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Hall's encoding/decoding model revisited in the digital platform age: de/encoding, lincoding, affordecoding, and en/decoding

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ABSTRACT

This paper updates Stuart Hall's encoding/decoding model to examine the reproduction and contestation of dominant-hegemonic ideologies in the digital platform era. While Hall's model analyzed television broadcasting within mass media systems, today's communication processes are fundamentally transformed by the rise of platform capitalism. A key contribution involves replacing Hall's 'relations of production' with 'social positions' to address intersecting systems of inequalities in a media environment where the boundaries between message producers and consumers have become blurred. Building on this foundation, this paper introduces four interconnected concepts: de/encoding (media/content producers' creation of messages based on extracted user data), lincoding (connection of users with messages, platforms themselves, and other users through algorithmic systems exercised by AI and platform workers), affordecoding (users' interpretation and utilization of platform affordances), and en/decoding (users' dual roles as message consumers and producers). The resulting DLAE (De/encoding, Lincoding, Affordecoding, and En/decoding) model provides a tentative theoretical framework for understanding how multiple dominant-hegemonic ideologies are maintained and challenged through digital communication processes. While acknowledging the intensifying reproduction of dominant-hegemonic ideologies through commercial platforms, the model simultaneously recognizes possibilities for user resistance and negotiation through interactive media technologies.

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Introduction

Digital platforms have fundamentally transformed how we engage with media messages in contemporary society. News readers now optimize their own content by circumventing traditional editorial gatekeeping and selecting articles from global sources based on interests and viewpoints. Over-the-top (OTT) service subscribers now control not only content selection but also viewing time and interaction methods, even influencing narrative directions in interactive titles. Search engines provide immediate access to vast

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information repositories through simple keyword queries, bypassing traditional knowledge hierarchies. Social media platforms blur the boundaries between consumption and production, enabling users to remix existing content, share materials, and collaboratively create new content (Fuchs, 2014).

This shift coincides with AI's expanding role in communication processes. Algorithms, a part of AI, defined as 'computable set of steps to achieve a desired result' (Paul, 2020) mediates content curation and distribution. 'The audience is both the "source" and the "receiver" of the television message' (Hall, 1980, p. 119) in that the production structures of television draws on diverse elements from the broader social, cultural, and political structure. While this process was once controlled by only the human production team, AI algorithms now rapidly process vast amounts of user data. This leads to the datafication of all user interactive activities to serve the profit-seeking motives of major platform companies, marking the advent of platform capitalism (Couldry & Mejias, 2019).

This paper updates Hall's 1973 encoding/decoding model on television discourse to incorporate these transformations in the media landscape. Offering alternative to linear communication theories, the model employed a semiotic framework to analyze the complex and unguaranteed interrelationships of production, circulation, distribution, consumption, and reproduction of social elements through communicative processes. Particularly, this model elucidated how television broadcasting disseminates messages embodying dominant-hegemonic ideologies, which impose 'classifications of the social and cultural and political world' (Hall, 1980, p. 123) and highlights the audience's potential for resistant interpretations of them. The dominant-hegemonic ideologies in his theory are not merely about prevailing values or beliefs, but a system of ideas perpetuating and reinforcing the oppressive structures in dominance in society (Hall, 1986). In other words, he encoded a critique of dominant-hegemonic ideological systems into his model.

Extending Hall's perspective, this paper theorizes the communicative processes in which dominant-hegemonic ideologies are constructed, maintained, reinforced, contested and resisted in platform capitalism. To capture the complex operations of multiple ideologies in the digital environment where the boundaries between message production by a minority elite and consumption by the majority public have blurred, this model proposes replacing Hall's 'relations of production' with 'social positions' to better address complex power dynamics beyond class-based production relations, encompassing intersecting systems of inequalities including gender, race, and other social markers.

The paper introduces four interconnected concepts specifically for the digital era, each performed by distinct actors: de/encoding, lincoding, affordecoding, and en/decoding. De/encoding describes how media/content producers create messages by analyzing datafied user information, often reinforcing dominant-hegemonic ideologies through commodification processes. Lincoding explains how technical workers employed by platforms, including interface designers, programmers, and data analysts, connect users with messages, platforms themselves, and other users through algorithmic systems and feedback mechanisms that tend to reinforce the platforms' commercial influence. Affordecoding encompasses users' interpretation and utilization of platform affordances, highlighting possibilities for resistance against platform power. Finally, en/decoding addresses how users simultaneously consume and produce messages within broader

ideological systems, revealing contradictory tendencies toward both oppositional and dominant-hegemonic practices.

In the next section, this paper examines Hall's encoding/decoding theory and its subsequent adaptations to digital media environments. The literature review establishes how communication processes have been transformed in platform capitalism and identifies the need for new theoretical approaches. Following this foundation, I provide each of the four concepts – de/encoding, lincoding, affordecoding, and en/decoding – to explore how dominant-hegemonic ideologies are both reproduced and contested in digital environments. Through these four interconnected concepts, the paper proposes an exploratory and tentative framework for understanding communicative processes in the platform capitalism conjuncture.

