

# Linguistic Re-Concealment in the Age of Platformization: The Impact of Algorithmic Recommendation on Cognitive Stabilization Mechanisms

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**Abstract:** In the era of platformization, algorithmic recommendation systems have not only transformed the efficiency of information distribution but also profoundly reshaped human linguistic environments and cognitive structures. Grounded in the cognitive stabilization mechanism proposed in *Knowing and Speaking*, this paper constructs a three-dimensional interactive framework of ‘media environment–algorithmic logic–cognitive structure’ to systematically reveal how algorithmic recommendation deconstructs the stabilization of human cognition through a triple mechanism, thereby leading to the ‘re-concealment effect’. The study finds that, in the temporal dimension, endless scrolling and high-frequency refreshing compress cognitive thresholds, preventing concepts from settling and making knowledge structures increasingly superficial. In the spatial dimension, personalized distribution builds information cocoons and filter bubbles, dissolving shared consensus and producing cognitive isolation. In the affective dimension, traffic logic assigns higher weight to polarized content, allowing emotion to override reason and making public discourse increasingly emotionalized. The interweaving of these three mechanisms ultimately appears as cognitive reduction at the individual level, echo-chamber polarization at the group level, and a profound epistemological crisis at the societal level. To respond to this crisis, this paper proposes a path of cognitive awakening beyond algorithmic control from three dimensions: public scrutiny of algorithms, the introduction of slow media and asynchronous deliberation mechanisms, and the elevation of digital literacy.

**Keywords:** Linguistic Re-Concealment; Algorithmic Recommendation; Cognitive Stabilization; Information Cocoon; Cognitive Reduction; Platform Media

## 1 Introduction: The Paradox from Linguistic Publicization to the Re-Concealment Effect

In the evolution of human civilization, language has always played a dual role: it is both a tool through which human beings cognize the world and a medium of social interaction. In *Knowing and Speaking: An Ontological Inquiry into Human Cognition*, Zhang Xusheng profoundly argues that the essence of language lies in the “structuring” and “stabilization” of fluid sensory experience, thereby forming a conceptual system that can be communicated and transmitted [15]. This process of “linguistic publicization” is the cornerstone by which human beings move beyond ignorance and isolation and establish general consensus and social order. In the eras of print media and mass broadcasting, although gatekeeping and filtering by power and capital were present, media nevertheless objectively maintained a relatively stable

public linguistic space and promoted the sedimentation of knowledge and rational communication.

However, with the comprehensive rise of digital platforms and algorithmic recommendation technologies, the human linguistic environment is undergoing a profound ontological rupture. Modern platform media represented by TikTok, Douyin, Toutiao, Weibo, and Twitter (X) have greatly improved the efficiency of information access through precise user profiling and personalized content distribution. This data-calculated mechanism of “a different interface for every user” was once optimistically regarded as a technological blessing that could break information monopolies and realize personalized liberation. Early cyber-utopian thinkers predicted that the decentralized characteristics of digital technology would bring about a more transparent, open, and rational global public sphere.

Yet the other side of the coin is that algorithmic recommendation is quietly deconstructing the stabilization mechanism

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of human cognition. Driven by “traffic first” and the attention economy, platform algorithms tend to push fragmented information that can trigger strong emotional resonance and cater to users’ existing preferences. This distribution logic not only leads to the formation of “information cocoons” and “filter bubbles” but also, at a deeper level, undermines the stability of language as a medium of public communication. Language, originally intended to promote understanding and consensus, is gradually transformed under algorithmic manipulation into a tool for reinforcing prejudice, inciting emotion, and tearing society apart. For example, in a series of major public health events and international geopolitical conflicts in recent years, it is clear that information flows on social media have not eliminated misunderstanding but have instead intensified opposition and hatred among different groups.

This phenomenon is called in this paper the “linguistic re-concealment effect.” It means that, in an age of platformization marked by extreme informational abundance, humanity has not entered a comprehensive opening of cognitive vision but has instead fallen into new cognitive barriers woven by algorithms. General consensus is dissolved, rational dialogue is replaced by emotional venting, and individuals gradually lose the capacity to form structured cognition of a complex world while appearing to choose freely. Massive information does not bring clarity; instead, like layers of fog, it once again conceals the essence of things.

In the face of this profound epistemological crisis, existing studies in communication and sociology mostly discuss privacy protection, algorithmic bias, platform monopoly, and other institutional and ethical issues. For example, Zuboff’s theory of “surveillance capitalism” deeply reveals how platforms transform human experience into behavioral data for commercial monetization [16]; O’Neil’s *Weapons of Math Destruction* criticizes the injustice of opaque algorithms in the allocation of social resources [6]. However, these studies mostly remain at the levels of political economy or ethics and pay relatively insufficient attention to how algorithms reshape human cognitive structures at the ontological level.

