An Exploratory Analysis of the Spatial Practice of Algorithmic News in the Age of Artificial Intelligence: Postprint

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Abstract

Driven by the powerful impetus of artificial intelligence technology, the representational discourse of news communication forms is increasingly dominated by "algorithmic logic." Accordingly, algorithmic news has charted the information and communication landscape of contemporary society with strong developmental momentum. In the construction of production discourse for algorithmic news, aspects such as site practice, technical expression, and content modalities have been endowed with new spatial significance. This article seeks to break away from the functional or effects paradigm in algorithmic news research. Through the lens of spatial production theory, it interprets the spatial representations constructed by algorithmic news and their meanings from five dimensions: fluidized space, technologized space, fragmented space, humanized space, and commodified space, thereby revealing the social relations and power structures embedded within spatial production, and offering a critical reflection for understanding the production practices of algorithmic news.

Full Text

Preamble

An Analysis of the Spatial Practice of Algorithmic News in the Age of Artificial Intelligence

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Abstract: Driven by the powerful force of artificial intelligence technology, the discursive representation of news communication forms is increasingly dominated by "algorithmic logic." Consequently, algorithmic news has delineated the

information communication landscape of contemporary society with robust momentum. In the construction of algorithmic news production discourse, various elements—including site practice, technological expression, and content modalities—are endowed with new spatial significance. This paper seeks to break away from the functional or effects paradigms that dominate algorithmic news research. Under the perspective of spatial production theory, it interprets the spatial representations and their meanings constructed by algorithmic news from five dimensions: fluidized space, technologized space, fragmented space, humanized space, and commodified space, thereby revealing the embedded social relations and power structures within spatial production and offering critical reflections for understanding the production practices of algorithmic news.

Keywords: algorithmic recommendation; spatial practice; algorithmic news; flow space; technological space

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1. Problem Formulation

Time and space constitute fundamental elements of society and serve as intrinsic drivers of human progress. In social practice, however, scholarly attention has focused predominantly on the temporal dimension while neglecting space' s significance for social inquiry—encompassing physical space, technological space, and other modalities. This study examines algorithmically recommended news in the new media era as its foundation for understanding contemporary social practice and relations through a spatial lens. As French philosopher Henri Lefebvre observed, "Space is a social relation, intimately tied to productive forces, and like all things, a product of history" [1]. Lefebvre' s interpretation of space, grounded in modern social characteristics, treats the separation of time and space as a fundamental premise of modern society. He argued that space extends beyond physical or purely scientific objects, urging a reconceptualization that transcends traditional understandings [2]. Beyond Lefebvre, scholars such as David Harvey ("time-space compression"), Michel Foucault (space-discourse relations), and Manuel Castells (informational space flows) have offered diverse spatial interpretations.

The rise and widespread application of AI technology have intensified algorithms' pervasive infiltration into daily life, evident in stock trading, online shopping, and autonomous driving. In journalism, AI-based automated algorithms now permeate every stage—from news gathering and reporting to editing, distribution, and fact-checking—transforming traditional news production models and

energizing new forms of journalistic creation. As technology advances and production concepts evolve, news delivery methods have shifted from physically distributed newspapers to audience-initiated searches in virtual spaces, transforming reception from passive to active. Furthermore, algorithmic recommendation in the intelligent media era enables finer content segmentation, shifting from universal to personalized distribution. To avoid information cocoons, algorithmic recommendation combines technological and physical spaces to analyze audience psychology, achieving integration with "human nature." As intelligent media technology increasingly penetrates everyday life, it reshapes the spaces of human interaction and communication. Algorithmic news has transformed traditional editorial activities and altered spatial relationships among producers, audiences, and social environments in news production practices. The "central kitchen"news generation model, for instance, employs algorithms for information gathering, enabling spatial "flows" of information that metaphorically signify spatial discourse and govern spatial categories.

Algorithmic recommendation first emerged in the 1960s for social management and was applied to personalized film recommendations in the 1990s. Amazon' s analysis of users' purchasing and browsing habits through macro-level physical spaces, linking technology with real life to target consumer habits via personalized recommendations, propelled its sales growth. In algorithmic news production, foreign organizations such as the Associated Press and The Washington Post have established algorithmic labs for intelligent news production, while domestic platforms including Toutiao, Yidian Zixun, and Kuaibao have implemented algorithmic news practices. As technology matures, personalized recommendation has become widely applied across platforms like Douyin, Weibo, and Taobao for information, films, music, and short videos. Current domestic and international research on algorithmic news has primarily focused on operational mechanisms, conceptual and practical transformations, and ethical issues, while largely neglecting spatial dimensions. How, then, does the space created by algorithmic news—liberated from traditional physical space and reshaping social space—differ from conventional space? How are its spatial representations constructed and framed? This paper attempts to address these questions through the theoretical lens of spatial production.

