

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

Ressa Uli Patrissia

Universitas Sahid, Indonesia

Email: rpatrissia@gmail.com

Keywords

Extended Reality; predictive algorithm; Hannah Arendt; digital public sphere; reality dissociation

ABSTRACT

Extended Reality (XR) technology offers an immersive experience that blurs the boundaries between physical and virtual reality. However, the potential manipulation of perception by digital gatekeepers threatens the foundations of democracy, especially in the formation of fact-based social consensus. This research aims to analyze how Extended Reality (XR) technology, as a product of modernity, threatens democracy by evaluating the role of digital gatekeepers in constructing reality and representational dominance. This is a critical qualitative research study with a hermeneutic approach. Data were obtained from interviews with XR users, industry representatives, and policymakers, as well as XR content analyses of Meta, Google, and Samsung. The research reveals that XR produces sensory experiences that diminish users' reflective capacity toward shared reality. Findings indicate that XR is used to build hegemonic narratives through algorithmic personalization, leading to epistemic dissociation and the weakening of public deliberation. Nonetheless, user resistance is emerging, albeit limited. This research asserts that XR represents a new power arena in the digital ecosystem, demanding ethical regulation and critical digital literacy.

INTRODUCTION

The transformation of communication technology through Extended Reality (XR) — encompassing Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) — marks a new phase characterized by immersive multisensory experiences that profoundly alter how reality is perceived and constructed. While these innovations bring economic and social potential, they also conceal significant threats to democratic values, primarily through the increased power of technology corporations acting as “gatekeepers” of information and reality itself.

Digital platforms now extend beyond merely shaping public opinion; they construct personalized social realities in manipulative ways that undermine democratic processes based on shared facts and rational deliberation (Habermas, 2023; Reviglio della Venaria, 2020). Current research on social media highlights how algorithmic personalization amplifies polarization and disinformation (Farkas & Schou, 2019; Kubin & von Sikorski, 2021), but studies focusing specifically on XR's deeper epistemic impacts remain limited. XR's immersive environment is fundamentally different from conventional social media content consumption because it replaces physical reality with sensory simulations, increasing user dissociation from a common factual world essential for democratic consensus.

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

As noted in recent scholarship, *XR* can intensify the dissociation between users and objective reality through immersive propaganda techniques and algorithmically tailored realities, which pose a risk of fragmenting public discourse and enabling hegemonic narratives shaped by platform algorithms. This threatens the “common reality” and “factual truth” required for democratic function, concepts famously emphasized by Hannah Arendt, who warned that erosion of factual truth facilitates totalitarianism by severing the shared ground of reality necessary for rational public engagement (Arendt, 1973).

Large technology companies wield political power comparable to states by commodifying data and deploying predictive algorithms that steer user perception and behavior. This “surveillance capitalism” blurs lines between individual freedom and social control, as *XR* platforms control not only information access but the very sensory construction of users’ realities (Zuboff, 2019; Van Dijck et al., 2018). The immersive nature of *XR* heightens these risks, producing “reality distortion filters” that personalize what users see and experience to an unprecedented degree, quarantining users into individualized realities that may deeply diverge from each other, thus undermining democratic deliberation.

Philosophically, *XR* exemplifies what Arendt termed “organized loneliness,” an existential alienation from a shared world that facilitates mass mobilization around fabricated realities. Platforms become hegemonic actors not by direct repression but by designing sensory and cognitive experiences absorbed as authentic reality, eroding users’ freedom to act and think independently. The combination of platformization theory and Arendt’s critique suggests that *XR* represents a novel form of digital domination, using immersive technology to reshape societal power structures invisibly but fundamentally (Culpepper & Thelen, 2020; Roberge, 2011; Applebaum, 2022).

This emerging digital ecosystem demands urgent ethical regulation and critical digital literacy to resist *XR*’s hegemonic potential and preserve democratic public spaces. The research highlights the necessity of multidisciplinary approaches integrating critical communication theory and political philosophy to understand and address the challenges *XR* poses to democracy in the digital age.

In summary, *XR* technologies extend the traditional media’s role as a communication channel into an immersive construction of social and political reality, amplifying risks of manipulation, fragmentation, and authoritarian dominance in ways that require new forms of democratic vigilance and governance (Ball, 2022; Milgram et al., 1995; Napitupulu, 2022; Horkheimer & Adorno, 1944).