This paper seeks to fill this theoretical gap by combining the cognitive ontology of *Knowing and Speaking* with media ecology and by constructing a three-dimensional analytical framework of “media environment–algorithmic logic–cognitive structure.” Through a systematic analysis of the triple impact of algorithmic recommendation on cognitive stabilization mechanisms, this paper aims to reveal the generative logic of the re-concealment effect and to explore possible paths for rebuilding public reason in the algorithmic era.

## 2 Theoretical Foundations and Construction of the Analytical Framework

To deeply understand the re-concealment effect in the age of platformization, it is first necessary to clarify the internal logical relations among language, cognition, and media. This section takes the cognitive theory of *Knowing and Speaking* as the starting point and combines it with the central insights

of media ecology to construct the theoretical analytical framework of this paper.

### 2.1 *Knowing and Speaking* and the Stabilization Mechanism of Cognition

In *Knowing and Speaking*, Zhang Xusheng proposes a cognitive ontology based on evolutionary theory. He argues that human cognition is not a reflection of absolute truth in the objective world but a compensatory mechanism that evolved to adapt to the living environment. In this process, language plays a crucial role.

Faced with an external world that is complex, variable, and informationally redundant, the human sensory system can only obtain fragmented and instantaneous sensory experience. If cognition remains only at the sensory level, human beings fall into cognitive overload and disorder. The emergence of language enables human beings to categorize and structure these disorderly experiences. Through naming, classification, and logical inference, language condenses fluid experience into stable “concepts.” For instance, when we see a specific tree, the senses receive complex visual signals such as shape, color, and light and shadow; through language, however, we abstract it into the concept of “tree.” This concept includes not only the characteristics of the specific tree but also what all trees have in common.

This “stabilization of concepts” is the prerequisite for the deepening of human cognition. It not only enables individuals to move beyond immediate intuition and carry out abstract rational thinking; more importantly, it establishes a shared symbolic system that makes possible the exchange of experience, the transmission of knowledge, and social cooperation among individuals. In this sense, the publicization of language and the stabilization of cognition are the twin foundations of human civilization.

Yet *Knowing and Speaking* also warns that this stabilization mechanism is not indestructible. It depends highly on particular temporal rhythms, logical frameworks, and affective restraint. The formation of concepts requires time for sedimentation, or a cognitive threshold; logical inference requires a coherent context; and rational judgment requires overcoming sensory impulse. Once these conditions are damaged, the stability of concepts disintegrates and cognition degenerates into fragmented sensory impulse.

### 2.2 Media Ecology: How Technology Reshapes Cognition

Media ecology provides another important perspective for understanding the impact of technology on cognition. Marshall McLuhan’s proposition that “the medium is the message” indicates that the most important influence of any new medium lies not in the specific content it transmits but in how it changes the ratio of the senses, modes of thinking, and social structures of human beings [5].

Neil Postman further elaborates this view in *Amusing Ourselves to Death*. He compares the different shaping effects of print media and television media on public discourse: print

media require readers to possess high degrees of concentration, logical reasoning, and delayed gratification, thereby nurturing rational and serious public discussion; television media, by contrast, take images and sound as their core, pursue immediate visual stimulation and emotional satisfaction, and thus lead to the entertainment and superficialization of public discourse [9]. Postman warns that when all public affairs are presented as entertainment, we become a species amusing itself to death.

When the perspective of media ecology is introduced into the age of platformization, algorithmic recommendation can be seen not merely as an information distribution technology but also as an entirely new “cognitive environment.” Through specific interface designs such as endless scrolling, interaction mechanisms such as likes and comments, and distribution logics such as collaborative filtering, algorithmic recommendation is imperceptibly reshaping users’ attention allocation, information reception habits, and meaning-making processes. In an algorithmic environment, “information” is no longer a text for reflection but bait that stimulates users to produce “behavioral data.”

### 2.3 A Three-Dimensional Interactive Framework: Media Environment–Algorithmic Logic–Cognitive Structure

On the basis of the theories above, this paper constructs a three-dimensional interactive framework of “media environment–algorithmic logic–cognitive structure” to analyze the generative mechanism of the re-concealment effect.

First, the media environment layer focuses on the material attributes and interface design of platform media, including the portability of mobile devices, the audiovisual integration of short videos, endless scrolling in information flows, and the immediate feedback of like and repost buttons. These attributes constitute the physical and psychological field of users’ cognitive activities. At the subconscious level, they set the “rhythm” and “posture” through which users interact with information.