2. Spatial Production: A New Perspective for Interpreting Algorithmic News

In the 1970s, Western urbanization processes accelerated, prompting renewed excavation of urban space' s social dimensions. French philosopher Henri Lefebvre made significant contributions in this area, building upon Marxist spatial thought to propose the concept of spatial production. This concept manifests primarily through a spatial triad: spatial practice, representations of space, and representational spaces. Spatial practice refers to how people create space, encompassing spatial organization and usage patterns as well as space' s creative and utilitarian dimensions. Representations of space belong to the conceptual

realm, representing human consciousness of space. Representational spaces are spaces directly lived through associated images and symbols. Another crucial contribution is space' s social nature. Armed with classical Marxist political-economic critique, Lefebvre argued that space is a product of social practice. As the mode of existence for material production, space plays a pivotal role in social production and the construction of social relations—no spatial production exists independent of material production. The concept of "spatial production" can thus refer either to the production of things within space or to the reproduction and production of space itself. Because excessive attention to the temporal dimension has obscured spatial concerns, scholars like Foucault and David Harvey have identified this bias, while Lefebvre and Castells have emphasized space' s importance for studying social relations, reminding us to attend to space' s significance for social development.

First, spatial production does not detach from material production. If earlier discussions treated space merely as physical "container" for things, the internet era has witnessed continuous spatial construction and social relation reconfiguration, increasingly tightening the connection between space and society. This does not negate space' s objective reality; rather, it increases the human-constructed proportion within spatial formation. In network-constructed spaces, we can distinguish between "space-in-itself" and human-practiced space. The essence of spatial production is resetting or reconstructing material resources in space through human practical activity, thereby creating artificial spaces suited to human needs [3]. Spatial production is thus first and foremost material production, but with special attributes highlighting products' spatial properties and meanings. In this process, new spatial relations are reconfigured alongside emerging social relations, impacting people' s lives. As a significant product of the intelligent media era, algorithmic news possesses material attributes that transform information access patterns. Algorithmic news primarily employs internet technology to shift from mass communication' s single-distribution model to a series of dynamically separated "hyperreal" spaces formed by analyzing audience preferences and habits. In cyberspace, production modes and processes possess objective reality, grounded in the real world as authentic material existence that leverages technological enhancement to transform physical material production into network space production—without altering its physical attributes. Through algorithmic customization, technology distributes content to form personalized aggregation platforms, generating a series of platforms that meet audience demands and successfully "break through" via precisely targeted personalized recommendations, constructing novel relations between humans and information.

Second, spatial production represents the reshaping of social relations. Intelligent media constitute a self-strengthening ecosystem based on mobile internet, big data, virtual reality, and human-computer interaction, forming diversified and sustainable business and profit models. "Algorithmic recommendation," embedded as a technological tool, has become the carrier of new communication forms [4]. What is algorithmic recommendation? In the 1990s, American

scholar Nicholas Negroponte mentioned personalized services in the digital age in his book *Being Digital*. Intelligent media platforms achieve intelligent matching between information and user needs through algorithmic recommendation [5]. Algorithmic news production' s spatial practice constructs new social relations between media and people, shaping fluid, personalized, and fragmented abstract spaces where media technology acts as the "constructor" of spatial production. Algorithmic news' s spatial form results from human transformation of nature and society, encompassing various spaces. For instance, algorithmic news applications accelerate viscous interactions among people, constructing interest-generated spaces that enable association through shared interests; they accelerate capital aggregation, enhancing audience agency through algorithmic empowerment, though not without manipulation by capital and power behind the scenes. Algorithmic news' s spatial production transforms traditional news production models through technology, reconstructing social relations among humans and media, humans and nature, and humans and capital, offering multidimensional perspectives for understanding spatial production.