This synthesis aligns with contemporary academic findings on *XR*’s risks to democratic stability, misinformation dynamics, and the philosophical implications framed by Arendt, as well as recent analyses of *XR*’s political and ethical impact in digital ecosystems.

METHOD

This research employed a critical qualitative design with a critical hermeneutics approach as the main method. This design was chosen because the study focused on deconstructing meaning

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

and dismantling symbolic power structures in the use of *Extended Reality (XR)* technology by dominant digital actors (gatekeepers). The critical paradigm was considered relevant for uncovering inequalities in the relationship between technology and democracy and for fostering social awareness and transformative praxis (Napitupulu, 2022). Critical hermeneutics, as explained by Roberge (2011), aimed not only to interpret the meaning of human actions in a social context but also to critique the ideologies underlying them. Interpretation thus involved understanding informants' subjective experiences and revealing how media and technology structures shape power relations in constructing truth, shared reality, and political participation.

Data were collected through in-depth, semi-structured interviews and participatory observation, targeting three groups of informants: XR users (consumers), industry actors (gatekeepers), and policymakers (government). The semi-structured interviews allowed flexible exploration while focusing on participants' experiences, critical awareness, and ethical reflections regarding XR's role in public life (Holstein & Gubrium, 2012). Participatory observations analyzed XR content from companies such as Meta, Google, and Samsung to examine how visualizations, interactive features, and narratives within their platforms shape reality and political discourse. Secondary data included policy documents, technology news, and recent research to support data validity.

Data analysis and interpretation followed critical hermeneutic stages: (1) compiling initial themes from interview transcripts and observation notes; (2) interpreting these themes within historical, social, and political contexts, referencing Hannah Arendt's ideas on factual truth, totalitarianism, and mass society; and (3) evaluating narratives and symbolic actions in XR digital practices using platformized communication theory (Van Dijck et al., 2018; Fuchs, 2021). The analysis was both descriptive and reflective-critical, aiming to enable epistemic emancipation and social praxis amid new forms of technological domination. Research validity was maintained through data source triangulation, member checking, and researcher reflexivity during interpretation, ensuring results were transformative rather than neutral, consistent with the critical paradigm (Denzin, 2020; Creswell & Poth, 2021).

RESULTS AND DISCUSSION

The research found that the experience of XR users is inseparable from the immersive sensations involving multisensory involvement, which consequent the individual's disconnection from physical reality to the construction of digital reality. One XR user, AR (28 years old), stated: "When I wear an XR headset, I feel like the outside world disappears. Sometimes I even forget the time, because everything seems so real." This experience shows that XR creates an "alternative reality space" that has high affective power. The implication of these findings is that XR is not just an information technology, but an agency that shapes the user's existential experience, thus potentially blurring the line between shared reality and personalized reality.

Affective experiences in XR have direct implications for the construction of truth. Another user, MS (32 years old), revealed that after using XR for a few weeks, he felt that the content presented was "more trustworthy" than conventional media. "I feel more confident in the

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

information I see on XR. Maybe because the appearance feels more 'real' and immersive," he said. This trust built through visual representation and the depth of sensory experience creates the illusion of authenticity, which in Hannah Arendt's framework of thought can be understood as a form of loss of factual truth and dominance of artificial reality (Arendt, 1973).

In the process of observing XR content owned by Meta and Samsung, an algorithmic pattern was found that systematically targeted user preferences and habits. Certain political, social, and economic content is resurfaced repeatedly, while alternative content that contradicts previous preferences appears less and less frequently. This shows the existence of predictive logic and excessive personalization that leads to bubble filters and echo chambers. One of the gatekeepers interviewed said: "We don't direct the content directly, but the system learns from the user and presents what they are most likely to like." This statement suggests a form of systemic dominance that avoids direct responsibility, but still produces a controlling effect.

On the other hand, XR users still show unawareness of the existence of this personalization system. A young user, DY (24 years old), stated: "I didn't know that the content was regulated. I think everyone can look the same." This ignorance creates an unbalanced epistemic condition, in which the user accepts the simulation of reality as neutral and objective, when in fact it has been curated by certain market logics and ideologies. This unawareness reinforces Arendt's thesis on organized loneliness, which is the disconnection of individuals from the world together because they live in a bubble of curated digital experience.