Second, the algorithmic logic layer analyzes the data computation and distribution mechanisms behind platforms, including personalized recommendation based on user profiles, traffic allocation weights centered on completion rate and interaction rate, and similarity clustering based on collaborative filtering. This is the invisible engine that drives information flows. The essence of algorithmic logic is the commodification of human attention, and its highest goal is the maximization of commercial interests.

Third, the cognitive structure layer examines the concrete impacts on the human cognitive stabilization mechanism under the combined effect of the media environment and algorithmic logic, including threshold compression in the temporal dimension, consensus dissolution in the spatial dimension, and the usurpation of reason by emotion in the affective dimension. These are the ontological consequences of technology for the human mind.

These three layers are intertwined and mutually reinforcing, together forming the complete picture of linguistic re-

concealment in the age of platformization. The following sections develop this framework in detail from the temporal, spatial, and affective dimensions.

## 3 Temporal Deconstruction: Media Rhythm Acceleration and the Compression of Cognitive Thresholds

In the stabilization of cognition, time is a crucial hidden variable. The formation of any profound concept must go through a temporal process from information reception and logical inference to the sedimentation of meaning. Yet algorithmic recommendation systems are systematically compressing this “cognitive threshold” by artificially manufacturing high-frequency media rhythms.

### 3.1 Endless Scrolling and the Temporal Deprivation of Always Being Online

Modern platform media widely adopt the interface design of “infinite scroll.” Unlike traditional page turning or clicking to the next page, infinite scroll removes the natural stopping cues in the process of information reception. When users swipe the screen, new content is automatically loaded without interruption, as if the information flow were a bottomless black hole.

This design skillfully exploits the dopamine reward prediction error mechanism of the human brain. Because users cannot predict whether the next item will bring surprise, the brain continuously releases dopamine, driving them to keep scrolling [1]. Psychologist Adam Alter points out that this design operates on the same principle as slot machines; it draws users into an immersive state known as “flow” or “the zone,” causing them to lose their sense of time [11].

In this behavioral pattern of compulsive refreshing, users’ time is cut into innumerable extremely brief fragments. They skim rapidly through an ocean of information but cannot remain on any specific issue for long enough. This temporal deprivation directly destroys the physical condition required for cognitive stabilization. Reading a book or a long investigative report requires sustained attention, whereas in the endless-scrolling information flow, attention becomes an extremely scarce luxury.

### 3.2 High-Frequency Refreshing and the Forced Compression of Cognitive Thresholds

The concept of the “cognitive threshold” in *Knowing and Speaking* refers to the time and psychological buffer necessary for information to transform into knowledge and for sensory perception to ascend to reason. Within this threshold, the brain must mobilize existing knowledge schemas to compare, infer, assign meaning to, and evaluate new information.

However, the high-frequency refreshing mechanism of algorithmic recommendation greatly compresses this threshold. Taking short videos as an example, their average length usually ranges from 15 seconds to one minute. Within such a brief period, creators must quickly present a core opinion or produce strong emotional stimulation to prevent users from

swiping away, a practice sometimes described as the “golden three seconds” rule. Complex logical inference, detailed contextual explanation, and multidimensional dialectical analysis are ruthlessly removed from the narrative structure of short video.

When users switch at extremely high frequency among different topics, scenes, and emotions, the brain simply cannot complete deep cognitive processing. Information washes across the cerebral cortex like running water but leaves no structured trace. The time for reflection is completely taken away and replaced by knee-jerk responses based on intuition and emotion. German sociologist Hartmut Rosa argues in *Social Acceleration* that this extreme acceleration of life pace and media rhythm leads modern people into a state of alienation: although we experience more events, we cannot integrate them into meaningful life experience [10].

### 3.3 The Superficialization of Concepts and the Retreat of Historical Consciousness

The compression of cognitive thresholds leads to the superficialization of concepts. In the context of algorithmic recommendation, complex social issues are simplified into inflammatory labels or catchy slogans. For example, complex labor-capital contradictions are simplified into “capitalist exploitation,” multidimensional gender issues are simplified into “gender antagonism,” and deep structural injustice is simplified into “involution” or “lying flat.” Although such labels are easy to circulate, they strip issues away from their historical contexts and structural causes. They provide a false sense of cognitive certainty, making users believe that they have already understood complex reality.

Through long-term immersion in this superficial consumption of concepts, the public’s cognitive structure gradually becomes flattened. People lose patience with complex matters and become accustomed to evaluating the world through black-and-white binary opposition. When encountering issues that require lengthy exposition, they often become impatient or simply refuse to receive them, as captured in the expression “too long; did not read” (TL;DR).