Literature review

Encoding/decoding model and follow-up studies

Hall's model contextualizes the communication process within broader social relations, examining how TV messages can reinforce dominant-hegemonic ideologies and enable varied interpretations. The model encompasses not only message production and reception but also their complex social conditions: frameworks of knowledge, relations of production, and technical infrastructure. The conditions affect the meaning structures of both encoding and decoding, forming layers of meaning that encoders and decoders can perceive either similarly or differently. The process has both relative autonomy and determinateness 'of the entry and exit of the message in its discursive moments' (Hall, 1980, p. 120). As the equivalence of meaning structures between encoding and decoding is not guaranteed, the message transmission process inherently contains potential for miscommunication between producer and audience, and among audiences.

Hall's model reveals the tension between two hegemonic tendencies in message production. On the one hand, the model posits that message production inherently tends toward reproducing dominant-hegemonic ideologies of ruling classes. TV messages have 'already been signified in a hegemonic manner' (Hall, 1980, p. 126) in that they are produced based on professional codes that embody perspectives of selected elite personnel. Messages encoded with professionals' preferred meanings have a strong tendency to reproduce dominant-hegemonic ideologies rather than reflecting values of popular, minority, or oppressed groups.

On the other hand, his model presupposes an opposing tendency for message production to reflect the audience's codes. As producers' preferred meanings are not guaranteed to be embraced by audiences, producers attempt to achieve equivalence between encoding and decoding of meaning structures by incorporating audiences' expected codes into preferred meanings. Just as a product's value can only be realized when a consumer purchases it, the meaning of a message can only be realized when an audience accepts it. 'If no "meaning" is taken, there can be no "consumption"' (Hall, 1980, p. 127). Hall's model draws a parallel between meaning and commodity circulation, with the commodity form sustaining the 'continuous circuit' of communicative processes (Bødker, 2016).

While the latter tendency has been overlooked, several follow-up studies have criticized the issues of the former tendency. Wren-Lewis (1983) noted that professional's

preferred meanings are not always linked to dominant-hegemonic ones. Furthermore, Ross (2011) proposed new concepts including 'oppositional encoding,' an encoding position against the dominant-hegemonic ideologies. It implies the need to upgrade Hall's theorization of the reproduction and subversion of dominant-hegemonic ideologies through the media.

Unlike linear communication models that posit a monolithic mass audience, Hall, focusing on audience message consumption, conceptualizes audiences as 'popular' by highlighting the possibility of diverse message receptions and audience subjectivities stemming from their particular social conditions. He theorizes varied audience interpretations through three possible message reception positions: dominant-hegemonic, negotiated, and oppositional. Furthermore, Ross (2011) refined the understanding of Hall's oppositional decoding concept by distinguishing two possible interpretations, whether it opposes the text's preferred meanings or ideologies external to the text. If one adopts the stance of the former, the oppositional decoding of messages that were created through oppositional encoding against the dominant-hegemonic ideology can paradoxically be seen as dominant-hegemonic decoding at the ideological level (Kim, 2010).

This suggests that audience positions should be theorized in relation to dominant-hegemonic ideologies encoded in messages rather than merely preferred meanings. These positions can be categorized by how audiences respond to the ideological systems being embedded through the message production process. In the dominant-hegemonic position, audiences accept and decode messages within the same ideological framework with producers operating under dominant-hegemonic codes. The negotiated position emerges when audiences partially accept dominant-hegemonic ideology while simultaneously employing oppositional or alternative codes to interpret meanings. In the oppositional position, audiences decode messages through oppositional ideological frameworks that counter dominant-hegemonic meanings.

Morley's (1999) empirical investigation of the *Nationwide* program substantiated Hall's thesis on decoding multiplicity. His research revealed the complexity of audience decoding by identifying multiple determining elements such as program theme, class, race, gender, political and cultural identities, occupation, educational level, and discourses acquired through education. Significantly, he argued the interdiscursivity of various discourses embodied by audiences, demonstrating that these discursive effects prevent decoding from corresponding simplistically with social conditions. Audiences are not simply atomized individuals abstracted from social structures but rather are being constructed within their historical social contexts. Thus, decoding patterns associated with specific positions are not determined *a priori*, but merely probabilistic.

Through statistical reanalysis of the data, Kim (2004) empirically established that these patterns are overdetermined by intersecting social positions by pointing out Morley's reduction of 'the meaning of "social positions" into "class position"' (2004, p. 87). Social positions including gender, race, and age, as well as specific cultural experiences like diasporic Black identity, exercise relatively autonomous determining effects on audience decoding. Although social positions cannot be employed as deterministic factors for identifying a priori and fixed decoding patterns, they remain valuable for understanding the complex social contexts of decoding.

Within the social contexts, institutional forces, discursive power, and cultural order often determine subjects' identities and experiences, while subjects autonomously

respond to these forces in different ways. This indicates that decoding research should encompass not only subjective message interpretation but also decoding of media production processes and the social conditions that structure decoding. Extending this perspective, Wu and Bergman (2019) expand the scope of audience agency in decoding by demonstrating that audiences decode messages by penetrating producers' ideological encoding strategies.

