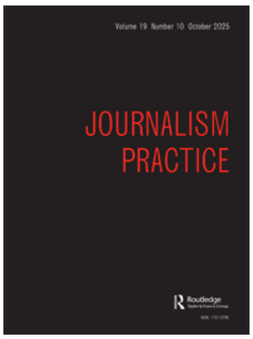

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Journalistic Agency and Power in the Era of Artificial Intelligence

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ABSTRACT

AI integration into the news value chain recalibrates the division of labor, changing professional habits, institutional norms, and journalistic production processes. Journalists' sharing of editorial authority with opaque algorithmic systems, or outsourcing thereof, can alter the power dynamics in the production of public knowledge, potentially undermining journalism's position as an independent watchdog. This work maps and critically discusses AI implementation in different configurations and intensities to illustrate how AI use in news production shapes the power dynamics in journalism. We outline *three idealized but realistic scenarios of AI implementation*, each representing varying degrees of technological integration, whereby decision-making authority and power progressively shift to technological agents. Based on structuration theory, new institutional theory, and theories of communicative agency in technology, we detail the changes in journalistic practices of knowledge production to highlight the intersectionality and interdependency of journalistic ontology and epistemology. This contribution aims to sensitize research and news practice to the consequences of AI use for journalistic epistemology and ethics.

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AI journalism; artificial intelligence; structuration theory; new institutional theory; agency; power; epistemology; journalism ethics

Introduction

With the increasing integration of artificial intelligence (AI) into journalistic practice, dynamic processes emerge between human actors and constantly evolving technologies that impact journalistic decision-making in news production. The recalibration of the division of labor that accompanies AI-supported journalism changes professional habits and leads to new institutional processes (Küng 2013) based on algorithmic logic that not only alter newsroom workflows but also the composition of the news output (Thäsler-Kordonouri et al. 2024). Thus, when journalists share their editorial authority with opaque algorithmic systems (Dörr and Hollnbuchner 2017), the power relations in the production of news and public knowledge change (Porlezza and Ferri 2022). Without strategic human intervention, this technology integration may negatively impact adherence to

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institutional ethics and norms such as accuracy, accountability, and transparency (Helberger et al. 2022), potentially affecting journalism's role in society.

This paper theoretically explores the changing power dynamics of AI-supported news production and critically discusses its implications for journalism and public knowledge production. Building on research that emphasizes the relevance of these technological agents for the communicative process (see Guzman 2018; Lewis and Westlund 2015), we focus on the role of their agentic power in the fulfillment of journalistic principles (Noain-Sánchez 2022).

Informed by structuration theory (Giddens 1984), new institutional theory (see Scott 2005), and theories of communicative agency in technology (Guzman 2018; Latour 2005; Lewis and Westlund 2015), this study maps the scope of AI implementation in news production at different configurations and intensities. To this end, we conceptualize and analyze three idealized yet realistic scenarios of AI implementation in journalism, each of them representing a growing degree of technological integration into news production that increasingly blurs the boundaries of power between humans and technology: the human *actor-centered*, the *hybrid*, and the technological *actant-centered* scenario. Given these possible real-world scenarios, we employ pragmatism (see Dewey 1929), specifically scenario building and planning (Bradfield et al. 2005), as our methodology to examine the dynamics of the various news production approaches. We illustrate these conceptual scenarios with examples from AI journalism practice. These scenarios exhibit AI implementation's potential benefits and costs at different intensity levels in journalistic decision-making.

Coming to Terms: The Concept of AI

The AI concept can range from "rule-based algorithms to machine learning (ML) and deep learning (DL) or Natural Language Generation" (Schjøtt Hansen et al. 2023, 17–18), usually describing the automation or "computational simulation of human capabilities in tightly defined areas" (Simon, 2023, 150). Using if-else algorithms, rule-based automation can perform specific tasks precisely according to predefined commands (Diakopoulos 2019). Machine-learning-based automation using opaque neural networks (Leppänen et al. 2017) is capable of "the production of previously unseen synthetic content, in any form and to support any task, through generative modeling" (García-Peñalvo and Vázquez-Ingelmo 2023, 8). This lack of transparency and accountability has been frequently criticized, as it obscures the verification of AI-generated output (Cools and Koliska 2023).

AI can take on various agentic roles in news production (Lewis and Westlund 2015), as its capabilities range from exercising tool-like analytical activities to collaborative support in creative processes (Cronin 2024). Media practice counts on AI to add value to news production, including to scale the production of data-driven news reporting (Diakopoulos 2019), generate article headlines, summarize longer text documents (Beckett and Yaseen 2023), or create entire news articles with little to no human intervention (Nishal and Diakopoulos 2024).