Moreover, high-frequency media rhythms also cause the retreat of historical consciousness. Driven by algorithmic trending lists, public issues change at astonishing speed. Old hot topics are covered by new ones before they have been fully discussed or substantively resolved. Netizens who are indignant about an injustice today may shift their attention tomorrow to celebrity gossip. Society appears to suffer from attention deficit hyperactivity disorder and becomes trapped in an “eternal present.” Without historical depth, the stabilization of concepts loses its temporal anchor, and public memory becomes extremely short.

## 4 Spatial Deconstruction: Personalized Distribution and the Dissolution of Public Consensus

If temporal deconstruction deprives cognition of the possibility of deepening, spatial deconstruction directly destroys the basis of language as a medium of public communication. The

logic of personalized distribution in algorithmic recommendation is cutting the originally unified public cognitive space into countless closed information cocoons.

### 4.1 Personalized Interfaces and the Hidden Construction of Information Cocoons

The concept of the “information cocoon,” proposed by Cass Sunstein, refers to the condition in which people listen only to voices they have chosen and find pleasant, thereby enclosing themselves in a cocoon composed of homogeneous information [12]. In the age of traditional media, information cocoons were formed more through audiences’ active selective exposure: people tended to subscribe to newspapers consistent with their political stance or watch television programs they liked.

In the algorithmic era, however, the construction of information cocoons becomes more hidden and harder to resist. Platform algorithms collect massive data, including users’ browsing histories, likes, comments, dwell time, geographical location, and social relations, and then construct extremely precise user profiles. On the basis of collaborative filtering and content recommendation technologies, algorithms continuously push content that fits users’ existing preferences and reinforces their established positions.

This distribution mechanism appears on the surface to greatly respect user individuality, but in fact it constitutes a hidden form of information segregation. Without noticing it, users are deprived by algorithms of the opportunity to encounter heterogeneous viewpoints and understand the full facts. The world they see is only a customized “Truman Show” tailored by algorithms. Even more troubling, because the operational mechanism of algorithms is opaque, or an algorithmic black box, users often do not realize that they are inside a highly filtered information environment and instead believe that what they see is the whole picture of the world.

### 4.2 Filter Bubbles and the Systematic Shielding of Heterogeneous Information

Closely related to the information cocoon is Eli Pariser’s concept of the “filter bubble” [7]. If the information cocoon emphasizes users’ own cognitive closure, the filter bubble emphasizes the active isolation performed by algorithms as invisible gatekeepers.

Within algorithmic logic, relevance and click-through rate are the highest criteria. To maximize users’ stay time, algorithms must constantly cater to users’ preferences. Heterogeneous information that may make users uncomfortable, challenge their existing cognition, or require a higher cognitive cost is systematically assigned lower recommendation weight and may even be completely shielded.

This filtering mechanism has a fatal impact on cognitive stabilization. Genuine knowledge construction and conceptual deepening often require collision, contestation, and dialectical engagement with different viewpoints. Only concepts that have undergone falsification and reflection possess real stability. Filter bubbles deprive users of this cognitive friction

and trap their cognition in a self-confirming cycle lacking external verification. Inside the bubble, prejudice is continuously confirmed, error is repeatedly reproduced, and both are ultimately solidified into unshakable “truth.”

### 4.3 The Fragmentation of Public Language and the Dissolution of Consensus

When everyone lives inside their own information cocoon and filter bubble, the publicness of language is fundamentally damaged. Different groups receive entirely different information sources, use different conceptual labels, and even possess completely different “factual” understandings of the same event.

The proliferation of this post-truth condition makes rational dialogue across groups extremely difficult. Language is no longer a bridge of communication but becomes a boundary for distinguishing friend from enemy. On controversial issues such as gender, environmental protection, and international relations, public discussion often degenerates into emotional attacks among different cocoons. The two sides do not deliberate on the basis of the same facts and conceptual framework; instead, each side brandishes the “evidence” fed to it by algorithms and attacks the other.

When society loses a shared factual basis and conceptual framework, general consensus becomes impossible. Cognitive isolation not only tears apart social structures but also makes it difficult for humanity to form collective reason when facing global crises such as climate change and public health emergencies. The public sphere based on rational debate advocated by Habermas has, under the segmentation of algorithmic recommendation, fragmented into countless tribalized spaces that cannot communicate with one another.