Finally, spatial production reflects productive forces. Viewing algorithmic news through the lens of "spatial practice" reveals that while generating and sharing information, it also demonstrates a form of productivity. Lefebvre noted in *The Production of Space* that spatial representation refers to "a way of presenting space, including space' s appearance and meaning, as well as the various modes of its presentation"[6]. It is a conceived space treated as "real space."Algorithmic news presentation occurs through cyberspace, encompassing five recommendation types: content-based, collaborative filtering, rule-based, utility-based, and knowledge-based recommendations. These increase information access channels, enrich information sources, and enable more comprehensive understanding; through private customization, they satisfy audience personalization needs; and they enhance news value by filtering ineffective information, meeting immediacy demands. The entire presentation process operates in flow space supported by technology, genuinely satisfying audience information needs. Additionally, algorithmic news' s personalized categorization generates fragmented information, deriving fragmented spaces. Based on reflections on algorithmic ethics, humanization becomes a consideration, thereby constructing humanized spaces. These different spaces collectively enrich cyberspace and influence the journalism ecosystem.

3.1 Fluidized Space: The Site Practice of Algorithmic News

In 1996, American sociologist Manuel Castells analyzed network society through the dimension of space, breaking from physical spatial properties and extracting space from cultural, geographical, and historical meanings. "Space" is not merely the objective environment visible to the naked eye; in the internet era, it can be more readily interpreted as a virtual environment connecting social relations with others, making the invisible visible and reorganizing social relations through algorithms. "Flow" in the internet environment encompasses flows of

technology, information, and personnel, which algorithms expand in scale to generate new spatial forms, achieving intelligent matching between information and user needs. Flow space extends and expands local space, reshaping traditional social relations and transferring them to networks, combining objective reality to further promote new spatial relations and providing audiences with novel spatial experiences. Intelligent positioning drives flow space formation: every program requests access to geographic location data upon initial use to push locally relevant information, expand browsing volume and click rates. If users consent, the program pushes local news and topics based on physical location, strengthening user-local connections and establishing new relationships between users and local culture. Through internet and sensor technologies, people leave "digital footprints" in cyberspace, improving information transmission and reception precision. This new spatial relationship, based on objective geographic location, primarily relies on subjects' physical mobility to influence information organization and flow within cyberspace.

The fluidity of algorithmic news is evident in its production models, where production space shifts from objective physical space to cyberspace, and production subjects transform from professional organizations to technologized "people." Traditional news gathering, editing, and distribution relied on substantial human and material resources, with staff concentrated in specific fields engaging in collaborative division of labor. In the internet era, news generation has transitioned from "offline" to "online." Mobile media and algorithmic technology enable news production to detach from professional institutions, allowing anyone to produce news anywhere, anytime. Traditional linear production models are broken as edited information is sent online for algorithmic integration and categorization, enabling superimposition of news from different temporal and spatial points to form diverse news materials. The "central kitchen" model, for instance, integrates vast information that local units can extract as needed, saving substantial human, material, and financial resources. News distribution employs algorithmic technology to achieve information "flow,"and building upon McLuhan' s notion that "media extend the human body," algorithms filter information based on audience browsing behavior, expanding information sources and establishing new relevance between subjects and information—all occurring within cyberspace. Here, "technologized people" use search engines to filter information according to personal interests; algorithms generate user content based on browsing habits, creating differential cognitive spaces for different individuals. Subject flow drives information flow, forming browsing spaces that reinforce audience cognition, influence value systems, and create personalized news. While the former emphasizes information flow within cyberspace during news production and distribution, the latter focuses on relationships between subject flow and information flow within space.

In the digital media era, fluidized space reshapes social relations and constructs social meaning. Spaces built upon the internet exhibit high uncertainty and plasticity, where information flow accelerates spatial transformation. Compared with materialized space, big data era social activities accelerate spatialization.

On the surface, algorithmic news appears as an active and creative activity, but the information space driven by algorithmic technology ultimately serves those in power—investors or platform operators who treat space as a tool and means for profit or even propaganda. If we assume space is a political tool used worldwide, hiding various intentions beneath its continuous surface form—personal, group, power-based, ruling class—then "spatial representation always serves certain strategies" [7]. The formation of flow space has somewhat altered people' s social habits, generating new spatial forms and reconstructing social relations through spatial nodes that build new spatial relationships.

3.2 Technologized Space: The Generative Foundation of Algorithmic News

Marshall McLuhan, representative of the media ecology school, proposed that "the medium is the message," suggesting that only after acquiring a medium can people develop corresponding new lifestyles. Developed media accelerate information circulation, creating explosive information growth that impacts social structures and interpersonal interaction patterns. The medium itself constitutes the truly meaningful message. New media technology development is based on digital, internet, multimedia, and mobile communication technologies, profoundly and significantly impacting human society by driving new information platform generation, diversifying content presentation, and enabling multifunctional development. Technology permeates every aspect of life, influencing human existence and driving social transformation and spatial morphological change.