Developed by these works, Hall's model has been extended as a critique program that highlights audience agency against complex dominant-hegemonic ideological systems, where multiple intersecting systems of dominance, such as capitalism, patriarchy, racism and media power, perpetuate social inequalities and oppress liberty. The social positions imply subject positions shaped by and responsive to complex ideological systems, extending beyond, but still including class-based production relations. To update Hall's model, I propose replacing 'relations of production' with 'social positions' for the consideration of complex power dynamics, including the unguaranteed responses of audiences, while adding social positions to the conditions of knowledge frameworks and technical infrastructure. This theoretical revision is particularly appropriate for the digital media environment where the boundaries between message producers and consumers have been blurred and multiple ideologies compete in complex ways.

Encoding and decoding in the digital platform era

This section examines the shift in encoding and decoding in the digital platform era and the responsive research updating Hall's model. Although the evolution of digital platforms has rendered a single definition inadequate, digital platforms can be broadly defined as 'the online services of content intermediaries, both in their self-characterizations and in the broader public discourse of users, the press and commentaries' (Gillespie, 2010, p. 349). Digital platforms, established and sustained through substantial capital investment, systematically pursue profit optimization by enhancing advertising revenue, promoting subscription, and extracting massive data (Couldry & Mejias, 2019; Fuchs, 2015; Srnicek, 2017).

The rise of commercial platforms has transformed the media ecosystem and users' daily lives. Platform capitalism, driven by large monopolistic or oligopolistic platform firms, has emerged as the dominant socio-economic conjuncture (Srnicek, 2017). Digital platforms act as intermediaries that collect, analyze, and monetize user activities such as liking, following, and commenting into commodifiable data resources. This process transforms social relations into measurable and extractable data assets (Couldry & Mejias, 2019), appropriating the massive free labor of users (Andrejevic, 2008; Terranova, 2000).

The pervasive tracking and datafication of everyday activities enable new forms of discrimination and manipulation. Platform algorithmic systems track and analyze past user activity patterns and predict future behaviors, producing and providing information at present (Barassi, 2020). These systems mitigate future risks by informing current decisions based on historical data traces with increasing precision. Based on these measurable metrics and subsequent quantifiable self, the algorithmic systems determine both the boundaries and forms of our knowledge frameworks and social connections (Beer, 2016).

Algorithmic systems within digital platforms function not as neutral, fixed intermediaries, but rather as socio-technical artifacts that are continuously negotiated and constructed by various actors (Pronzato, 2024). The interactive engagements of end users within platforms contribute data that gets absorbed into recursive feedback loop mechanisms (Airoldi, 2022). Data analysts transform user information into actionable intelligence through statistical aggregation, profiling, and predictive modeling that enables corporations to target specific population segments with personalized content (Turow & Couldry, 2018). Based on the information, programmers encode meaning structures into the algorithms by writing and revising codes continuously (Flisfeder, 2021). These artificial systems adjust to users' local data contexts through feedback-based learning, establishing relatively stable cultural alignments over time.

While platforms extract value from user data, the advancements of interactive media technologies have blurred the boundaries between message production and consumption, increasing audience participation and agency in digital media environments (Bruns, 2008; Fuchs, 2015; Livingstone, 2003). Audience participation predates the digital era, as evidenced by TV viewers' active interpretation and engagement with content (Bird, 2011). The innovations of technologies enable diverse forms of interactive engagement, from gaming and browsing to database searching and online communication (Livingstone, 2003). Terms such as 'user' (Livingstone, 2003), 'produser' (Bruns, 2008), and 'prosumer' (Fuchs, 2015) have emerged, replacing the traditional term, 'audience.' Under the technological conditions of media convergence, Jenkins (2008) argues for a 'participatory culture' where audiences actively engage in communication processes, highlighting fans as creative interpreters, participants and producers of media content. Varying across media, now the role of the user has expanded as selective message recipients, searchers, commenters, creators, and influencers.

Hall's model has been upgraded to analyze user engagement with interactive media platforms. Shaw (2017) examines how technological affordances can be encoded by designers and interpreted and utilized by users in ways that either follow or challenge intended uses. By connecting Gaver's typology of affordances (perceptible, hidden, and false) with Hall's three decoding positions, Shaw illustrates how these frameworks intersect in interactive media environments. Similarly, Lomborg and Kapsch (2020) extend Hall's decoding concept to investigate how individuals interpret algorithmic systems in everyday life. Their approach broadens the framework to include algorithmic literacy by highlighting user agency in relation to algorithmic power. Furthermore, users exercise agency by decoding algorithms and sometimes collectively hijacking systems, resisting the cultural orders inscribed and classified by the algorithmic systems (Airoldi & Rokka, 2022).

Although their approaches effectively illuminate the potential of user agency and resistance against the controls and limitations set by platforms, they primarily emphasize user experiences and interpretations. These approaches have not developed an integrated framework that examines platforms as complex fields where dominant-hegemonic ideologies are encoded and circulated through the interplay of multiple technical and commercial actors within the broader political-economic structures of platform capitalism.