## 5 Affective Deconstruction: Traffic Logic and the Usurpation of Reason

Within the cognitive stabilization mechanism, the balance between reason and emotion is crucial. Emotion provides motivation for cognition, while reason regulates and guides emotion to ensure the objectivity and logic of concepts. Yet the traffic logic of algorithmic recommendation is completely disrupting this balance, allowing emotion to usurp reason and become the core force that dominates public discourse.

### 5.1 Emotional Contagion and the Tilt of Algorithmic Weight

In the attention economy, intense emotions, especially negative emotions such as anger, fear, and anxiety, are among the most efficient tools for acquiring traffic. Empirical research in psychology and communication shows that content with high-arousal emotions is more contagious and spreads faster than calm and objective content [2]. Anger stimulates users’ desire to express themselves, while fear encourages users to share information in search of security.

Platform algorithms have captured this fact with great sensitivity. Although algorithms themselves have no emotions,

machine learning discovers that highly emotionally inflammatory, polarized, and even aggressive content often obtains higher interaction rates such as likes, comments, and reposts. Therefore, to maximize commercial interests, algorithms naturally tilt their weights toward such content. The communicative power of an objective and rational in-depth analytical article is often far weaker than that of an emotionally charged short video or a clickbait article full of hostility.

This algorithmic mechanism is in effect rewarding extreme emotion and punishing rational thinking. It turns platforms into amplifiers of emotional contagion, gathering small individual dissatisfaction into waves of online violence and group polarization. In this process, truth becomes less important than emotional value.

### 5.2 The Absence of Rational Reflection and Metacognitive Laziness

Under the pressure of emotion, users’ capacity for rational reflection is seriously weakened. Research in cognitive neuroscience shows that when the brain’s limbic system, which is responsible for emotional processing such as amygdala activity, is strongly activated, the activity of the prefrontal cortex, which is responsible for logical reasoning and executive control, is often inhibited. This means that when people are in states of extreme anger or anxiety, it is difficult for them to analyze calmly and objectively.

Through long-term immersion in highly emotional algorithmically pushed content, users gradually develop “metacognitive laziness.” They no longer wish to expend effort verifying the truth of information or examining the logic of arguments, but instead become accustomed to using emotional experience as the criterion for judging right and wrong. The cognitive pattern of “I feel it is right, so it is right” completely overturns the rational cognitive tradition based on logic and facts. Kahneman’s theory of “System 1” (intuitive, fast thinking) and “System 2” (rational, slow thinking) explains this phenomenon well: algorithmic recommendation continuously stimulates System 1 and thereby leaves System 2 in long-term dormancy [4].

### 5.3 Cognitive Reduction and the Formation of Group Polarization

The usurpation of reason by emotion ultimately leads to “cognitive reduction.” Complex social issues are reduced to simple moral judgments, and multidimensional conflicts of interest are reduced to black-and-white camp antagonism. In this reduced cognitive mode, things lose their inherent complexity and gray areas; everything is labeled “good” or “bad,” “enemy” or “friend.”

Group polarization then becomes unavoidable. In the closed environment of the information cocoon, homogeneous groups that continuously exchange similar emotions and views shift the group’s overall position toward more extreme directions. Algorithmic recommendation fuels this process by continually providing polarized groups with ammunition and reinforcing their prejudices. When these groups encounter

different opinions online, they often regard them as hostile attacks and take more intense defensive and counterattacking measures. Ultimately, cyberspace becomes a set of impenetrable echo chambers, and rational dialogue completely loses its possibility.

## 6 Reconstructing Cognitive Stabilization: A Path of Awakening Beyond Algorithmic Control

In the face of linguistic re-concealment and epistemological crisis brought about by algorithmic recommendation, we cannot remain at the level of pessimistic technological determinism. Rebuilding the cognitive stabilization mechanism and reclaiming the rational space of public language require comprehensive intervention across institutional, media-practice, and individual-literacy dimensions.

### 6.1 Institutional Dimension: Public Scrutiny and Value Alignment of Algorithms

First, the algorithmic black box must be broken open and brought into a regulatory framework oriented toward the public interest. Platform enterprises cannot take commercial interest as their only guide; they must assume social responsibility for maintaining the ecology of public discourse. Just as infrastructures such as electricity and transportation must be strictly regulated, algorithmic recommendation systems, as the information infrastructure of modern society, must also accept public supervision.

A mechanism of public scrutiny for algorithms should be established. Regulatory departments and independent third-party institutions should regularly evaluate the distribution logic and weight settings of platform algorithms to prevent them from excessively tilting toward polarized content and false information. The European Union's Digital Services Act offers a useful attempt in this respect by requiring very large online platforms to assess and mitigate the systemic risks their algorithms may cause, including negative impacts on civic discourse.