The Actor-Structure Relationship in Journalism

To examine the role of AI in journalism, we draw on structuration theory (Giddens, 1984) and new institutional theory (Scott 2005). Specifically, these frameworks help us to

untangle and scrutinize the relationship between humans and technology in journalism. Structuration theory conceptualizes the social construction of reality as a reciprocal relationship between social systems and their inherent actors (van Rooyen 2013) and as such enables the assessment of "broader social phenomena" (Larsson 2012, p. 255), including the digitization of journalism. Therein, social life is organized in systems, which are dynamically reproduced and solidified through their actors' social interactions (Giddens 1984). These systems, or "structure", are characterized by a "recursively organized set of rules and resources, [that] is out of time and space" (Giddens 1984, p. 25). Thus, structure exists simultaneously as the *consolidation* of social interaction and the *consolidatedness* through social interaction, which Giddens (1984) refers to as "structuration". Therefore, "structure is not to be equated with constraint but is always both constraining and enabling" (25) and has an inherent transformative capacity.

Institutions arise from those sustainable social practices, which have "the greatest time–space extension" (Giddens 1984, p. 17). They are "symbolic and behavioural systems containing representational, constitutive and normative rules" (Scott 1994, 68), which stabilize over time (Lowrey 2011), maintaining autonomy from other institutions (Benson 2006). Within institutions, the relationship between a system and the inherent actors is reciprocal, as well, since "institutional rules are constraints to actors as they limit their range of behavior […], they also create actors and enable them to act" (Dongens 2003, p. 327).

In that sense, journalism as a knowledge-producing social institution is characterized by this internal duality, with its systemic logics shaping the behavior of journalists and vice versa. Thus, journalists as communicative agents, while being guided by the institution's conditions, at the same time, have the inherent capability (agency) to shape the institution's trajectory. As news automation advances, the ability to influence these systemic logics (agency) can also be increasingly ascribed to technological agents (Dörr and Hollnbuchner 2017), realining the institutions' inherent power dynamics, shaping both journalism and its epistemology.

Below, we outline how institutional rules and conventions of news production are renegotiated through the introduction of AI. Examining this transition through the institutional lens enables us to focus on "agency and structure, and autonomy and constraint, in our explanations of news production" (Lowrey 2018, 125) in the context of its increasing technologization.

AI's Increasing Institutionalization in Journalism

Especially in the Global North, journalism is increasingly showing AI-isomorphic tendencies, indicating a convergence of organizational AI integration strategies (Napoli 2014; Simon 2023). Internationally, news organizations have been experimenting with AI or are actively implementing it (Newman and Cherubini 2025; Beckett and Yaseen 2023; Wu 2024). Institutional efforts supporting AI use in media organizations have manifested as soft anchoring, including workshops, seminars, or collaborations with academia and experts (Wilczek, Haim, and Thurman 2024), and hard anchoring, including editorial guidelines and codes of conduct for the use of AI in journalistic workflows (Becker 2023; De-Lima-Santos, Yeung, and Dodds 2024). These efforts aim to ensure journalists acquire the necessary skills to critically use AI, while simultaneously organizing editorial tasks to fit into the AI-supported workflow and/or delegating them to AI systems.

Journalists' engagement with AI cultivates familiarization, builds experience, and manages expectations about its abilities. Familiarity can decrease risk perceptions and increase trust in one's professional handling of AI (Van der Werff, Blomqvist, and Koskinen 2021), advancing its institutionalization or taken-for-grantedness. Trust here "functions as a rational method to reduce social complexity and make everyday life more tolerable in the face of uncertainty" (Koliska, Moroney, and Beavers 2023, 4). Thus, journalists' trust in AI can be understood as an "attitude that an agent will help achieve an individual's goals in a situation characterized by uncertainty and vulnerability [whereby] an agent can be automation" (Lee and See 2004, 51). Trust has been linked to the experienced reliability of AI, with more reliable systems enjoying greater trust (Pöhler, Deml, and Dillmann 2016). Trust is also fostered by the advantages arising from AI implementation (Van der Werff, Blomqvist, and Koskinen 2021), such as saving time and resources and increasing productivity. These socio-technological drivers—to conduct journalistic routines with the help of AI, or even outsource them entirely—can be understood as institutionalizing forces that not only accelerate the implementation of AI in editorial practices (Simon 2023; Napoli 2014) but legitimize AI in journalism (Scott 2005).

AI Agency in News Production

Actors' ability to channel resources to influence social processes is called power, which "presumes regularized relations of autonomy and dependence between actors or collectives in contexts of social interaction" (Giddens, 1984, p. 16). Within these relations of dependence, actors have the inherent agency to "intervene in the world" (14) to significantly influence the structuration process or "the reproduction of social systems" (25), i.e. to exert power in relation with other agents.

With the increasing technologization of communication, agency is also increasingly attributed to non-human entities (Esposito 2022; Latour 2005). Guzman (2018) argues for the intertwined communicative relationship between humans and machines and its relevance for the generation of knowledge in society: with growing capabilities, technology "enters into the role of a communicator" (5), and human-machine communication creates "meaning among humans and machines" (6). In the context of journalistic practice, Lewis and Westlund (2015) position technology as a contributing agent to media activities, emphasizing that "journalism is becoming interconnected with technological tools, processes, and ways of thinking as the new organizing logics of media work" (21).