To critically understand these technological transformations, it is valuable to turn to Hall's later work. Observing the new media environment, Hall (2011) examined the privatization of public space mediated by social media in the neo-liberal context. The proliferation of personalized media technologies, while ostensibly democratizing, fragments collective experience into individualized realms. Seemingly social gatherings become assemblages of individuals engaged in private communications, weakening the very notion of the 'social.' It leads to a diminished public sphere where privatized pluralism becomes an excuse for neglecting substantive engagement with the reproduction of the dominant-hegemonic ideological systems.

Flisfeder (2021) offers a notable upgrade to Hall's encoding/decoding model for the digital era, focusing specifically on social media. His input/output model centers on algorithmic operations by replacing traditional terminology with 'programmers' and 'users' instead of 'producers' and 'audiences,' and 'input' and 'output' in place of 'encoding' and 'decoding.' The model effectively illustrates how user data is collected and utilized within corporate, state, and social surveillance systems. However, his framework has limitation of primary emphasis on algorithmic operations and user datafication while neglecting the message production processes. Most critically, it portrays users primarily as passive subjects subordinated to dominant-hegemonic ideologies, failing to adequately theorize user agency.

The previous studies suggest the need for an updated communication theory covering various actors and intertwined elements in the context of reproducing and challenging dominant-hegemonic ideologies. Here, dominant-hegemonic ideologies in digital platforms refer to systems that commodify users in platform capitalism while algorithmically reproducing multiple inequalities. By introducing four new concepts in the platform era, this paper proposes a tentative framework for exploring the complexities of communication in the digital infrastructure conjuncture. In the following sections, I will examine the intensifying tendencies toward the reproduction of dominant-hegemonic ideologies in message production and distribution processes by introducing de/encoding and lincoding, while investigating users' potential for resistance through affordecoding and en/decoding.

De/encoding

De/encoding is a process in which media/content producers create messages by analyzing and interpreting extracted and datafied user information. This process has evolved from its analog television predecessor to become more sophisticated in the digital era. Smythe's (1981) audience commodity theory posits that TV broadcasting companies commodify viewer attention for advertisers. TV production teams have been collecting and analyzing demographic information and viewership by genre and program. Contemporary media producers, enabled by AI algorithms, systematically harvest and process vast quantities of user data, creating messages calibrated for higher audience acceptance and preference.

Under platform capitalism, dominant platforms harness massive data and user bases to exploit economies of scale and network effects, securing monopolistic or oligopolistic control and reshaping the sphere of media message production (Srnicek, 2017). Major OTT services, such as Netflix and Disney+, have restructured traditional production

and distribution models, seizing control over content creation and displacing the roles of conventional broadcasters and film studios (Jin, 2021). Similarly, platforms like YouTube and Apple News aggregate information from various media outlets, wielding the authority to select, prioritize, and curate content based on user data.

De/encoding tends to reproduce dominant-hegemonic ideologies in ways that realize the imperatives of capital accumulation within platform capitalism through the commodification of messages in the media production sector. It cultivates the deliberate construction of messages designed for mass appeal, thereby reinforcing established dominant codes within society. Through data extracted from platforms, including consumption patterns and engagement metrics, cultural content producers determine what content to produce and how to format it for maximum platform visibility to potential audiences (Poell et al., 2022).

The de/encoding process is implemented in OTT services based on platforms' utilization of users' data, including subscribers' watch history and preferred genres, to create content based on popular intellectual properties or new original content calibrated to existing taste patterns (Adalian, 2018; Hallinan & Striphas, 2016). In music streaming platforms like Spotify, musicians are increasingly incentivized to incorporate platform-generated user play data into their creative decisions by strategically aligning musical elements with algorithmically favored formats, effectively transforming artistic expression into data-driven optimization. These data-driven approaches show how platform metrics reshape creative practices in the cultural commodities (Poell et al., 2022).

After losing their traditional gatekeeper status, news organizations compete for visibility in the digitalized media landscape. Adapting to this change by distributing content across platforms like YouTube, they now find themselves in competition with numerous other journalism channels (Poell et al., 2022). The traditional bundle of news stories is becoming a dismantled product to be visible, with each article evaluated as an independent product with its own economic value. This unbundling has been accelerated by search engines and social media platforms that extract stories from their original contexts and redistribute them algorithmically (Van Dijck et al., 2018).

Additionally, news organizations now rely heavily on metrics like click-through rates and engagement data, leading to the adoption of clickbait headlines and self-promotional reporting models (Van Dijck et al., 2018; Zamith, 2018). In this visibility competition, alternative or minor perspectives that fail to generate sufficient engagement metrics tend to lose their value in the media field, further marginalizing non-dominant ideological positions.

Moreover, the concentrated influence of a limited number of digital platforms facilitates the production and deployment of messages encoded with profit-maximizing, rather than user-oriented codes. Despite leveraging extensive user data for message distribution, dominant platforms possess the capacity to strategically encode specific desires into content that primarily serves their economic interests (Striphas, 2015).

In political contexts, the manipulative capacity of platforms through de/encoding manifested as an extreme example when Facebook data was systematically exploited by Cambridge Analytica during the 2016 US presidential campaign and Brexit referendum. This incident reveals how de/encoded messages can align with platforms' commercial objectives, undermining the public sphere by fostering a false consciousness wherein users misinterpret externally engineered preferences as autonomous choices (Flisfeder, 2021).