Another significant finding is how XR is used as a symbolic political tool. In some of the content observed, especially those that come from Meta's collaboration with the government, there is a veiled ideological message that presents a narrative of nationalism, development, and social stability. This narrative is represented in the form of a virtual environment that is designed in such a way that users feel that they are "participating in building the nation." A resource person from Kominfo stated: "We use XR for education and policy socialization, because it is more interactive and easily accepted by the public." This shows that XR has become a medium of political communication loaded with a hegemonic agenda.

In interviews with members of the Press Council, there were concerns about the tendency of XR content to blur the lines between journalism, entertainment, and propaganda. The source stated: "If XR is used without ethical guidance and editorial controls, then news can be very convincing visual engineering, but not fact-based." This confirms that the threat to democracy comes not only from textual disinformation, but also from overly convincing visual representations. Truth becomes an aesthetic product, no longer a journalistic verification.

In general, the resource person from the gatekeeper admitted that there are regulatory and ethical gaps in the development of XR content. One of the platform's developers stated: "We focus on innovation and user experience, not on the socio-political impact of content. That's a government or regulator business." This statement confirms that the tech industry runs a value-neutrality-based business model, which is philosophically opposed to public responsibility in a deliberative democracy. When innovation is detached from ethics, the potential for digital totalitarianism becomes even more real.

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

On the user side, there are indications of a critical awareness of the dominance of technology, albeit at a limited level. Some informants expressed a desire to have more control over the content consumed. A user named LN (30 years old) said: "I wish there was an option to see the source of the content or how the system works. Like algorithm transparency." Although still in the minority, this demand shows room to build user resistance and create ethical participation in XR-based digital media consumption.

However, regulatory efforts from the state are still inadequate. In an interview with a representative of Kominfo, it was stated that "XR has not been specifically regulated. We are still in the public consultation stage to understand the risks." The absence of regulation shows that there is a gap between the pace of innovation and the readiness of public policy. This leads to a legal void that allows platforms to operate without accountability for their sociopolitical impacts. In Hannah Arendt's framework, this condition opens up space for power without legitimacy—where non-state entities have control over public perception without democratic mechanisms.

Based on the overall findings above, it can be seen that XR as an advanced form of mediatized reality has created a fundamental shift in the public's perception of information, truth, and political participation. The study not only found patterns of control and dominance in XR's content structure, but also resistance, unawareness, and emancipation potential that emerge from user experience. Therefore, the results of this study bridging to understand how Hannah Arendt's theoretical framework of totalitarianism, combined with critical communication theory, can explain the new configuration of power in the contemporary digital ecosystem.

The study identifies 10 key themes that reflect the dynamics of XR's user experience and its impact on democracy. First, users experience dissociation from physical reality due to the immersive sensation of XR, which reinforces trust in virtual representations. This is exacerbated by predictive algorithms that create filter bubbles, while most users are unaware of the personalization of content, thus accepting artificial reality without resistance. The study also found that XR is being used as a political tool and ideological symbol, raising concerns from the press about the potential for visual propaganda masquerading as journalism. On the industrial side, gatekeepers show a value-neutral attitude, which is to avoid social responsibility for the reason of focusing on innovation. However, there are signs of critical awareness from users, although XR regulation is still not formally available. All of these findings indicate that XR is creating a new configuration of power that is invisible but very effective in shaping public opinion and endangering the deliberative democratic process.

The results of the study show that XR (Extended Reality) is not solely a technological tool, but a mediative structure that transforms the user's relationship with reality. In the context of Hannah Arendt, when individuals are cut off from the world together and can no longer distinguish between fact and fabrication, society enters a state of "organized loneliness" (Arendt, 1973). The immersive experiences experienced by informants illustrate a form of distracted from the real world colored by sensory simulations, reinforcing the illusion of reality and weakening the reflective capacity for truth. XR in this case creates a kind of "artificial sensory reality" that seems to be more authentic than an everyday factual experience. In the framework of critical

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

communication, the reality in today's digital society is produced through interactions between users and systems controlled by large platforms. Fuchs (2021) explains that technology is not a neutral entity, but rather an ideological arena in which power structures are reproduced and disguised through interactive aesthetics. Through XR, power becomes invisible because it works through affective interventions: from mere information consumption to fully experienced experience.

In this study, a convincing sensory experience makes users no longer question where information comes from, or how that reality is politically and economically constructed. This study strengthens the argument of Till (2021), that XR opens up opportunities for epistemic dissociation through sensory and perceptual engineering. When users experience XR as a more real space than the real world, then the reconstruction of power is no longer through physical repression, but through the control of the representation of reality. The user enters the artificial world with parameters defined by the digital gatekeeper, without realizing it. This shows that in XR, the human sensorium becomes the entry point of a new domination: control is exercised not through prohibition, but through experiential design.