Accordingly, the institutionalization of AI in journalism is accompanied by a gradual realignment of resources between human and technological communicative agents (Giddens, 1984) because systems with increasing complexity and competence can be embedded more substantially and autonomously in journalistic work processes. As the capabilities of AI advance and these systems are designed to interact with humans using natural language, technology enters into this relationship as an agentic counterpart (Guzman, 2018). However, technology is not "acting in an autonomous fashion in relation to an objective context; rather, it [shares] agency with other subjects" (Latour in Kok, Loeber, and Grin 2021, 4) as it cannot be assumed to act intentionally. Still, the technological capabilites of some AI systems to simulate communication distiguishes them from most non-human agents (Esposito 2022), which can increase trust (Sundar and Liao 2023; Wu 2024). In the long run, these AI systems may exert more power than

other technological agents in the human-technology relationship because of their ability to imitate communication. An autonomous AI system may then be symbolically understood as what Giddens (1990) described as expert systems, which garner social and professional legitimacy and power through continuous institutionalization.

The diffusion of power between human and technological agents can manifest in how their contributions determine the collaboration's outcome (Lewis and Westlund 2015). In the context of AI-supported news production, this would mean that both journalists' working methods and the AI's technological logics influence the configuration of the final product (Thäsler-Kordonouri et al. 2024). Moreover, the AI's increasing taken-for-grantedness legitimizes its own agency to shape journalistic epistemologies.

AI Logics Shaping Journalistic Epistemologies

The study of journalistic epistemology can help to differentiate what counts as knowledge in society and what does not. Ekström (2002) defines journalistic epistemology as the "rules, routines and institutionalized procedures that operate within a social setting and decide the form of the knowledge produced and the knowledge claims expressed (or implied)" (260). With journalism's digitalization, "the barriers between content creation and technology have broken down, and the fields have started to merge" (Küng 2013, 9). The use of algorithmic systems in all stages of news production then affects information and how this information is processed and disseminated (Gillespie 2014). In the worst case, journalistic knowledge production can become error-prone or may reproduce social bias through the programming of machine learning systems, if the model's training data is chosen uncritically, as "uncurated, Internet-based datasets encode the dominant/hegemonic view, which further harms people at the margins" (Bender et al. 2021, 4). Additionally, the black-box decision-making of these AI systems makes it difficult for journalists to comprehend the extent to which the information generated by the model is valid or which biases it might carry (Leppänen et al. 2017)–a situation exacerbated by journalists' infrequent efforts to understand the technical aspects of news automation (Cools and Koliska 2023). Such lack of understanding may also extend to the basic principles of automation, including that, without specific instructions, generative AI models based on probabilistic logic will most likely produce the average solution for a task, i.e., their output tends to represent the mean of a given category, possibly ignoring important subjective or minority perspectives. Without this knowledge, journalists cannot set reasonable expectations about the model's performance (see García-Peñalvo and Vázquez-Ingelmo 2023) and may place blind faith in AI producers (Cools and Koliska 2023) or in the model itself, possibly resulting in misjudgments of the news output's quality.

Thus, ethical concerns regarding the consequences of AI use for journalistic epistemology are emerging alongside innovation "euphoria" (De-Lima-Santos, Yeung, and Dodds 2024). Especially where the technology is implemented hastily and without "a strategic vision of how AI can – realistically - contribute to the societal role of journalism" (Helberger et al. 2022, 1606), journalism risks succumbing to the "Shiny Things Syndrome" (Posetti 2018). Strategic planning of AI use in journalistic practice then directly determines how agency and power are distributed between journalists and technology, significantly influencing journalism's epistemology.

Outlining AI Implementation in Three Idealized Scenarios

The present conceptual work ties in with the theoretical discussion presented above by mapping and discussing the scope of AI implementation in news production at different configurations and intensities. Building on previous elaborations on the relevance of technology as a communicative agent (Guzman 2018) and the potential of technology in shaping media activities (Lewis and Westlund 2015), this paper highlights the changing power dynamics associated with AI-supported news production and critically discusses their implications for journalism ethics.

Our methodological approach is informed by pragmatism (see Dewey, 1929), specifically scenario building and planning (Bradfield et al. 2005; Walton 2008). Scenario building seeks to anticipate future developments through plausible descriptive narratives of parts of a possible future (Walton 2008) to prepare and provide mental maps of "alternative future environments in which decisions might be played out" (Schwartz 1991, 21). Therefore, we conceptualize three idealized yet realistic scenarios of AI implementation, each representing different degrees of technological integration into news production: the human *actor-centered*, the *hybrid*, and the technological *actant-centered* scenario. Each scenario is scrutinized through a costs and benefits analysis to highlight patterns such as trust dynamics, distribution of agency, control or loss of power, and ethical implications (see Table 1). This allows us to illustrate potential risks in journalistic decision-making within the three scenarios.

Each theoretically conceptualized scenario is underpinned with examples from current AI media practice that either represent a development of the respective scenario or illustrate its tendencies. This said, in practice, these scenarios – or aspects thereof – could overlap, as various journalistic tasks within a single project may align more closely with one of the three scenarios.