At the same time, algorithmic value alignment should be promoted. In the design and optimization of algorithms, value indicators such as diversity, objectivity, and public interest should be introduced, rather than relying only on click-through rate and stay time. For example, algorithms can be designed to insert a certain proportion of heterogeneous viewpoints or authoritative fact-checking information while recommending homogeneous content to users. This kind of serendipity design can break information cocoons and increase cognitive friction.

### 6.2 Practice Dimension: Revival of Slow Media and Asynchronous Deliberation

At the level of media practice, the idea of "slow media" should be advocated to resist the high-frequency rhythm manufactured by algorithms. The slow media movement is a rebellion against the worship of speed in the digital age. It emphasizes deep processing of information, rigorous logical inference,

and the presentation of historical context. Through long-form features, in-depth podcasts, serious documentaries, and newsletters, slow media can provide the public with cognitive enclaves in which they can read and reflect calmly. Although these media forms cannot compete with short video in speed of dissemination, they play an irreplaceable role in deep discussion of public issues and the formation of consensus.

In addition, digital platforms can explore the introduction of asynchronous deliberation mechanisms in interaction design. Current social media design overemphasizes immediacy, which is precisely the root of instantaneous emotional outbreaks. Some friction designs can be used to slow down this rhythm. For example, for sensitive issues involving major public interests, platforms could set a cooling-off period and delay the display of immediate comments; or they could require users to remain on a controversial article for a certain period before reposting it, or even answer a few simple questions to show that they have understood its content. Such deliberately created resistance helps break the instantaneous contagion of emotion and wins a time window for the return of reason.

### 6.3 Individual Dimension: Elevating Digital Literacy and Rebuilding Critical Reflection

Finally, and most fundamentally, the public's digital literacy must be improved. In the algorithmic era, traditional media literacy centered on information access and verification is no longer sufficient; it must be upgraded into a new form of digital literacy centered on structural recognition and algorithmic reflection.

The public needs to be educated to understand the operating mechanisms of algorithms and their potential manipulation of cognition. We need to understand that what we see on the screen is not the world as it is but a pseudo-environment calculated by algorithms on the basis of our data. Education systems should focus on cultivating students' critical thinking, logical reasoning, and metacognitive monitoring. The public should be encouraged to actively step outside comfort zones, deliberately encounter information sources with different positions, and cultivate tolerance for complex matters and dialectical thinking.

Only when individuals achieve cognitive awakening, no longer passively accepting algorithmic feeding but actively controlling their attention and information intake, can we regain cognitive anchors amid the torrents of the platformed age. This awakening is not only an improvement in cognitive capacity but also a struggle to defend human subjectivity and free will in the digital age.

## 7 Extended Discussion: A Philosophical Examination from Re-Concealment to Algorithmic Power

After systematically analyzing the mechanisms and countermeasures of the re-concealment effect, it is necessary to broaden the perspective and examine more deeply the power

structure and philosophical implications behind algorithmic recommendation systems. Algorithms are not merely technical tools; they are a new form of power in modern society.

### 7.1 The Concealment and Diffusion of Algorithmic Power

Traditional forms of power, such as state power and capital power, often have clear entities and boundaries. Algorithmic power, however, shows strong concealment and diffusion. It does not rely on coercive violence; rather, through imperceptible choice architecture and nudge mechanisms, it guides and even shapes individual cognition and behavior.

As Michel Foucault pointed out in his discussion of the panopticon, the highest state of modern power is to make the governed discipline themselves without noticing it. Algorithmic recommendation systems are a digital panopticon. In this prison, users voluntarily hand over their data, voluntarily immerse themselves in the cocoons woven by algorithms, and even cheer for the personalized services offered by algorithms. This happy servitude makes algorithmic power more difficult to perceive and resist than any traditional despotic power.

### 7.2 Data Colonialism and the Alienation of Human Experience

From the perspective of political economy, the expansion of algorithmic power is accompanied by a profound form of data colonialism. In traditional colonialism, capital plundered land, minerals, and cheap labor; in data colonialism, capital plunders everyday human experience, attention, and social relations.

Through algorithmic recommendation systems, platform enterprises transform every user click, every moment of dwell time, and every emotional fluctuation into behavioral surplus that can be calculated, predicted, and traded. In this process, human life experience is thoroughly objectified and alienated. Our joys and sorrows no longer belong to us alone but become bargaining chips for platform enterprises in advertising markets. This deep extraction of human experience is not only an invasion of personal privacy but also a violation of human dignity.

