

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

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Abstract: Digital journalism is fleeting, and now it has become a system of temporal compression; with the joint construction of technology and the platform economy, it is a "meta-rule" in the information ecology. The three dimensions of ephemerality are temporal density, mode of existence and value logic, and this paper studies the technological generation and normalisation of ephemerality. Based on the model of attentional structure in this paper, it has been determined that attention is currently in a "liquid state" and is no longer in a "steady state". Therefore, ephemerality will disrupt the pattern of public attention, and over a long period, it will have a negative effect by promoting the fragmentation of attention; thus, it will break the cycle of deep engagement and foster cognitive superficiality and fluidity in identity. It can be seen from the above that the two are closely related in structure, and this provides a reference for the study of information ecology in the digital age.

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

Introduction

The first feature of the digital journalism ecosystem is that the entire cycle of information creation, dissemination and disappearance is very short; thus, it has become a "perpetual present" in both form and content, driven by technological efficiency and changes in media logic and people's minds. At the same time, the structure of public attention, that is, the system for distributing cognitive resources in society, is also changing and adapting significantly in the digital age, and is no longer fixed. Most research has only studied the speed of news production or the division of attention separately. However, it is still worth studying theoretically and in practice how "ephemerality" can be viewed as a structural attribute of a system and how it is dynamically and mechanically co-constituted with the structure of public attention. The methods of media studies, cognitive science and political economy will be used in this paper to study and explain the phenomenon mentioned in the previous article. Ephemerality is both an environmental problem and an architectural feature; therefore, this paper will examine how ephemerality affects the structure of public attention and changes cognition and identity in all sorts of ways. The first is to understand the nature of digital journalism and to consider problems of cognitive quality and public agenda-setting in the Information Age. The three topics of the following discussion are the theoretical content and generation logic of ephemerality, the analytical framework of attentional structure, and how the two are jointly formed.

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

1.1 Definition of the Concept and Basic Attributes of Ephemerality in Digital Journalism

The idea of ephemerality in digital journalism should not be confused with the simple concepts of "speed" or "novelty". Rather, it refers to a whole system where the creation, spread, use and decay of news are all highly condensed and occur over a very short period. Its basic attribute is the contradictory unity of "immediate display" and "immediate decay of value": a news item starts the countdown to the decline in its worth at the very moment it attracts people's attention (that is, when it is shown at the top of a user's list). This is called a "perpetual present", and news from just a few minutes ago is quickly gone, while new updates are constantly being added. The "now" is thus an ever-changing and fleeting moment.

The three necessary and sufficient conditions for the concept are temporal concentration, mode of

being, and value logic. Temporal density is the level of news events reported and how often they are updated in a certain period, and it can lead to cognitive overload. The mode of existence is that news has changed from fixed, limited "texts" to fluid "data streams" or "information units" that can be infinitely combined and nested. Value logic shows that the standards for evaluating news have changed; they are no longer based on facts and social importance but rather on communication speed, emotional impact and the ability to create traffic. The three are interconnected and have become pervasive problems in the environment that people cannot ignore. It requires everyone to adjust to an irregular, irregular pattern of time^[1].

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

The first is the material basis for the appearance of ephemerality. Intelligent Data Collection Tools, automatic content generation technology, cloud-based collaborative editing platforms, etc., have all changed the model of production in the editorial stage from linear to parallel. Sensor journalism, real-time data collection and algorithmic writing have been used to achieve a high degree of automation, and now, as soon as there is an event, relevant data is collected and news content can be generated almost instantly. Therefore, the working cycle of the newsroom has been adjusted to meet the speed of online information dissemination, and a regular schedule for immediate publication has been established.

The two main ways to achieve the above end are algorithm-based personalised recommendation systems and global content delivery networks. Recommendation algorithms can match content and assign weights to it in a few milliseconds based on the current behaviour data of users to quickly connect information with interested people. At the same time, social media sharing and push notifications are used to quickly spread on all platforms. The intelligent distribution mode is based on data and algorithms, so after a new news product is released, it can be spread to many people's personalised information spaces almost instantly and will not be forgotten for long.

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

At present, the end of ephemerality in digital journalism is no longer solely a technical selection but has become a norm jointly established by the industry and users due to changes in the information environment. The demands for users' information need and consumption habits have changed; they now want to get to the data quickly and conveniently. In turn, this demand will be reflected in production, and news organisations will have to increase their pace. Therefore, ephemerality has been internalised from an external feature of technology and is now part of the organisational culture and professional ideology of digital journalism, influencing practitioners' perception of time and their standards for value judgment.

The Logic of the platform economy has also contributed to this process of ossification. Attention is a limited resource, so it must be used efficiently to process the large amount of information. Ephemerality can attract people's attention for a long time and generate a large amount of interaction data on the platform. Thus, ephemerality is a type of communication and also an economic model for maintaining the life of platforms. In recent years, the information ecology has continuously strengthened and drawn more people's attention; as a result, the accumulated demand for this attention requires an even faster supply of information, and ephemerality has become an unavoidable structural feature of the digital information environment^[2].