This dissociation experience also activates what Shoshana Zuboff (2019) calls "predictive surveillance"—in which each user interaction is processed to produce future behaviors. In the context of XR, behavior is not just based on clicks or screen views, but on body movements, facial expressions, and navigation choices in virtual spaces. This means that XR expands the spectrum of platform control over users' lives by blurring the boundaries between technology and the body. This is where the most subtle reconstruction of power lies: the merging of surveillance capitalism and sensory aesthetics into a new model of domination that targets not only cognition, but also affection and habitus. Furthermore, in Arendt's perspective, XR creates danger not because it presents an artificial world, but because it interferes with the ability of humans to share the common world. Arendt (1958) in "The Human Condition" emphasized that politics and freedom are only possible if human beings have a common space to speak, act, and understand each other in a shared reality. When XR breaks down collective experience into personalized experiences, the foundations of intersubjectivity and public deliberation begin to crumble. The user no longer lives in a shared reality, but in a bubble of reality that is structured for him, and in this condition, democracy loses its substrate.

XR users trust information displayed in a visual and immersive format to be more powerful than the text- or voice-based information they encounter in conventional media. The sensory experience that is integrated in XR makes the content displayed feel more authentic, even though the construction is essentially completely controlled by the content producer. This shows that in the context of XR, beliefs are no longer supported by epistemic validity, but rather by the aesthetic effects and feelings of presence generated by simulations. As stated by McIntyre (2018), post-truth crises are characterized by the dominance of perceptions and emotions in the process of accepting truth, and XR facilitates this crisis through experiences that are difficult to critically question. Conceptually, this effect of trust is in line with the concept of "verisimilitude" or resemblance to truth in Baudrillard's (1994) media theory, where what is represented is no longer just a mimic of

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

reality, but a substitute for it. In XR, experiences that resemble reality create false epistemic authority. This explains how users in this study consider the information in XR to be more credible than television news or online articles. It also shows that sensory representations have a stronger persuasive power compared to discursive arguments and are a challenge for verification-based media.

Furthermore, this form of trust is not built through intersubjective exchanges or rational discussions, but rather through sensorially isolated individual experiences. This strengthens the argument of Chouliaraki & Georgiou (2021) that digital media—especially visual media—shifts the position of truth from public discourse into the realm of personal aesthetics. In the context of XR, users are not encouraged to dialogue or test the truth, but to feel and absorb it. When the visual experience is sufficiently satisfying to the affection, then the need to verify the information becomes irrelevant. This endangers the practice of deliberative democracy that requires the exchange of reasons and common consensus. This finding is also relevant to Habermas's (1984) critique of the colonization of the living world by systems. In XR, the world of life (*lebenswelt*) is no longer shaped through everyday social interactions, but rather through a digital experience production system controlled by tech corporations. When sensory experience becomes the primary instrument for determining truth, then the values of communicative rationality and social responsibility are replaced by market logic and visual impressions. Thus, the falsification of truth in XR is not just a matter of content, but a matter of the structure of communication itself. In the light of Arendt's philosophy, the loss of factual truth in XR was an early form of totalitarian domination based on false consensus. When society no longer has a common reference to reality, then control of perception becomes the most effective political tool. Arendt (1973) warned that the power that blurs the distinction between fiction and reality is a power capable of eliminating the human capacity to think. In XR, the user absorbs reality without thinking, because it is presented not as a narrative to be questioned, but as a world to be experienced. This is the tipping point of sensory beliefs in XR technology: when aesthetics trump epistemology, and experience replaces reflection.

The filter bubble phenomenon found in this study shows how XR users experience extreme information selection by algorithmic systems, without realizing it. The predictive algorithms used by the XR platform work not only to present content based on interests, but also to form personal digital realities that are closed to alternative narratives. Eli Pariser (2011) has argued that filter bubbles limit the user's information horizons, leaving individuals to interact only with information that supports their beliefs. In XR, this effect becomes stronger because sensory engagement strengthens the affective bond to the content, thereby lowering the user's tendency to be critical or open to other perspectives. The effect of bubble filters is compounded by the ability of predictive algorithms to capture granular data such as movement patterns, facial reactions, and users' spatial navigation in an XR environment. According to Andrejevic (2020), this kind of algorithm is a form of "automated behavioral futures markets" that are processed for the benefit of a specific political economy. In this context, user experience is no longer just passive data, but raw material for predicting and manipulating behavior. In other words, the reality presented to users is not a neutral

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

reflection of the outside world, but rather a strategic construct to maintain engagement, extend the duration of interactions, and create profits from conditioned consumption patterns.