### 7.3 Reshaping Technological Reason: From Calculation to Understanding

In the face of the expansion of algorithmic power and the threat of data colonialism, we urgently need to reshape a new form of technological reason. The current mainstream algorithmic logic is essentially an extreme form of instrumental and calculative reason. It cares only about how to maximize click-through rates and commercial monetization, not about the human meaning and social consequences behind those clicks.

Genuine technological reason should move beyond mere calculation toward deep understanding. This means that algorithm design should not be based only on statistical fitting of users' past behavior; it should also incorporate deep insight into the laws of human cognition, social ethics, and public values. We need responsible AI: algorithmic systems

that can promote cognitive clarity and enhance general social consensus.

This is not only a technical problem but also a philosophical and ethical challenge. It requires us to rethink fundamental questions: What kind of human life is worth living in the digital age? What kind of public discourse is healthy? What kind of technology truly serves human well-being? Only when consensus is reached on these fundamental questions can we truly move out of the shadow of re-concealment and enter a brighter and more rational digital future.

## 8 Case Analysis: Manifestations of Re-Concealment in Specific Social Events

To understand more intuitively the operating mechanism of the re-concealment effect, this section selects representative social events from recent years and analyzes the specific roles played by algorithmic recommendation systems.

### 8.1 Case 1: Emotional Reversal and Cognitive Tearing in the Luo Er Incident

The Luo Er incident in 2016 is a typical case in which emotion usurped reason in the era of social media. At the early stage of the incident, an article titled "Luo Yixiao, Stop Right There" went viral on WeChat Moments. In highly sentimental language, the article described a father's despair in raising medical expenses for his daughter, who had leukemia. Under the push of algorithms, this article with high-arousal emotion quickly obtained tens of millions of views and large amounts of reward money.

However, as the incident developed, facts were exposed showing that Luo Er owned three properties and that most treatment costs could be reimbursed. Public opinion reversed instantly, and the original sympathy and emotion turned into overwhelming anger and abuse. In this process, algorithmic recommendation systems did not clarify the facts or promote rational discussion; instead, they became amplifiers of emotional venting. Algorithms sensitively captured the public's emotional shift from being moved to being angry and began to push large numbers of articles and short videos exposing Luo Er's "fraud" and condemning his moral corruption.

In this case, the re-concealment effect is fully visible. First, the cognitive threshold was compressed: when the public was moved by the article, it did not leave enough time to verify the authenticity of the information; when it was angered, it likewise had no time to rationally analyze the underlying issue of the medical security system. Second, emotion usurped reason: both the initial sympathy and the later anger were dominated by emotion, with rational reflection completely absent. Finally, public discussion was reduced: an opportunity that could have stimulated discussion of major illness insurance systems, charitable-donation regulation, and other deep structural issues ultimately became a moral trial directed at an individual.

## 8.2 Case 2: The Cambridge Analytica Scandal and Information Cocoons in the U.S. Election

The Cambridge Analytica scandal exposed in 2018 deeply revealed how algorithmic recommendation manipulates public cognition in the spatial dimension by constructing information cocoons. Cambridge Analytica obtained psychological test data from tens of millions of Facebook users and used these data to build extremely precise psychological profiles.

During the 2016 U.S. presidential election, the company used these profiles to deliver customized political advertisements to voters with different psychological traits. For voters who were prone to anxiety and fear, it delivered advertisements emphasizing immigration threats and rising crime rates. For voters with rebellious tendencies, it delivered advertisements attacking establishment politicians. This psychographic micro-targeting effectively customized an extremely closed filter bubble for each voter.

Within this bubble, voters could see only information that reinforced their existing prejudices and stimulated their specific emotions, while they were almost completely prevented from encountering views from the opposing camp. This hidden cognitive manipulation not only tore apart political consensus in the United States but also fundamentally undermined the rational public sphere on which democratic elections depend. This is an extreme political manifestation of the re-concealment effect: by providing false personalized information, algorithms concealed voters' comprehensive cognition of political reality.

## 8.3 Case 3: Pseudo-Science on Short-Video Platforms and Cognitive Reduction

On short-video platforms, the proliferation of pseudo-science and conspiracy theories is another prominent manifestation of cognitive reduction. Because the media attributes of short video require attention to be attracted within a very short time, complex explanations of scientific principles often receive little attention, whereas pseudo-scientific content that appears scientific but in fact appeals to fear or curiosity spreads widely.

For example, during the COVID-19 pandemic, absurd conspiracy theories claiming that vaccines contained microchips or that 5G base stations spread the virus circulated wildly on major short-video platforms. These contents usually share several characteristics: they use frightening titles and images to attract attention; they reduce complex scientific issues to simple conspiracy logic, such as the claim that everything is a plot by a particular interest group; and they cater to part of the public's natural distrust of modern technology and elites.