The *actor-centered* scenario represents a distant relationship to the technology with little to no outsourcing of editorial tasks. It contrasts with the *actant-centered* scenario, characterized by a high level of outsourcing of reporting and editorial tasks to AI. Recognizing that the *actor-centered* scenario is becoming increasingly unrealistic as technology advances, we use this scenario as a benchmark to illustrate the increased outsourcing to

Table 1. Motivations and implications of AI use in the three scenarios.

	actor-centered	hybrid	actant-centered
AI skepticism	strong/non-accepting	strong/partially accepting	weak/accepting
AI's epistemological potential	inadequate	limited	sufficient
AI integration	none	context-sensitive and critical	full
AI institutionalization	non-institutionalized	case-by-case and potentially subliminal	institutionalized
Agency	journalist	journalist ≥ AI	journalist < AI
Power	journalist	journalist >/≥ AI	journalist ≤ AI
AI-related risk	avoidance	control	acquiescence
AI-related benefit	no utilization	partial utilization	full utilization
Accuracy	prone to human error	prone to human error and moderated AI error	prone to AI error
Accountability	human addressee	human addressee	human addressee
Transparency potential	full	partially reduced	highly reduced
AI imprint: editorial adaptation to technological affordances	none	partial/implicit	full

or dependency on technology in journalistic production. The *hybrid* scenario strikes a balance, embodying a collaborative relationship where AI is utilized but remains subject to human control and skepticism.

Conceptually, we focus on the various journalistic decision-making processes in all stages of *news discovery*, including scanning and filtering story leads and selecting stories, and *news production*, including framing story narratives and planning, reporting, and narrativizing stories (Smirnov et al. 2018).

The Actor-Centered Scenario: Excluding AI

The accelerated use of AI in journalistic routines has sparked debates about media organizations' ability to develop sustainable implementation strategies promptly, as "the speed with which these technological developments emerge complicates the confrontation and reflection of the ethical implications linked to them" (Ceide, Vaz Álvarez, and Maroto González 2024, 2). Often, news automation is (based on) externally developed AI systems designed by (primarily Western) platform companies that operate outside the journalistic field, such as OpenAI, Microsoft, Google, or Meta (Simon 2023). As the internalization of journalistic values poses the challenge of "translat[ing] abstract ethical principles into real systems" (Diakopoulos et al. 2024, 3) and general awareness of the risks associated with AI increases (Kusche 2024), several news organizations have advised against AI use (Labarthe 2024).

Accordingly, the *actor-centered* scenario reveals institutional dynamics, technological shortcomings, and ontological logics that lead to an explicit rejection of AI, positioning journalism in opposition to the technology, with risks outweighing its benefits. This scenario represents cases of news organizations having a distant relation to AI or a low institutionalization, where the technology is met with minimal trust by journalists and editorial tasks are primarily framed and executed by human communicative agents.

Such trends can be seen in media practice. For instance in 2023, US news brand *iHeart Radio* instructed its editorial staff to refrain from using Open AI's generative large language model GPT (accessed via the ChatGPT interface) in professional settings without authorization to avoid legal issues related to data protection, among other things (Mok 2023). Such decisions aimed at protecting the brand's public image could also be observed in other media markets: in 2024, German legacy news brand *Der Spiegel* pursued a selective AI implementation strategy aimed at avoiding the unsupervised use of AI in news production, as AI-written stories might negatively affect "peoples' willingness to pay" (Hamburg News 2024) for news.[1]

Among other things, such strategies may suggest that a media organization has sufficient economic capital to forgo the potential efficiency and resource gains associated with AI (Beckett and Yaseen 2023), does not possess sufficient AI literacy (Rinehart and Kung 2022), or has a brand identity that is contrary to this type of innovation adaptation. Additionally, research has shown how the technological shortcomings of AI models–such as their frequent focus on the English language and on training data limited to represent Western hegemonic realities–may hamper strategic AI implementations in newsrooms of non-Western media organizations (Gondwe 2023; Harb and Arafat 2024). Overall, these studies suggest that for now, "the social and economic benefits of AI are geographically concentrated primarily in the Global North. This is due

to various reasons, such as the affordance of technical infrastructure, the abundance of capital, and well-funded research institutions in these countries" (Beckett and Yaseen 2023, 65).

News Discovery

Without the support of AI-based automation, news research in the *actor-centered* scenario manifests itself in journalists scanning their environment for newsworthy events and individually selecting information (Smirnov et al. 2018). Although this limits research to their abilities, personal resources, and network, it allows full deployment of journalistic intuition and enhances the trustworthiness and transparency of that information, which can always be traced back to verify its source. Journalists gather information either firsthand as bystanders through witnessing, in-person or mediated via their online presence (for instance, on social media)–or through an attainable proxy–by interviewing sources, including witnesses to events or representatives of credible institutions, by reviewing other institutions' communication, such as press releases and news wire reports, or by "monitoring publications in the competing market" (Smirnov et al. 2018, 8).

They discover relevant information, for instance, by spotting irregularities (outliers), patterns, new phenomena, or iterations and deviances from the norm in pools of information on- and/or offline. The journalists' sociocultural background and training and the organization's culture impact this time and resource-intensive news discovery process and the evaluation of the gathered information (Hanitzsch 2021). Thus, journalists must have knowledge of the reported topic, professional awareness to detect irregularities or patterns, and sociocultural sensitivity to the zeitgeist to determine what could become a story.