De/encoding can perpetuate the dominant cultural order by stigmatizing specific codes. By leveraging network and sovereign power to quickly decode vast amounts of user information, networks can significantly contribute to the censorship and regulation of specific beliefs or values (Flisfeder, 2021). Following the reversal of Roe v. Wade in 2022, Americans identified through their mobile phone's location data as having visited abortion clinics were targeted with anti-abortion advertising campaigns without their consent (Mulvihill, 2024).

The potential for misuse of personal data inherently leads to self-censorship within certain digital spaces. This indicates how networked surveillance systems can be utilized by authoritarian states or corporations to undermine 'potentially incompatible nodes' (Bratich, 2011, p. 603) in real-time from their perspectives. Therefore, de/encoding can reinforce existing norms and values by producing messages that either cater to majority preferences or align with platform profit imperatives, while marginalizing alternative or oppositional viewpoints.

Lincoding

Lincoding, a new concept combining 'link' and 'coding,' explains how platforms strategically connect with users through algorithmic systems and interface design. Digital platforms, functioning as contemporary means of production, exhibit a systematic tendency to maximize user engagement for profit optimization in platform capitalism (Flisfeder, 2021; Fuchs, 2015; Srnicek, 2017). In pursuing intensive connections, platforms actively interpellate users as loyal consumers by strategically connecting messages, platforms themselves, or other users with users likely to accept the embedded preferred codes.

The primary operators of lincoding are technical actors employed by platform companies including interface designers, algorithmic programmers, data analysts, and the resulting nonhuman actor, algorithmic systems. While these actors do not directly produce messages, they fundamentally shape the underlying media environment for the connection between platforms and users by encouraging user engagement. Algorithmic systems in the platforms also function not as isolated units but as extensive networked ecosystems with numerous human actors continuously modifying, adjusting, and reconfiguring their components and structures (Airoldi, 2022). This process inevitably embeds human actors' cultural assumptions, biases, and ideological perspectives into the very fabric of these systems (Airoldi, 2022; Noble, 2018; Pronzato, 2024). Far from neutrality, platforms can reproduce the socio-cultural orders from which their creators and training data originate.

Lincoding operates by fostering a media environment that maximizes user engagement. To allure, secure, and lock in users, platforms employ sophisticated mechanisms that cater to user preferences through interactive features. Lincoding strategies include optimization through deliberately addictive interface elements such as notifications, infinite scrolling, autoplay functions, popularity-driven search engines, and recommendation systems that prioritize screen time over content quality, as well as gamified engagement metrics (Airoldi, 2022; Barassi, 2020).

Specifically, lincoding establishes connections between users and messages, platforms themselves, and other users through AI-driven distribution systems and user interconnection mechanisms. For example, OTT services, as kind curators,

recommend selective cultural content from producers to users by using their personalized information, including location, genre preference, previous search activities, viewing histories, and more (Jenner, 2018). This process both links encoded messages to receptive users and connects users who share similar interpretive codes. Social media friend recommendations exemplify the latter function, reinforcing connections among users.

Although lincoding does not directly implant meanings, it can 'sort, classify, and hierarchize people, places, objects, and ideas, as well as the habits of thought, conduct, and expression that arise in relation to those processes' (Hallinan & Striphas, 2016, p. 119). It contributes to the reproduction of hegemonic-dominant ideologies in two ways. First, lincoding facilitates the amplification of dominant-hegemonic codes primarily through the 'global data context' (Airoldi, 2022) of preliminary machine learning – patterns aggregated from data generated by anonymous machine trainers across diverse times and places, which inherently embed prevalent dominant cultural perspectives. It creates a cycle that reproduces these prevailing data sets (Markham, 2021).

This amplification of dominant-hegemonic codes is exemplified in Noble's (2018) analysis of Google's search algorithm, where queries for terms related to Black girls overwhelmingly return pornographic and demeaning content. It demonstrates how discriminatory codes, constructed through aggregated massive user behavior, advertiser influence, and an infrastructure that privileges whiteness become embedded in algorithms, revealing algorithmic processes of feedback loop can not only objectify and stereotype marginalized groups but also create a cycle where the prevailing, normative ideologies are continuously reinforced at the expense of alternative or minority viewpoints.

Second, lincoding further reinforces existing cultural orders through the 'local data context' (Airoldi, 2022), disaggregated traces of actual social contexts conveyed by specific users' data histories. Lincoding among users leads to constructing 'taste clusters' by grouping users with similar tastes and excluding users with different code preferences (Adalian, 2018). Resonating with Hall's (2011) observation on the privatization of the public sphere through social media, it consolidates pluralistic ideology by creating isolated code enclaves, classifying and confining diverse perspectives within separate bubbles of code-sharing users.