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

2.1 Attention is a limited resource with specific demands

In terms of information economics, there are two types of scarcity of attention: first, there is an absolute scarcity due to the limited capacity of human cognition; second, there is a relative scarcity caused by competition for attention in an era of abundant information. Without such a function, it will not be possible to build the foundation for all other development in the new digital era. The first aim of the attention market is to reduce the cost of attracting people's attention, and then this attention can be turned into measurable data traffic and potential business funds. Therefore, the allocation efficiency of attention resources is now an index of how widely the information has spread.

According to the angle of cognitive composition, attention is a complex system of many attributes.

The size of intensity refers to the degree of cognitive processing and how many neural resources are used; it is required for the effective encoding of information. The width dimension is the size of the attention field and its multitasking capability; that is, how many pieces of information are collected simultaneously. The length of the sustainability refers to how long one can pay attention to something; it helps form a long-term memory and deep thinking. Directivity is the focus of attention, and it is caused by internal goals and external stimuli. With the increase in the use of digital devices in recent years, these problems have gradually worsened. For example, although increasing the "stickiness" of an interface can make it more lasting, too many window prompts will reduce both the strength and the autonomy of directivity; thus, there will be an imbalance among the constituent elements of attention, and cognitive resources will be wasted.

2.2 The Foundation of Attentional Structure Stability in Traditional Information Environments

In the era of traditional mass media, the structure of public attention was based on a set of institutionalised spatio-temporal norms. The dissemination of information was limited to a certain period, such as the 24-hour cycle of daily newspapers or fixed times for television programmes; therefore, there were synchronous "temporal anchors" for social cognition. There was an upper limit to the capacity of the physical medium, and not all of this information could be spread; in addition, the norms and agenda-setting of editors created a social hierarchy for giving priority to this information. As a result of the "filter-publish" model, there is a shortage of authoritative, processed attention; thus, people's cognitive resources are directed towards a small number of relatively stable public issues, and a highly consensual social attention map has been formed^[3].

Another reason for the stability of the attention system is that it is closely linked to people's daily lives and routines. The behaviour of media consumption is limited in space and time, and it also has certain social meanings, such as watching the news on TV during an evening family gathering. The ceremony promoted the spread of the news and strengthened the family and social system. At that time, people did not have many other distractions and could focus on taking in information for a long time in an area with low competition. Stability, synchronisation and predictability of attention have promoted the construction of collective memory and social integration based on shared information, providing a relatively uniform cognitive foundation for the formation of widespread public opinion.

2.3 Analysis of the Plasticity of Attention Structure in the Digital Age

The Digital Age has changed the spatial and temporal structure of information supply and demand, and the pattern of public attention is no longer fixed; with continuous online availability and asynchronous access to information, the traditional periodization and simultaneity of collective attention have been broken. With the development of mobile Internet, many kinds of information interfaces have appeared in our daily lives, and attention has been forced to switch to an "always-on, ready-to-switch" mode. The first model of "focal attention" has been extended to some extent, and now "background monitoring attention" and "rapid-switching attention" are based on it. Therefore, the structure of attention is no longer fixed but is highly context-dependent and different among individuals.

There are many cases of this in terms of the shape of buildings. First, the logic of interface interaction reduces the amount and frequency of attention. Most of the Design Patterns for Pull-to-Refresh and Infinite Scrolling are good. Second, the spread of attention is governed by platform algorithms, so there are many centres of interest in the network of hot topics. The traditional "national agendas" have been broken down into many "demarcated hot topics", and finally, the driving force of attention is highly external. Algos are aware of changes in people's interests and behaviour, and new information on social relationships is also one of their sources of attention. Therefore, the attention system in the digital era is no longer a fixed background; rather, it is dynamic and constantly changing according to changes in technological infrastructure, the platform economy and social behaviour. Plasticity is now an attribute of the structure itself^[4].

3. Shaping the Mechanism of Ephemerality and the Structure of Public Attention

3.1 Fragmentation of Attention Distribution Patterns due to Ephemerality

Ephemerality has changed the economic logic of attention distribution by decreasing the time value

of information. Given the high frequency of change, the "shelf life" of information is now very short, and the rate at which its attractiveness to people declines over time is also relatively high. Therefore, there is a problem of "attentional opportunism"; that is, in order to maximise the cognitive benefit obtained per unit of time, attention is distributed widely and skimmed rapidly, rather than being concentrated deeply and continuously. Therefore, the distribution of cognitive resources has begun to resemble that in high-frequency trading; attention is rapidly moving among different information assets to avoid the opportunity cost of information "depreciation", and at the macro level, this allocation pattern is shown by continuous and rapid fluctuations in the overall distribution map of public attention, making it difficult to form stable and deep concentrations in any single place.