The implications of this process are very serious for public participation in democracy. When individuals are constantly exposed to information that confirms their views, then society's deliberative capacity is weakened. Sunstein (2017) emphasized that in a digital society, excessive personalization can reduce the ability of citizens to form rational collective opinions. In XR, it's not just a matter of content, it's about experience design—users don't just read or watch, but enter and live in a curated narrative. The findings of this study show that most informants are unaware that the reality they experience in XR is the result of algorithmic constructions, not neutral or natural coincidences. In the perspective of platformized communication theory, these algorithms become a veiled social control infrastructure. Van Dijck, Poell, and De Waal (2018) emphasize that platform logic brings together technology, economics, and ideology in a single architecture that works automatically and invisibly. In XR, this logic translates into a completely personalized experience—even the user's spatial and visual awareness is mediated by algorithmic decisions. This gives rise to new forms of power that are not directly coercive in nature, but manipulate the perception of the world in a very subtle and irresistible way. Therefore, the filter bubble in XR is not just a matter of personalization, but a matter of epistemology and politics.

From a critical perspective, the predictive algorithms in XR are forming a new dominance pattern that does not rely on external sensors, but fuses with the user's sensory awareness. As written by Zuboff (2019), the system of surveillance capitalism has evolved from passive monitoring to active control over possible future actions. In this study, informants revealed that they felt comfortable with XR content because it "always matched what they liked," without realizing that the comfort was a result of system conditioning. With the loss of surprises, contradictions, and differences of view, XR has the potential to distance society from healthy public discourse and pave the way for a new form of algorithm-based totalitarianism—where freedom is turned into prediction, and participation into consumption. Most informants are unaware that the content they consume is governed by algorithmic systems. This creates an epistemic inequality between users and platform manufacturers. In critical communication theory, it denotes the form of ideology that works through the naturalization of the system. Althusser (1971) referred to them as ideological state apparatuses, and in this context, XR technology is one of his instruments.

This unconsciousness reinforces Arendt's concept of the loss of shared reality, which causes humans to live in a solipsistic construct provided by digital totalitarian forces. Digital loneliness is an effective tool to break public solidarity, because every individual lives in an artificial world designed for him. The XR content observed shows the use of this technology to convey ideological messages in visual and narrative forms. This reinforces Stephenson's (2022) argument that the metaverse is not only an entertainment platform, but also a symbolic political arena that shapes the collective consciousness. In this context, technology becomes a vehicle for mass mobilization in a new form that is not explicitly authoritarian, but works through aesthetics and convenience. The state's involvement in the production of ideological XR content also confirms Arendt's (1973)

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

warning that totalitarianism works through blurring the line between fact and propaganda. XR representations, which prioritize narratives of development, harmony, and nationalism, are part of the technique of normalizing ideology through sensory experiences that are not realized as manipulative.

The Press Council's concerns over the potential manipulation of news content in XR led to a crisis of journalistic ethics. XR allows for convincing, yet unverified, simulation of facts. In this context, the concept of post-truth from McIntyre (2018) becomes relevant, where truth is no longer a function of facts, but of narrative effectiveness. It also reinforces Chouliaraki & Georgiou's (2021) critique of the crisis of digital journalism, where the boundaries between facts, opinions, and fiction have become blurred. In the context of XR, this crisis reaches its peak because the form of presentation of the content does not allow users to distinguish reflectively between representation and reality. The gatekeepers' statement that they only serve content based on the system and not take responsibility for the content shows a problematic attitude of value-neutrality. This shows how technology corporations form the logic of production without ethics. In Arendt's theory of democracy, when power no longer has responsibility, then the public sphere loses legitimacy. In the realm of technological philosophy, Feenberg (2020) refers to it as a form of subordination of ethical values by technological imperatives. XR in this case shows how innovation is prioritized without considering its social and political implications. This threatens the value of deliberative and participatory in a democratic public space.