On digital platforms, political content distribution follows this pattern of ideological isolation where left-wing users rarely encounter far-right content, and algorithms seldom recommend progressive content to right-leaning users (Filibeli, 2019; Volcic & Andrejevic, 2023). While users remain insulated within homogeneous preference bubbles, platforms can maximize their profits by attracting users across the political spectrum. Although resistant content can circulate on these platforms, this circulation may paradoxically strengthen the hegemony of a few commercial platforms at the structural level by confining resistant discourses within isolated user enclaves.

However, it would be reductive to conceptualize algorithmic systems as omnipotent controllers of user agency. Algorithmic recursivity operates bidirectionally as users influence systems through feedback mechanisms (Bruns, 2019). This creates a spiral rather than a simple loop where user interests gradually shift, generating new patterns that recalibrate algorithmic systems in a continuous process of mutual adaptation (Airoldi, 2022). This dynamic illuminates potential for user engagement with platform mechanisms.

Moving beyond conceptualizing algorithms as either neutral instruments or inaccessible 'black boxes,' imagining alternative algorithmic operations becomes a counter-hegemonic act within platform capitalism (Pronzato & Markham, 2023; Siles et al., 2023).

Affordecoding

Affordecoding encompasses both users' interpretive decoding of affordances and operational mechanisms of media platforms as well as their subsequent utilization practices. In contemporary digital media environments, decoding and utilization of platform affordances are closely intertwined. Platform engagement necessitates users' construction of personal profiles, embedding personalized use practices and automated optimization into the platforms (Beer, 2016; Bonini & Treré, 2024).

While integrating various approaches (Light et al., 2018; Lomborg & Kapsch, 2020; Shaw, 2017), this section conceptualizes affordecoding to establish a theoretical framework that converges multiple approaches on interactive media usage. Drawing on Light et al.'s (2018) walkthrough method on apps, affordecoding encompasses the decoding and utilization of platform functions and interface arrangements designed according to particular platforms' purposes and intentions to guide users and create specific user subjectivity. Affordecoding includes deciphering encoded meanings within textual content deployment and symbolic representations that integrate visual design and discourse.

Building upon Lomborg and Kapsch's (2020) research on decoding algorithms, affordecoding covers the way in which users interpret the operation of algorithmic systems, including the oppositional decoding of algorithms for 'deployment of subversive tactics to circumvent, manipulate, or disrupt the system' (2020, p.756). Drawing on Shaw's (2017) theorization of use positions, affordecoding encompasses platform utilization strategies based on that decoding of the media environment.

Though users are guided, datafied and surveilled by platforms, affordecoding can illuminate possibilities for users' resistant appropriations of given platform affordances. Unlike previous concepts that separate oppositional use and oppositional decoding, oppositional affordecoding combines both interpretation and practical usage of platforms in ways that resist hidden or automated controls, which align with platforms' profit-maximizing maneuvers and the dominant-hegemonic ideologies inherent in their architecture and algorithmic systems. Negotiated and oppositional affordecoding tactics can create friction against intended use patterns and recursive feedback loops that platforms rely on for data extraction and behavioral prediction operated by the dominant-hegemonic lincoding.

These oppositional or negotiated affordecodings manifest in various ways. Among gig workers, these practices involve critically decoding algorithms and circumventing the platform's sociotechnical infrastructure to resist surveillance. These range from simple tactics such as using private chat groups on social media to share knowledge about algorithmic operations (Bonini & Treré, 2024; Siles et al., 2023) to more sophisticated approaches where gig workers deliberately misrepresent personal information, employ VPNs and ad blockers, and create multiple accounts to confound profiling systems (Ruckenstein & Granroth, 2020; Shaw, 2017). Delivery workers employ GPS spoofing to alter their apparent location or orchestrate mass log-offs during peak periods to strategically induce surge pricing, thereby undermining rigid scheduling algorithms and the platform's control over labor conditions (Bonini & Treré, 2024).

Platform consumers also employ various affordecoding tactics that challenge algorithmic control and surveillance systems. These tactics range from everyday resistance to sophisticated evasion strategies. Evasion tactics allow users to bypass platform surveillance while still utilizing core services. Gangneux's (2021) study of users bypassing 'read receipts' demonstrates temporal resistance against platform capitalism's demand for constant availability. By using message previews to view content without triggering notification to senders, users reclaim autonomy over their communication rhythms. Similarly, activists operating under authoritarian regimes develop sophisticated strategies that preserve communication while evading detection. Turkish activists embed political critiques within coded language and cultural references, comparing government figures to fictional villains and using seemingly innocuous emojis that carry meanings recognizable only to informed audiences, effectively circumventing censorship algorithms (Bonini & Treré, 2024).

Interventional affordecoding tactics actively engage with algorithmic systems to inscribe counter-hegemonic codes into platform-embedded ideological systems. Artist Johanna Burai's 'World White Web' project challenged Google's predominantly white-centric image search results by strategically uploading non-white hand images to high-authority websites and employing specific SEO techniques to increase their visibility in search algorithms (Velkova & Kaun, 2021). Additionally, K-pop fans have shown hijacking practices by flooding right-wing hashtags like #MAGA and #BlueLivesMatter with unrelated content such as music videos, memes, and fancams to disrupt racist discourse (Bonini & Treré, 2024).