Once spotted, they may refer back to accountable sources and fact-check the validity of that information (Mena 2019), thereby leveraging their professional social capital (Vergeer 2015). Although the information processing capabilities of humans are limited by their natural resources, their first-hand exposure to various kinds of on- and/or offline data can create valuable subjective, emotional, or human insights that probabilistic models of AI systems may overlook.

The iterative process of news discovery and verification allows journalists to develop and improve their skill sets over time because through "continuous work of scanning and filtering, journalists also develop and refine their knowledge of discursive and genre conventions of the discipline" (Smirnov et al. 2018, 9). This process is shaped by peers, news organizations, audiences, and the broader journalism institution. Accordingly, news discovery is impacted by journalists' experience-driven value judgment of an event's newsworthiness and is informed by their knowledge of the institution's story requirements (Hanitzsch 2021).

News Production

Once deemed newsworthy, producing a story entails tailoring it to the "specific genre and publication by applying a particular angle" (Smirnov et al. 2018, 10), i.e., framing it to the news outlets' requirements based on the journalists' individual beliefs, editorial genre conventions, and the target audience's expectations (de Vreese 2005). This is followed by estimating the resources needed to gather additional information through

interviewing sources or researching background information, potentially by going "into the field" (Smirnov et al. 2018, 13). The accumulated information is then composed into a succinct narrative that follows style conventions, such as the inverted pyramid for news articles (Pöttker 2003). These professional conventions shape content composition but also allow creative freedom. After reviewing the composed narrative–which may involve several rounds of editorial iterations driven by hierarchical decision-making in the newsroom–the news story is distributed to its target audience through the news outlets' institutionalized channels.

Implications

This scenario is defined by historically established institutional norms, values, conventions, and journalistic agents that uphold or alter their professional environments. A strong skepticism towards AI and a critical view of AI's epistemological potential can cause the decision not to implement AI systems, maximizing journalistic subjectivity in selecting and presenting information for the general public instead. Although this approach enables greater transparency regarding journalistic decision-making, the accuracy of editorial practices might suffer from the natural limitation of human resources.

As all steps in the news production process remain performed by journalists, an institutionalization of AI does not occur, and the inviolability of human actors as decision-makers precludes human agency or power loss to technological actants. Consequently, resources are not redistributed to AI agents, and the institution's future trajectory remains in the hands of journalists. This may strengthen the brand value, e.g., under the motto "hand-crafted journalism", or weaken it due to a lack of innovation and competitiveness.

Reporting accountability remains entirely with the journalist by foregoing the potential benefits of AI and averting associated potential risks. Responsibility is not delegated to (potentially opaque) automation systems. The actor-centricity of this scenario assures that journalists can experience their craft as an iterative process, allowing them to learn and improve at exercising each part of the news production workflow, strengthening their professional expertise. However, as editorial practices are not driven and/or shaped by algorithmic logics, journalists also miss the opportunity to adapt their skills to an increasingly hybrid media environment (Porlezza and Di Salvo 2020).

The Actant-Centered Scenario: AI's Turn

The *actant-centered* scenario is characterized by complete reliance on or taken-for-grantedness, i.e., institutionalization of AI. Editorial tasks are outsourced to technological agents with limited to no human oversight. This scenario represents a variant of extreme and idealized cases of AI implementation in journalistic practice, motivated by the conviction that AI improves the fulfillment of intrinsic ontological criteria, for example, by providing readers with personalized and efficiently produced reporting (Opdahl et al. 2023). This scenario furthermore addresses questions about the extrinsic ontological legitimacy of the journalistic institution, as AI use is a response to societal pressures to innovate (Singer 2024). In the *actant-centered* scenario, news discovery and production are simultaneously constrained and expanded by the technological

capabilities of AI, i.e., a systematic analytical approach to collecting and presenting information (Coddington 2015).

Researchers have discussed case studies of news organizations outsourcing editorial tasks to AI with little to no human oversight. Nishal and Diakopoulos (2024) cite *CNET* and the *Men's Journal,* where "generative AI is being used to write more substantial drafts of articles" (1). This practice raises ethical concerns and increases the risk of publishing stories" riddled with factual errors" (1). Besides using AI as a tool in news production, completely AI-generated media offerings such as *News By AI* are emerging. This Canadian news startup understands itself as "a cutting-edge journalism platform that utilizes artificial intelligence systems" to "revolutionize the way news is generated and delivered" (NewsByAi.com 2025).

News Discovery

In this scenario, the efficiency and scope of information processing increase exponentially as the computing power of AI allows swathes of data to be quickly scanned and analyzed. The fundamental logic of news discovery shifts from one determined by the individual life experiences of humans and their institutionally shaped intuition to one dominated by computational or probabilistic thinking (Caswell and Dörr 2019).

The perceptible environment for journalistic information processing shifts into the digital (online) sphere, limiting access to analog data. This can alter the relationship with the community journalists report on, potentially to the detriment of resource-poor areas of the news industry that are betting on AI's promise to increase competitiveness and efficiency, such as local news (Thäsler-Kordonouri and Barling 2025).