As a result of the above decentralisation, the units of cognition have become fragmented and narrative cohesion has been lost. Only a brief mention is made of isolated, short "information ephemera", such as trending headlines, 15-second videos and memes. The meaning of these small units is very short and out of context; they compete for immediate attention of the mind rather than logical understanding. Therefore, in constructing a picture of social reality, the public is now using "building blocks" that have moved away from structured, long-form narratives and have become ambiguous, fluid fragments. Due to the structure of attention now, it has been difficult to conduct prolonged causal analysis and diachronic contextual studies, and there is no longer a stable period of time or organised material for such thinking^[5]. Now it is a mosaic-like, synchronous cognitive collage, and the whole pattern depends heavily on the order of the fragments presented by the algorithm at a particular time.

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

Ephemerality is too short-lived; therefore, people cannot learn to be patient for a later reward or find joy in the process of study. The amount of likes, shares and comments are updated and displayed almost instantly; therefore, any changes in the quantity and popularity of content can be known in real time. Therefore, some attention will be paid to obtaining the external data signals and responding to them. The reason people pay attention is no longer because the content is interesting; rather, we are attracted by the trend of new data produced by this content. A feedback loop is a kind of "operant conditioning" that alters behaviour according to short, random rewards. The long-term intrinsic motivation to learn out of interest in a subject is repeatedly interrupted and replaced.

Therefore, there will be a general decline in the ability to concentrate and an excessive convenience of "attentional quicksand". With the continuous release of new and interesting "next" novels in the information environment, expending too much cognitive energy (such as reflection, critical thinking or organisation of memory) on the "current" piece of information is considered inefficient. As a result of neural adaptation, the expectation of a short life has become the norm, and the ability to concentrate on one thing for a long time gradually declines. Therefore, it is difficult to establish and cultivate public issues; they will immediately gain wide but superficial attention, but due to a lack of "temporal depth" in the focus of attention, they will be quickly replaced by the next topic. The continuity of social dialogue has been broken; now, only occasional, high-volume but brief "issue spikes" occur, and it is difficult to reach consensus or study the problems in depth^[6].

3.3 Cognitive and Identity Effects Resulting from the Fluidisation of Attentional Structure

Due to frequent changes in attention at the cognitive level, people have developed a "predatory" way of dealing with short-term information. Brain plasticity is generally good at learning, so it can be used to learn new information and multitask; however, deep processing and continuous inhibitory control in working memory are needed to avoid systematic thinking. It is shown that the person has lower tolerance for complicated reasons, is more sensitive to vagueness, and prefers generalised, labelled information. The frequency of updating public cognitive schemas has increased, but the schemas themselves may be more superficial and unstable, and are easily reset by the latest emotional stories or simplified frameworks. The sense of social reality has been reduced to observing a series of short "trends" or "hot topics", and the deep structures, historical background and systemic connections have not been understood.

In terms of the construction of identity, a "solid identity" is not required as usual; it is generally the result of common experiences, stable stories and prolonged attention to problems. Now, the foundation of social identity is often accidental common objects of attention in the short term for the spread of information, and a kind of "situational community" or "event-based belonging" has emerged. It is a powerful, direct identity, but it is also brief and fragile. The connection between people and the wider

society has been changed; rather than a long-term membership in a common past or pursuit of future goals, it is now more like an immediate response through the use of the same short-lived symbol, such as a popular meme or a picture from breaking news. Therefore, the composition of collective memory may be a collection of very emotional but isolated "ephemeral fragments" that do not have enough time and attention to be integrated into a single collective narrative. Over time, there will be a "liquefaction" of social identity; it will be constantly changing in response to what people are interested in at the moment, lose its stable foundation for identity, and thus damage social cohesion.

Conclusion

The main links of the transience of digital journalism and the structure of public attention are systematically presented in this paper. Ephemerality is not a defect of the technology but a time system that has been built by the whole chain of perception-computation technology, the logic of the platform economy and changes in user behaviour. It has significantly shortened the life cycle of the news, and now people's attention patterns are irregular and scattered. It is no longer an independent source of knowledge but has become a system that responds to changes in the flow of information. Ephemerality will result in a division of allocation patterns and atomisation of cognitive units due to changes in the economic logic of attention distribution, and it will also break the natural basis for prolonged, deep attention by creating a reinforcement loop of immediate feedback.

Finally, with the change in the structure of attention, a kind of predatory thinking has begun to appear, and fluid social identity is now based on temporary sharing rather than long-term agreement. The above effects show that creating public attention through transience is a widespread and serious problem that interferes with the basic process of social cognition and meaning construction. Future research can explore the different cognitive strategies used by different groups in response to the pressure of ephemerality; it can also study how ephemerality affects the quality of public discourse under various types of news, such as breaking news and complex issues, to different extents; finally, from a cross-cultural perspective, the complex connections among ephemerality, attentional structure and the shape of the public sphere can be examined. Therefore, it is hoped that a digital information environment with a long time horizon and strong cognition will be created.

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