Although dominant-hegemonic affordecoding, where most users unconsciously align with platforms' intended purposes, is more common, this section has focused on oppositional affordecoding to highlight user agency in platform capitalism. Further attention is needed for dominant-hegemonic affordecoding practices that diverge from platforms' intended use or guidance while still reinforcing dominant ideological positions. For example, far-right activists employ 'dog whistling' on social media, using coded terms like 'googles' for African Americans or triple parentheses to mark Jewish individuals, thereby spreading hate speech while evading content moderation (Bonini & Treré, 2024). This reveals affordecoding's contradictory and ambivalent potential. Tactics that enable resistance against platform control can equally serve to reinforce harmful ideologies when directed toward spreading rather than challenging oppressive discourse.

En/decoding

Echoing Bruns' (2008) term, 'produser,' 'en/decoding' refers to the intertwined processes of message decoding and encoding by users. This concept illuminates the dissolving boundaries between message producers and audiences, facilitated by the proliferation of interactive media devices (Livingstone, 2003). Whereas affordecoding primarily concerns users' interpretations of and responses to ideological systems that embedded and permeated into platforms and their algorithmic systems, en/decoding specifically addresses users' message production within broader dominant-hegemonic ideological systems outside of platforms. These concepts are not mutually exclusive, as ideologies operate simultaneously within and beyond platforms.

In platform capitalism, increased platform accessibility facilitates contradictory dual tendencies of oppositional and dominant-hegemonic en/decoding. On the one hand,

en/decoding offers new possibilities for civic participation in and through media, leading to the 'intensification and extension of democracy as grassroots democracy to all realms of society' (Fuchs, 2014, p. 55). Unlike mass media-centered communication, users' production of messages is likely to bypass the traditional media systems and restrictions (Lybecker et al., 2015). Oppositional en/decoding in the 'private sphere' (Papacharissi, 2010) fosters a bottom-up formation of alternative public discourses that circumvent traditional elite-controlled media codes and ultimately shape mainstream agenda-setting.

Consequently, underrepresented narratives and alternative knowledge from marginalized minorities challenging dominant-hegemonic ideologies can more easily emerge and circulate widely in the digital public realm. Cabalquinto's (2024) study of Filipino migrant workers illustrates oppositional en/decoding in action. These workers use TikTok to share authentic accounts of workplace hardships and instances of abuse, directly challenging government and migration agencies' romanticized portrayals of overseas life. This digital brokerage practice brings to light the struggles and hardships inherent in migration, offering potential migrants a more realistic perspective and fostering solidarity among workers.

En/decoding practices are crucial in facilitating the organization and mobilization of social movements. During the Occupy Wall Street movement, Facebook allowed activists to widely circulate important information and news in early 2010 about the movement, including where and when to physically organize (Castells, 2012; Fuchs, 2014). By offering collective action instructions and suggestions in terms of public events, the platform contributes to constructing widespread solidarity among 'crowds of individuals' (Juris, 2016). Similarly, Transition Italia activists utilize Facebook to build environmental sustainability networks, share alternative information, and construct collective identity through the collaborative production of knowledge that develops political alternatives (Pavan & Felicetti, 2019).

On the other hand, the potential for dominant-hegemonic en/decoding is amplified within the 'attention economy,' where people's attention is a scarce resource (Goodwin et al., 2016). En/decoders are encouraged to strategically cultivate techniques to capture and maintain expansive audience engagement. They tend to produce message containing dominant-hegemonic ideologies to cater to majority preferences, leading to the commodification of user-generated content.

Specially, platform algorithms prioritizing profit-maximizing content subtly guide content creators toward commercially viable approaches, as Bishop (2018) notes, 'YouTube intentionally scaffolds videos consistent with the company's commercial goals and directly punishes noncommercially viable genres of content through relegation and obscuration' (2018, p. 71). Supporting this observation, Abidin's (2016) research documents how Instagram followers engage in 'visibility labor' by mimicking famous influencers' aesthetics and unwittingly producing advertising content that reinforces mainstream fashion brand aesthetics and middle-class consumer codes.

In creator economy, competition for visibility intensifies commodification of creators' everyday lives. Even authenticity becomes a strategic business asset rather than genuine self-disclosure. Content creators should negotiate authenticity while maintaining distinctiveness (Duffy, 2017), while crafting marketable personas. This calculated authenticity requires affective labor as creators internalize the pressure to appear relatable to attract both fans and advertisers. For example, YouTube's 'crying vlogs' commodify negative affect as seemingly authentic alternatives to polished content (Berryman & Kavka,

2018). For these creators, personal experiences increasingly transform into content material, with creators reporting how they 'still felt pressure to maintain [their] social media persona' (Duffy, 2017, p. 205) during supposed time off, extending their labor to include 'relational work' that blurs the line between authentic living and strategic self-presentation (Baym, 2015).