Media technology serves as the presuppositional prerequisite for completing news production and the driver shaping news products' modes of existence [8]. With intelligent algorithms applied to news production, traditional content generation models have been transformed. Toutiao, for instance, functions as an information porter rather than producer, gathering information from major portals and recommending it based on audience interests. To achieve further content innovation, it launched the AI robot Zhang Xiaoming in 2016, which generates news content through algorithmic information extraction. As intelligent algorithm technology develops, news robots have evolved from mechanical to sensory-capable "algorithmic senses" to enhance viscous interaction with audiences. For example, the AI robot Xiao Du during the 2019 Two Sessions possessed anthropomorphic senses, enabling rapid yet warm algorithmic news generation. Algorithmic recommendation technology influences audience reading preferences, shifting from immersive to fragmented reading that emphasizes information timeliness, diversity, and overall development trends. Algorithms leverage technological advantages to excavate data resources, reconstruct information, and generate new spaces. Their automated production mechanisms save human and material resources while improving news production efficiency. Various news forms present diversely across different spaces—H5 news, data journalism, and visual news all leverage technological advantages to enrich news

reporting through data updates and processing. Technological space planning submits to power, continuously reshaping social forms and producing entirely new social relations.

As China' s internet laws and regulations become increasingly robust, information flow is subject to certain norms and constraints, with content subject to requirements and restrictions. During information gathering, algorithms filter redundant information to promote news that conforms to media ethics and professionalism. Information flow reorganizes on a capital foundation, influencing new space construction and subsequently human ideology. Ultimately, we can only see what platforms want us to see. The relationship between capital and audiences has shifted from passive acceptance to active implantation, a more dangerous relationship wherein audiences, like the "magic bullet theory' s" defenseless targets, actively accept implanted content. Algorithmic application has weakened mass media' s agenda-setting power; network platform openness grants audiences media access rights, enabling them to actively search for topics of interest through algorithmic convenience, forming exclusive mental spaces. Yet these remain spaces constructed by algorithms, where audiences remain subject to platform operators and capital interests, experiencing only limited information freedom.

When a "new technological system prompts a completely different activity to replace an existing one and achieve dominance," it thoroughly disrupts the social system' s balance [9]. Algorithms accelerate news acquisition time, habituating people to accelerated news that renders traditional newspaper and television journalism unable to meet timeliness demands. Under algorithmic influence, users' thinking becomes data-driven and more proactive. Data mining expands government functions, saving information acquisition time. News presentation becomes visualized, immersive, and interactive, while government services become more precise, bridging the "last mile" between officials and citizens, improving audience satisfaction and enhancing viscous interaction. Algorithms influence news practice and significantly impact journalists, acting as agents that rapidly detect dynamic information, recode information through classification and distribution, reproduce meaning, continuously update and reshape people' s cognitive frameworks, effectively save time costs, and restructure newsroom operations, creating opportunities and challenges for media survival in the big data era. "To cope with new information, supplementary control mechanisms are needed. But these new control mechanisms are themselves technologies that in turn increase information supply. When information supply becomes uncontrollable, individual peace of mind and the tenets of social life will inevitably collapse and lose their defense" [10]. While algorithmic technology facilitates information access, it also creates cognitive panic. Through methods like crawling and classification, it influences and even controls people' s lives by ranking information importance, causing audiences to lose themselves in information retrieval. Over-dependence on technology creates media dependency syndrome, where human subjectivity is replaced by data, losing social understanding and judgment capabilities, becoming "unconscious" individuals.

3.3 Fragmented Space: The Morphological Representation of Algorithmic News

In the mobile media era, increasing media resources coexist with "blowout" information growth. To extract information meeting personalized audience needs, internet platforms employ algorithmic logic to curate content. McLuhan' s media theory suggests that human communication forms have experienced "tribalization," "detribalization," and "retribalization" in the internet age. Here, retribalization refers to new electronic media extending the human central nervous system, shortening interpersonal distances and turning the world into a "global village" where people absorb worldwide news. However, audiences don' t accept all network-provided information indiscriminately; instead, they select based on age, identity, occupation, gender, and other factors—creating a thousand faces for a thousand people and thereby forming fragmented spaces. "Like other fragmentary forms such as spectacle fragments, cognitive fragments, and cultural fragments, spatial fragments constitute a common spatial morphology in modern society" [11].

