiple forms of guidance at the architectural level. First, the logic of interface interaction encourages miniaturized and episodic attention investment. Design paradigms such as pull-to-refresh and infinite scrolling cultivate an expectation for instantaneous feedback. Second, the distribution of attention follows the logic of platform algorithms, forming dynamic, multi-centered, and unstable networked hot topic maps. The traditional "national agendas" are differentiated by countless "demarcated hot topics." Finally, the driving mechanism of attention is highly exogenous. Individual interest profiles are continuously mapped, predicted, and shaped by algorithms, and the dynamic information from social relationship chains also becomes a powerful driver of attention. Therefore, the attentional structure in the digital context is no longer a passively formed background but a dynamic process continuously co-produced in real-time by technological architecture, the platform economy, and social behaviors. Its plasticity itself has become the core characteristic of this structure^[4].

3. The Shaping Mechanism of Ephemerality on the Structure of Public Attention

3.1 The Fragmented Restructuring of Attention Allocation Patterns by Ephemerality

Ephemerality reshapes the economic logic of attention allocation by radically compressing the temporal value of information. Under the dominance of ephemerality, the "shelf life" of information is drastically shortened, and the marginal rate at which its value for attracting attention declines over time becomes exceedingly steep. This leads to the prevalence of "attentional opportunism": to maximize cognitive returns per unit of time, the allocation of attention tends to adopt a strategy of breadth-first and rapid skimming, rather than depth-first and long-term holding. Consequently, the allocation of cognitive resources exhibits the characteristics of high-frequency trading, with attention rapidly shifting among different information assets to avoid the opportunity costs associated with information "depreciation." At the macro level, this allocation pattern manifests as a continuous and rapid tremor in the overall distribution map of public attention, making it difficult to form stable and profound concentrations on specific coordinates.

A profound consequence of this fragmented restructuring is the atomization of cognitive processing units and the rupture of narrative coherence. Attention becomes anchored to isolated, fleeting "information ephemera"—such as a trending headline, a 15-second video, or a meme. The meaning carried by these micro-units is highly compressed and decontextualized; they compete for instantaneous cognitive capture rather than logical understanding. Consequently, when piecing together a picture of social reality, the public relies on "building blocks" that have shifted from structured, long-form narratives to these ambiguous, fluid fragments. Long-term causal thinking and diachronic contextual analysis become difficult because the attentional structure itself no longer provides a stable temporal container or a coherent sequence of materials for such modes of thought^[5]. This is replaced by a mosaic-like, synchronic cognitive collage, whose overall pattern is highly dependent on the sequence of fragments presented by the algorithm at a given instant.

3.2 The Instant Feedback Loop and the Dissolution of Attention Maintenance Mechanisms

Ephemerality constructs a high-intensity, instant feedback environment that fundamentally undermines the mechanisms of delayed gratification and intrinsic interest upon which traditional attention maintenance relies. Quantitative indicators such as likes, shares, and comment counts are updated and visualized within milliseconds, transforming the value and social recognition of content into a real-time fluctuating data stream. Attention is thereby partially alienated into a pursuit of and reaction to these exogenous data signals. The key to sustaining attention shifts from the appeal of the content's intrinsic meaning to the slope of the immediate interaction data curve that the content can generate. This feedback loop creates a kind of "operant conditioning," where user behavior is shaped by short-term, variable reinforcements. The long-term intrinsic motivation derived from the content itself, which deep immersion depends on, is continuously interrupted and replaced.

This mechanism leads to a systemic degradation of attention maintenance capacity and the normalization of an "attentional quicksand" effect. When the information environment promises and delivers a constant stream of "next" novel stimuli, investing excessive cognitive resources (such as reflection, critical analysis, or memory consolidation) in the "current" information item is perceived as uneconomical. As a result of neural adaptation, the anticipation of rapid turnover becomes the norm, while the capacity for sustained engagement with a single information point gradually atrophies. Consequently, the setting and fermentation of public agendas face difficulties: an issue may explode

instantly, garnering massive but shallow attention, yet it is quickly superseded by the next topic due to the lack of "temporal depth" for attention to settle and mature. The continuity of social dialogue is disrupted, replaced by a series of discrete, high-volume but short-lived "issue spikes," making it difficult to foster consensus deepening or substantive exploration of problems^[6].

3.3 Cognitive and Identity Effects Arising from the Fluidization of Attentional Structure

At the cognitive level, the continuous fluidization of the attentional structure fosters a "predatory cognitive style" adapted to ephemeral information. Brain neuroplasticity tends to reinforce adaptation to speed, novelty, and multitasking, while weakening the capacity for systematic thinking that requires sustained inhibitory control and deep processing within working memory. This manifests as a reduced tolerance for complex arguments, a narrowed threshold for ambiguity, and a preference for generalized, labeled information. The update frequency of public cognitive schemas accelerates, but the schemas themselves may become more superficial and unstable, more susceptible to being reset by the latest emotional narratives or simplified frameworks. The understanding of social reality tends to be reduced to tracking a series of ephemeral "trends" or "hot topics," rather than grasping deep structures, historical contexts, and systemic interconnections.

At the level of identity construction, the fluid attentional structure dissolves the "solid identity" traditionally formed through shared experiences, stable narratives, and long-term engagement with issues. Social identity increasingly relies on accidentally shared focal moments within the ephemeral information flow, forming a kind of "situational community" or "event-based belonging." This form of identity is immediate and intense, yet also fleeting and prone to shifting. The connection between individuals and macro-social groups is no longer based on a slow identification with a shared history or future plans, but on a synchronous reaction to the same ephemeral symbol (such as a viral meme or a breaking news image). The composition of collective memory may therefore become a collection of highly emotional yet discrete "ephemeral fragments," lacking the temporal and attentional foundation needed to weave them into a coherent collective narrative. In the long run, this could lead to the "liquefaction" of social identity, where identity becomes increasingly dependent on ever-changing, immediate focal points, undermining the stable foundation of identity necessary for social cohesion.

Conclusion

This study systematically demonstrates the profound structural interrelationship between the ephemerality of digital journalism and the structure of public attention. Ephemerality is not an isolated technological attribute but a pervasive temporal regime co-produced by the perception-computation technology chain, the logic of the platform economy, and adaptive user behaviors. It radically compresses the lifecycle of news, forcing the attentional structure to adapt to its non-linear, pulsating rhythm. This transformation shifts attention from a self-regulated cognitive resource into a responsive system susceptible to the rhythms of the information flow. Specifically, ephemerality leads to the fragmentation of allocation patterns and the atomization of cognitive units by reshaping the economic logic of attention distribution; it dissolves the intrinsic foundation for deep attention maintenance by constructing a reinforcement loop of instant feedback;

Ultimately, this persistently fluid attentional structure cultivates a predatory cognitive style and fosters a fluidized social identity based on ephemeral sharing rather than long-term consensus. These effects indicate that the shaping of public attention by ephemerality is systemic and structural, altering the fundamental processes of social cognition and meaning construction. Future research could further explore the differences in cognitive strategies employed by various social groups when coping with the pressures of ephemerality, investigate the differentiated impact of ephemerality on the quality of public discourse concerning different news topics (such as breaking news versus complex issues), and, from a cross-cultural comparative perspective, examine the complex relationships among ephemerality, attentional structure, and the morphology of the public sphere. Such endeavors would provide a theoretical reference for constructing a digital information environment endowed with greater temporal depth and cognitive resilience.

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