Algorithmic recommendation systems played a key role in pushing such content. When a user clicked on one conspiracy-theory video out of curiosity, the algorithm judged that the user was interested in that category of content and continuously pushed similar videos. Over time, the user entered a cognitive cocoon composed of pseudo-science and conspiracy theories and developed strong resistance to authoritative scientific explanations. This phenomenon is not only the degen-

eration of individual cognitive capacity but also a systematic decline in the scientific literacy of society as a whole.

## 9 Further Theoretical Reflection: The Symbiotic Relation Between Technology and Human Beings

After analyzing the impact of algorithmic recommendation on cognitive stabilization mechanisms and its concrete case manifestations, it is necessary to further reflect on the symbiotic relation between technology and human beings. In the age of platformization, must we passively accept algorithmic control?

### 9.1 Technological Autonomy and Human Subjectivity

Philosopher of technology Jacques Ellul proposed the view of the autonomy of technology. He argued that modern technology has developed into a vast system independent of human will, expanding according to its own logic, namely the pursuit of efficiency and rationalization, while human beings gradually become gears and appendages within this system. The rise of algorithmic recommendation systems seems to confirm Ellul's pessimistic prophecy.

However, we cannot therefore fall into technological fatalism. Although human subjectivity faces severe challenges under algorithmic encirclement, it has not been completely lost. We need to find a new balance between technological autonomy and human subjectivity. This requires us to pay attention not only to the instrumental value of algorithms but also to their ontological value; not only to ask what algorithms can do for us but also to ask what kind of people algorithms are turning us into.

### 9.2 From Algorithmic Hegemony to Algorithmic Democracy

To realize this balance, a transition from algorithmic hegemony to algorithmic democracy must be promoted. Current algorithmic recommendation systems are mainly monopolized by a few technology giants. They control massive data and powerful computing capacity and thereby form a hidden hegemony over public cognition.

Algorithmic democracy means breaking this monopoly and subjecting the rules and values of algorithms to public supervision and participation. This includes not only the public scrutiny of algorithms mentioned above but also encouraging the development of open-source algorithms, granting users more algorithmic choice, such as allowing users to customize recommendation weights or turn off personalized recommendation, and introducing the participation of multiple stakeholders such as sociologists, ethicists, and ordinary users into algorithm design. Only when algorithmic black boxes are opened and algorithmic logic is constrained by public reason can we truly move out of the predicament of re-concealment.

### 9.3 Reshaping Publicness in the Digital Age

Ultimately, the core of overcoming the re-concealment effect lies in reshaping publicness in the digital age. Under the

cutting force of algorithms, the traditional public sphere based on mass media has already fragmented. We need to explore a new form of publicness suited to the platformized age.

This new publicness no longer depends on a single centralized channel of information release but is built on plural and decentralized network nodes. It requires us, while respecting personalized differences, to seek consensus points that cross cocoons; while enjoying the convenience of information access, to maintain patience in understanding complex matters; and while expressing emotion, to hold firmly to the bottom line of reason.

This is not merely a technological transformation but also a profound cultural and cognitive awakening. Only when we once again recognize the value of language as a medium of public communication and re-establish the leading role of reason in cognition can we truly realize cognitive clarity and freedom in the torrents of the platformized age.

## 10 Conclusion

Algorithmic recommendation systems in the age of platformization are a sharp double-edged sword. While they greatly improve the efficiency of information distribution, they also launch an unprecedented impact on the stabilization mechanism of human cognition. By compressing cognitive thresholds in the temporal dimension, constructing information cocoons in the spatial dimension, and allowing emotion to usurp reason in the affective dimension, algorithmic recommendation produces a profound linguistic re-concealment effect.

This effect is not only the root of cognitive reduction at the individual level but also the deep ontological reason for the alienation of contemporary public discussion, the intensification of group polarization, and the difficulty of achieving consensus. Language, originally intended to connect human beings, is becoming under algorithmic distortion a sharp blade that divides society. To resolve this epistemological crisis, we must move beyond simple technological determinism and commercial logic and deeply understand the complex interaction among media, algorithms, and cognition.

From public scrutiny of algorithmic regulation, to the revival of slow media, to the comprehensive elevation of individual digital literacy, a defensive line must be built at institutional, practical, and individual levels. This is not only to repair the damaged space of public discourse but also to defend human dignity as rational subjects within algorithmic encirclement. Only when we recover cognitive anchors in the torrent of information can we truly move from re-concealment toward clarity and protect the rational light of human civilization.

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