The probabilistic nature of AI systems (Sundar and Liao 2023) can lead to outputs that potentially discount subjective, emotional, or qualitative data, favoring knowledge creation solely based on quantitative understandings of the world (Caswell and Dörr 2019). Relying solely on digitized online information for journalistic knowledge may undermine journalism's watchdog role, as the resulting news coverage may "[overemphasize] topics that are already present in the public debate, rather than raising new and important or overlooked topics, which could be highly detrimental to ensuring both critical and diverse media coverage" (Schjøtt Hansen et al. 2023, 22).

Nevertheless, AI's ability to process information much more efficiently than humans, for instance, through algorithmic data mining, can improve the detection of newsworthy information or events, represented as spikes in large data sets or recurring themes, that may not be immediately visible to the human eye (Beckett and Yaseen 2023). This also applies to detecting potential stories in audience-centric online environments such as social media, where AI, given sufficient training, can be very accurate in recognizing what is trending (Schjøtt Hansen et al. 2023).

However, these algorithmically curated environments are often characterized by highly biased and inconsistent discussion points, one-sided and ideologically framed (Bender et al. 2021). The spread of false reports and claims on the internet requires sensitive and well-thought-out evaluation, i.e., fact-checking, so that false claims are not mistakenly reproduced in journalistic content. Since algorithmic systems are not (yet) able to provide explanations or can access contextual information independently (Schjøtt Hansen et al. 2023), the verification of AI outputs' source data poses significant challenges (Diakopoulos 2023; Sundar and Liao 2023). Without additional human

oversight, news outlets relying on such fully automated processes risk publishing false content, which can harm their and journalism's reputation (Nishal and Diakopoulos 2024).

While rule-based automation systems work based on structured data explicitly fed into them, generative AI models can scan (a particular state of) the internet, generate information, and summarize events autonomously, which sometimes still lacks accuracy (Sundar and Liao 2023). Although information verification is increasingly *supported* by automation (Nguyen, Kharosekar, and Krishnan 2018), human intuition remains key to the process of determining the truthfulness of facts (Graves 2018).

News Production

News production has been supplemented with automation for several years, with rule-based systems successfully integrated to scale news writing workflows in data-driven beats such as finance, weather, or sports (Thurman 2019). These systems' technological logics leave their mark on news output, for example, by impacting the narrative structure of articles, which will follow rigid automation templates, or by complicating the inclusion of certain narrative elements that are not available in a data-based form (Thäsler-Kordonouri et al. 2024; Caswell 2019). Such automated production already indicates agency held by these technological systems as they partially determine the composition of the published news product.

The capabilities of generative AI systems promise more autonomously automated news production and, thus, a much more significant agentic role. However, journalists are not able to influence the setup of AI models if they originate in non-journalistic companies whose norms and values determine what information is processed how, and how the output is presented (Bender et al. 2021; Broussard et al. 2019). Some media organizations, including *The Washington Post* (PostAI.com 2025), *Financial Times* (Reuters 2024), and *Axel Springer* (Axel Springer 2023), have been collaborating with AI developers to train AI models using their proprietary data and tailor the output to their in-house conventions.

Although generative AI systems can solve tasks autonomously, the specificity of the "prompts", i.e., "instructions written in natural language carefully selected and composed […] to achieve the desired output" (Ronanki et al. 2024, 110), determines the usefulness of that human-machine collaboration. However, AI systems are programmed to mimic human communication and problem-solving as realistically as technically possible (Esposito 2022). Therefore, prompts may be processed ambiguously, leading to a potential unpredictability of the output (Ronanki et al. 2024). Furthermore, current AI systems prioritize personalization, and the same prompts will likely elicit different responses from user to user. Plus, the opacity of these systems offers little to no transparency (Leppänen et al. 2017). Therefore, institutionally established journalistic workflows, such as standardized editorial conventions, are virtually beyond scrutiny.

Additionally, these systems "are able to produce information never before considered by a human mind and act as interesting and competent communication partners—not because they have become intelligent; instead, it is because they no longer try to do so" (Esposito 2022, p. XII). In other words, AI systems have been prone to "hallucinate" or make up facts, complicating checking the validity and accuracy of AI-generated information and increasing the risk of bias and misinformation (Nishal

and Diakopoulos 2024). As a result, fully automated news production without human oversight may lead to liability issues, as it becomes difficult to distinguish who is responsible for disseminating false information: the company that developed the AI system, the system itself, or the news organization that used it (Schjøtt Hansen et al. 2023).

Generally, what generative AI can deliver in terms of content originality has been described as what a "skilled imitator" may produce, yet "without actual reference to meanings" (Sundar and Liao 2023, 170). Thus, instead of representing a form of artificial *intelligence*, these models tend to primarily replicate "communicative competence" (Esposito 2022, 5). Therefore, news texts produced solely by generative AI may lack internal consistency and meaningfulness.