First, fragmentation of communication subjects occurs. Algorithmic news recommendation is an information filtering process. To align with commercial logic, major news applications use big data analysis to retrieve content matching audience needs, transforming concrete individuals in physical space into labeled and datafied "virtual portraits" in cyberspace. These virtual portraits reveal basic personal information, with user tags including content, user characteristics, and environmental features, extracting people from materialized space. Algorithms identify and continuously refine data, generating different content based on audience geographic location and topics of interest, deriving values that match communicators and achieving value connections between communicators and audiences to form shared meaning spaces. Audiences input keywords or content types into apps, and algorithms direct them toward information containing communicators' value orientations during information crawling, realizing value connections between communicators and audiences. Audiences form shared meaning spaces by inputting keywords or content types into apps, while algorithms direct information crawling toward content containing communicators' value orientations. However, this flow is subject to certain norms and constraints, with content bound by requirements and restrictions. During information gathering, algorithms filter redundant information to promote news conforming to media ethics and professionalism. Information flow reorganizes on a capital foundation, influencing new space construction and subsequently human ideology. Ultimately, we can only see what platforms want us to see.

Second, content fragmentation occurs. In the fragmented spatial context of algorithmic news, composition is achieved through reassembling fragmented information. First, due to spatiotemporal shifts, virtual space is deconstructed and then reconstructed through algorithmic recommendation' s information encoding. Because of content instability, information exists in a mutable, fluid state. The entire space—or rather, the entire fragmented space—is established through

continuous repair and reconstruction processes based on encoding of social texts, ultimately presenting as fragmentation. Second, algorithms break information' s coherent consistency. While cyberspace provides venues for information generation and increased transmission channels, single-piece length decreases while information volume increases. To better meet diverse audience needs, information moves toward specialization and vertical segmentation. Former long-form genres like in-depth reporting and civic journalism can no longer adapt to the data era; one-time content output methods are deconstructed, generating different meaning spaces that expand content density and form fragmented expression modes. In fact, algorithms are not merely "preference aggregation" but also a "social black box" involving political attention and decision-making privileges [12]. Influenced by commercial logic, competitive relationships among platforms prevent complete information sharing. Sample deficiencies affect information diversity, and over time, this can lead to "information islands," expanding fragmented space' s representational significance. Overall, fragmented space generation is a process of aggregation and dispersion. Due to information fluidity, meaning spaces initially accelerate formation through information convergence, but under the subjective agency of communication subjects and objects, content continuously deconstructs and reconstructs, transforming the space from extensive to intensive, with themes becoming clearer and forming stable spaces.

3.4 Humanized Space: The Intrinsic Driver of Algorithmic News

First, as a technology initially applied to journalism, algorithms remain human creations. Algorithmic news quantifies reality through measurement, encoding, classification, association, and filtering. From technology development to news gathering, this process involves technicians, data developers, journalists, and other personnel—a collaborative result of human-technology coordination. Algorithmic thinking involves encoding and embedding human values into algorithmic technology, including journalistic values, ethics, and moral principles, to produce media products aligned with professional ideals [13]. Relevant staff influence symbolic parameterization, default value selection, and core values communicated during information encoding, following both journalistic professionalism and audience and capital demands. Therefore, algorithmic news recommendation is inherently humanized technology. However, algorithmic measurement has limitations: the world is dynamic, and news is constantly changing. Algorithms require continuous encoding of social activities, and symbols beyond algorithmic measurement remain inaccessible to audiences. Thus, these fundamental limitations require human solutions, leaving many domains where "people" must work even in the algorithmic era [14].

Second, humanized space manifests in the recognition and extension of audience subjectivity within algorithms. Algorithmic news recommendation primarily relies on personalized push notifications. Distributors excavate audience prefer-

ences through information browsing analysis, subsequently collecting user data to generate user portraits. Algorithms center on humans, analyzing interests, age, gender, occupation, and location to adaptively distribute information and meet personalized needs. While technology brings convenience, it also raises issues concerning journalistic ethics, value orientation, professionalism, and information cocoons, prompting scholarly reexamination of algorithmic recommendation in the intelligent media era. Discussions about algorithms have persisted since 2016, with domestic platforms like Toutiao facing controversies over plagiarism, copyright, and vulgar content. To better utilize algorithmic technology, platforms have improved algorithmic metrics—for example, YouTube built candidate and ranking networks to record activity contexts for more appropriate push services, shifting algorithms from "technological space" toward "human + technological space."