By connecting like-minded individuals in isolated online communities, lincoding allows platforms to promote the en/decoding of messages that reinforce dominant-hegemonic ideologies within isolated and privatized spaces. This can facilitate the rise of regressive populism with oppressive and conservative views, such as extreme nationalism, racism, and patriarchy. Massanari's (2017) study of Reddit illustrates this process in action, showing how the platform's algorithmic voting system and minimal content moderation policies systematically amplified hateful content targeting marginalized groups, creating an environment where the 'alt-right' movement could flourish. En/decoding reveals profound ambivalence, offering opportunities for marginalized voices while simultaneously reinforcing existing power structures and discriminatory ideologies through commercial imperatives and algorithmic optimization.

Conclusion and discussion

I propose the DLAE model by integrating the four concepts: De/encoding, Lincoding, Affordecoding, and En/decoding. The model acknowledges the emerging tendencies of the dominant-hegemonic ideological systems in platform capitalism, primarily through the concepts of de/encoding and lincoding. It also recognizes the potential for user resistance through interactive media via affordecoding and en/decoding, although these practices can operate in ways that reinforce the ideological system. This model is not a universal framework but rather a tentative map that offers analytical points to explore the dominant ideologies surrounding digital platforms and the possible resistances to them. When applying it empirically, scholars should consider the specific, contingent, and unexpected elements within diverse digital environments.

All human actors engage with platforms based on their uniquely experienced technological infrastructure, social positions, and frameworks of knowledge, as illustrated in Figure 1. The model visually represents these complex interconnections between multiple actors, processes, and message and data flows. Media/content producers, on the right side, engage in de/encoding by creating messages derived from platform-provided data. These messages flow to AI systems within the digital platform, which process and distribute them through lincoding processes.

The lincoding mechanism operates through the collaborative efforts of three specialized technical actors under platform in the figure: programmers who develop and refine algorithmic code; designers who craft platform affordances with specific intended uses; and data analysts who process user information into actionable intelligence. These technical de/encoders continuously modify the platform's media environment as they interpret data flowing back from user interactions. The non-human AI functions as the operational core that connects users with the platform, messages, and other users through data collection and message distribution.

Users, positioned at the top of the model, engage with this ecosystem through two distinct but interconnected processes. Through affordecoding, they interpret and

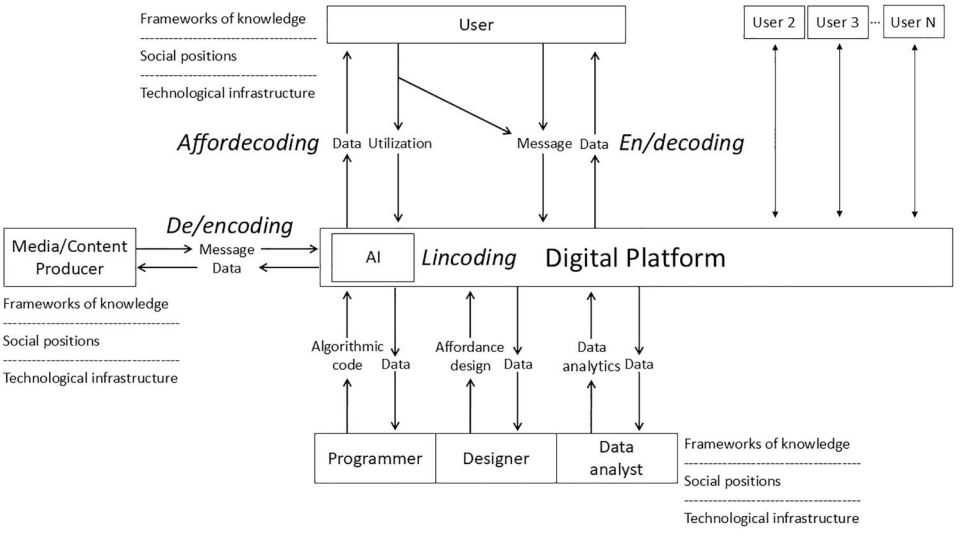

Figure 1. De/encoding, lincoding, affordecoding, and en/decoding model.

interactively utilize platform interfaces and algorithmic systems, while through en/decoding, they both consume messages and produce their own content. The model includes multiple users (User 2 through User N) who collectively form networked communities, each participating in similar processes of platform engagement while bringing their unique social positions to these interactions. All user practices are converted into data that circulates back through the platform's ecosystem to influence future iterations of messages, algorithmic systems, and platform design.

Future research should explore several blind spots in the current model, particularly oppositional de/encoding and lincoding. An important direction for this inquiry would be to examine efforts to counter platform capitalism through non-commercial independent media production systems and decentralized, community-driven platforms based on alternative algorithmic systems. For instance, Mastodon's open-source, decentralized architecture challenges centralized platform control through independently operated instances allowing users to choose environments aligned with their values (Zulli et al., 2020).

Future research should extend beyond platform utilization to include the creation of new platforms as well as regulatory practices limiting harmful existing platforms. Regarding regulatory approaches, the German NetzDG's 2018 framework pioneered platform accountability for illegal content removal, demonstrating how regulation emerges through political negotiations beyond purely legal considerations (Gorwa, 2021). Regulatory interventions and grassroots resistance strategies function as crucial counterforces to dominant-hegemonic ideologies in digital platforms. A vital area for scholarly investigation lies in understanding how these resistance forms interact to challenge platform capitalism across diverse contexts.

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