Implications

In this scenario, innovation euphoria and the readiness to set aside skepticism for AI benefits, such as resource savings, increased speed, and competitiveness, lead to full AI integration and the complete redistribution of tasks to technological agents, changing how editorial responsibilities are implemented and executed. The epistemological potential of AI-driven news production is assessed as sufficing, leading to workflows in which output is published with minimal to no human oversight. Although humanly instructed, eventually, the workings of the AI, including the way its model is programmed and the data it has been trained on, determine the composition of the news output (power). While the accuracy of editorial practices might suffer from algorithmic bias, it may also profit from the technology's vast computing resources.

In this scenario, human journalistic actors have less room to act and create (agency) than technological agents, especially when newsrooms outsource reporting tasks to generative AI, minimizing journalistic subjectivity in selecting and presenting information for the general public. This minimizes journalistic intuition and maximizes algorithmic probabilistic logic. By outsourcing editorial decision-making to (opaque) systems, transparency decreases—potentially to the detriment of the relationship between the journalistic institution and the public.

As steps in the news production process are spear-headed by AI, the technology is fully taken-for-granted and institutionalized. Consequently, resources are mainly redistributed to AI agents, limiting journalists to the position of a supervisor. Thus, the institution's future trajectory becomes greatly aligned with the workings and capabilities of the technology and, thus, strongly innovation-driven.

However, the ethical responsibility for reporting remains with the news organization since all questions related to accountability are addressed to it. After all, it still takes people to manage an AI-driven editorial operation. This scenario involves a balancing act between competitive success due to resource efficiency and the potential loss of journalistic roots in the community.

In the long run, the actant-centricity of this scenario transforms the journalistic role into that of a supervising bystander, depriving them of experiencing their craft first-hand. This may decrease their capability to evaluate the quality of the resulting news output and solidify journalistic products that are highly shaped by algorithmic logic. Eventually, journalistic expertise profoundly changes as traditional professionalization through newsroom socialization slowly disappears.

The Hybrid Scenario: Supervised Mutual Influence

The potential risks for news brands in over-relying on AI for news production highlight that "AI is not a magic bullet for journalism; it is merely a shiny new tool" (Broussard et al. 2019, 677) that must be used thoughtfully and intentionally. The hybrid scenario sketches a human-machine collaboration in which the advantages of AI are used strategically but selectively. Potential risks are mitigated by skeptical and sometimes even emotional human action. Outsourcing editorial tasks to AI is limited to processes that run minimal to no risk of threatening journalists' position as the epistemic authority in the newsroom or compromising the quality of the news output.

The term "hybrid" was deliberately chosen because it has been used to describe transformative processes in journalism that are triggered by the introduction of new actors or phenomena that do not originate in the field of journalism but have the potential to fundamentally change it (Porlezza and DiSalvo 2020), including AI (Diakopoulos 2019). The concept of hybridity aims to "overcome a simple "either/or" thinking [with the aim to] place journalism in a larger socio-technical environment and to better understand how new and complex patterns are formed"(Porlezza and DiSalvo 2020, 205-6), emphasizing situational and complex deliberation.

The *hybrid* scenario represents a variant of AI use that is motivated by innovation excitement and/or pressure while favoring human control. This scenario is guided by the "trust but verify" principle in AI deployment, as AI is only partially taken-for-granted, and editorial tasks are only partially outsourced. Journalists constantly monitor the technology's performance and intervene in automation processes. Although the quantitative distribution of tasks between AI and human journalists does not have to be balanced–after all, AI has a greater capacity to process information than humans–journalists retain ultimate power and the final say. Thus, skepticism toward technology and constant learning about it are institutionalized. The goal of the *hybrid* scenario is to maximize the benefits of computational thinking for journalism while minimizing risks.

News organizations develop strategic approaches to "express and exercise their ethical and normative values through the code they implement" (Broussard et al. 2019, 679) in AI. This, however, requires organizational upskilling to consider how AI works fundamentally, how it may be set up appropriately to serve normative goals of journalism, and what the implications of its use may be, as with every workflow step automated, "(moral) human action is partly delegated to algorithms" (Dörr and Hollnbuchner 2017, 410). This normative integration requires transparency within the organization so journalists can be constantly aware of a technology's limitations (Cools and Koliska 2023).

This scenario represents an ambitious undertaking that requires substantial resources on the part of news organizations as "the journalistic principles set out by specialist organizations like the Deutscher Presserat [German Press Council] and the USA's Society of Professional Journalists tend to be very general and too abstract for these challenging issues" (Becker 2023, 134). Several news organizations have already introduced AI guidelines, including *The Guardian*, that address risks related to bias in AI-generated output or lacking transparency in the model programming process, such as the illegitimate use of unlicensed training data, and emphasize the need for human supervision of news flow processes supplemented with AI (Viner and Bateson 2023). Similarly, the *Associated Press* published a statement on ethical AI use following their licensing agreement with

OpenAI that contained references to their editorial values, such as human oversight and sourcing standards (Barrett 2023). Although such guidelines address the necessity of responsible AI use, research suggests they often cover issues superficially and "fail to explain and describe the current or potential uses of these technologies at different stages of the news value chain" (De-Lima-Santos, Yeung, and Dodds 2024, 25).