Finally, news curation constructs human-machine collaborative development. As a new term in the current era, Axel Bruns proposed "collaborative news curation," referring to how journalists, influential online users, and other actors participate cross-platform in news production by sharing news links and posting comments on social media [15]. In the intelligent media era, news curation refers to journalists' involvement in selecting and integrating content amid massive information and new information gathering-editing-distribution models, shifting from "gatekeeping" to "gatewatching" to better align with audience value judgments and ensure content meaning is truly conveyed. Michael Bhaskar, author of *Curation: The Power of Selection in an Age of Excess*, states: "In an age of information overload, we need machines for information filtering, but people prefer people" [16]. In news curation activities, everyone can participate, including individual users and media organizations. As audience subjectivity strengthens, media grant audiences more autonomy, allowing them to customize topics of interest on program homepages—for instance, apps like Weibo and Xiaohongshu provide audiences with certain 选择权 (choice rights), achieving information concession to audiences. Currently, algorithms are widely applied in news curation activities, combining technological convenience with curation' s humanization to present new human-technology spatial relations and construct new spatial forms that achieve human-machine collaborative development.

3.5 Commodified Space: The Operational Logic of Algorithmic News

Algorithmic technology has not only changed news production models but also reshaped the news industry' s operational mechanisms. In the big data era, algorithmic recommendation leads to human "objectification." Unlike physical space where people connect through objects, algorithmic news recommendation connects users to reality through data-to-data relationships. In virtual space, humans gain real-world meaning through "objectification"and are treated as commodities by platforms, forming spaces of commodity exchange. Dallas Smythe, founder of political economy of communication, proposed the "audience labor"

concept, arguing that audiences watching television or reading newspapers during leisure time actually work for advertisers [17]. Algorithmic news promotion offers audiences a "free lunch," commodifying users through platform profit models. However, influenced by various power relations, this "free" can be viewed as bait with economic attributes—a profit-oriented concept. Algorithmic recommendation achieves personalized news pushing through news crawling. Due to massive databases in cyberspace, users are enveloped by information, their "leisure time" occupied, and platforms exchange audience attention with advertisers as commodities.

Platform operations relying on algorithms transform labor through audience participation, converting browsing volume or labor results into market value shares. Algorithmic recommendation' s convenience attracts user attention and browsing, while advertisers sponsor platforms and purchase user traffic to convert users into capital, collecting user data to achieve precise advertising based on platform-user viscous interaction. Algorithmic recommendation has overturned traditional news acquisition thinking. In the big data era, immersive algorithmic news communication makes audiences dependent on information, unconscious of their own objectification and commodification, placing them in algorithmically constructed commodified spaces. The development of algorithmic news relies on technology, and its operational model depends on audience attention, user needs, precise delivery, and other unwaged labor practices, forming relatively complete profit models. As organizers of discursive power, advertisers utilize algorithmic recommendation to enhance audience viscous interaction, achieving deeper commercial models and realizing the migration from flow space to commodified space. For example, the aggregated news app Toutiao, based on data mining for personalized customization, doesn' t produce news but acts as a news porter through algorithmic technology. As a leading platform using algorithmic technology with a massive fan base, Toutiao continuously enriches its menu bar to achieve long-term revenue and meet diverse audience needs, including features like Toutiao accounts and Toutiao malls, cooperating with e-commerce giants like Taobao and JD.com to set up jump links within news content, enhancing user experience.

Space constitutes a necessary condition for human survival and development. In the mobile internet era, people have endowed space with new definitions, abstracting it from concrete objective existence into virtual space. Compared with traditional news, algorithmic news develops based on technology and functions as an interactive product within self-production, 脱离 (detaching from) physical space to excavate and capture network information. Fluid information is continuously reconstructed in cyberspace and transmitted through media, accelerating flow space construction. Simultaneously, algorithmic news integrates fragmented information based on data. To gain user recognition, it achieves a shift from "personalization" to "humanization" through human information intervention, empowering humanized space. If fluidity is the form and technology the bridge, then fragmentation and humanization constitute the content—elements that collectively drive spatial morphological formation, subsequently

influencing cyberspace and promoting transformation of human social relations.

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Note: Figure translations are in progress. See original paper for figures.