News Discovery

In hybrid news discovery, the institutionally shaped "intuition" of journalists is complemented by AI's resource-efficient, structured, and mediatized approach. As AI systems do not have a "nose for news" (Schjøtt Hansen et al. 2023, 43), human oversight is imperative to ensure the news reporting's timeliness and relevance. Whatever is automatically labeled as a trending topic in social media or as an outlier in a data set is evaluated regarding its newsworthiness, appropriateness, and relevance for the audience and verified by journalists before being developed into a news story. Accordingly, in hybrid news discovery, "algorithms [are] used in the input and throughput stages of gatekeeping […] to inform a sociotechnical process prior to wider publication" (Diakopoulos 2020, 947). Here, automation systems *support* human journalists as gatekeepers instead of replacing them. Hybrid news gathering combines the diversity of automatically retrieved data points with traditional journalistic methods—such as going out into the field—criteria, and values, thereby combining human subjectivity with statistical probability.

News Production

Similarly, hybrid *news production* merges the efficiency of automated text generation with human proofing through practices such as "post-editing", where journalists edit narrative elements of AI-generated news stories to tailor them to the readers' needs (Thäsler-Kordonouri 2024). By prioritizing a human-in-the-loop approach, hybrid-driven news production may benefit from increased speed and freed up resources in the newsroom whilst guaranteeing editorial norm compliance and journalistic control of the outcome. This practice helps safeguard trust in the journalistic brand by minimizing the publication of false or misleading news content generated by AI (Schjøtt Hansen et al. 2023). A crucial element of monitoring AI in news production is limiting the use of natural language generation (NLG) software to those phases of the journalistic decision-making process that journalists consider sensible and ethically justifiable. Aside from assuring the editorial quality of the news output, restricting the application areas of AI in news production can further protect news organizations' independence from the technology and, thus, the platform companies behind it, including their economic interests. After all, "the more core infrastructure or complexity is involved, the greater the current and future dependency, especially in large language models and generative AI" (Simon 2023, 160).

Implications

The hybrid scenario pairs innovation euphoria with skepticism regarding the epistemological potential of AI-driven news production. In other words, AI benefits should be exploited but not at the expense of journalistic integrity. Therefore, this scenario is characterized by a control-focused version of AI integration in which the (partial) outsourcing of tasks to technological agents is decided on a case-by-case basis and always implemented under human control. AI-supported workflows are characterized by the "human-in-the-

loop" principle that considers the impact of how AI affordances may shape editorial processes.

This scenario is the most challenging to implement, as it requires substantial upskilling, planning, strategizing, and investments to align the benefits of AI use with the ethical standards of journalistic practice. The decision between relinquishing and maintaining journalistic agency is a balancing act that needs constant re-evaluation. Journalistic subjectivity remains a core value but is repeatedly re-negotiated against the potential added value of AI-based efficiency. The risk of subliminal taken-for-grantedness or institutionalization of AI and power redistribution between human and technological agents remains high as resources may strategically be allocated to AI. Although journalistic values remain the central epistemological benchmark, the institution's future trajectory is impacted by an innovation-driven strategy.

Transparency is a particularly relevant factor in this scenario, as it is renegotiated in the context of AI integration. Discussions on how AI use should be communicated inwards (organization) and outwards (public) are at the center. Institutional trust and the connection to the public are key. Accordingly, journalists perceive themselves as the primary bearers of ethical responsibility, which underscores the significance of the risks associated with AI use.

The hybrid character of this scenario merges journalists' first-hand experience of their craft with technological upskilling, transforming the journalistic role. Over time, journalistic expertise evolves to encompass AI literacy and the ability to manage technology-driven production processes while remaining grounded in the fundamental principles of the profession.

Conclusion

The three scenarios modeled in this study discuss different versions of AI institutionalization in journalistic workflows, the accompanying power dynamics between humans and technology, and the resulting ethical implications for the journalistic profession. These idealized scenarios map the advantages and disadvantages of implementing AI to support decision-making and strategic planning in news production. The scenarios could be representative of media organizations' holistic AI strategies or could address sub-areas of AI-supported editorial workflows. Accordingly, they are not necessarily mutually exclusive.

We argue that as AI becomes more normalized in editorial processes, critical reflection on the effects of its use may decrease, potentially adversely affecting journalistic due diligence, transparency, and accuracy. Over-reliance on AI in news reporting may widen the gap between journalists and the public because, with the increasing shift to an exclusively digital information context, journalists may distance themselves from their audience, potentially at the expense of trust-building (Koliska, Moroney, and Beavers 2023). Furthermore, the probabilistic logic-based automation approach could influence how journalistic tasks are addressed—minimizing human subjectivity and journalistic intuition.

Journalists' gradual shift away from personally conducting all steps in the news production workflow towards reviewing what an automation system has delivered may deny them from learning and improving their professional expertise. In the long run, removing themselves from being actively involved in news production may impede their professional socialization, which is incremental to establishing journalism culture, norms, values, and ethics such as transparency.

By presenting these scenarios, this theoretical discussion aimed to sensitize research and news practice to the consequences of the (unsupervised) AI use for journalistic epistemology and to emphasize the importance of continued human oversight in AI-assisted journalism.

Note

1. Quote translated from German into English by authors.

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