The emergence of a desire from some users to understand how algorithms work suggests potential resistance to systemic dominance. In critical communication theory, this is the initial form of the process of emancipation (Habermas, 1984). Critical awareness opens up space for participation in determining the relationship between users and technology. However, this process is still very minimal and requires intervention through digital literacy and public policy. In this context, the role of the state and civil society institutions is essential to create a system that is transparent, fair, and participatory. Otherwise, then the dominance of gatekeepers will continue invisibly. The finding that XR regulation is still in the formulation stage confirms that technological developments are faster than legal and ethical responses. This regulatory vacuum creates an uncontrolled space of power. According to Cohen (2019), this is a form of "informational capitalism" in which data and digital experiences become objects of control without accountability. In the Arendt framework, this kind of power is the most dangerous form of domination because it works through pseudo-consensus and user convenience. When control occurs unconsciously and without resistance, democracy is under fundamental threat.

CONCLUSION

Based on the research findings, Extended Reality (XR) technology significantly reshapes power relations by influencing users' sensory experiences, blurring the line between reality and simulation, and creating algorithmically curated representational spaces controlled by digital gatekeepers. This dynamic leads to a dissociation from shared factual reality, undermining democratic public spaces by replacing collective consensus with personalized, often unverifiable

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

experiences. Drawing on Hannah Arendt's philosophy, the study highlights XR's political neutrality as a myth, revealing its potential as a tool for invisible digital domination akin to totalitarian control. Although some users exhibit critical awareness and resist algorithmic manipulation, such resistance remains limited and unsupported by effective regulation, allowing epistemic dominance by platforms to persist. Therefore, ethical and democratic regulations, coupled with enhanced critical digital literacy, are crucial to empower public reflection and safeguard digital democracy. Future research should explore practical frameworks for implementing such regulations and examine how diverse user groups can be supported to develop sustained critical engagement with XR technologies in varied socio-political contexts.

REFERENCES

- Andrejevic, M. (2020). *Automated media*. Routledge.
- Applebaum, A. (2022). Why We Should Read Hannah Arendt Now. *The Atlantic*.
<https://www.theatlantic.com/>
- Arendt, H. (1958). *The Human Condition*. University of Chicago Press.
- Arendt, H. (1973). *The Origins of Totalitarianism*. New York: Harcourt Brace Jovanovich.
- Ball, M. (2022). *The Metaverse and How It Will Revolutionize Everything*. New York, NY: Liveright.
- Baudrillard, J. (1994). *Simulacra and Simulation* (S. F. Glaser, Trans.). University of Michigan Press.
- Chouliaraki, L., & Georgiou, M. (2021). The digital border: Mobility beyond territorial and symbolic lines. *European Journal of Communication*, 36(4), 398–412.
<https://doi.org/10.1177/02673231211038752>
- Creswell, J. W., & Poth, C. N. (2021). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). SAGE Publications.
- Culpepper, P. D., & Thelen, K. (2020). Are we all Amazon primed? *Comparative Political Studies*, 53(2), 288–318.
- Denzin, N. K. (2020). *Interpretive Autoethnography* (2nd ed.). Routledge.
- European Commission. (2023b). Here are the first 7 potential 'Gatekeepers' under the DMA.
<https://ec.europa.eu/>
- Farkas, J., & Schou, J. (2019). *Post-truth, Fake News and Democracy: Mapping the Politics of Falsehood*. Routledge.
- Feenberg, A. (2020). *Technology and the Critique of Instrumental Reason*. In *Critical Theory of Technology*. Oxford University Press.
- Fuchs, C. (2021). *Social Media: A Critical Introduction* (3rd ed.). London: SAGE Publications.
- Habermas, J. (1984). *The Theory of Communicative Action, Volume One: Reason and the Rationalization of Society* (T. McCarthy, Trans.). Beacon Press.
- Habermas, J. (2023). *A new structural transformation of the public sphere and deliberative politics*. John Wiley & Sons.

Extended Reality (XR) Technologies that Threaten Democracy: Criticism of Virtual Reality Manipulation

- Holstein, J., & Gubrium, J. (2012). Inside Interviewing: New Lenses, New Concerns. In J. Gubrium & J. Holstein (Eds.), *Handbook of Interview Research* (pp. 1–30). SAGE Publications.
- Kubin, E., & von Sikorski, C. (2021). The role of (social) media in political polarization: A systematic review. *Annals of the International Communication Association*, 45(3), 188–206.
- McIntyre, L. (2018). *Post-Truth*. WITH press.
- Napitupulu, F. (2022). *Communication and Awareness Agenda: Criticism, Theory, and Methodology*. Jakarta: Indigo Media.
- Pariser, E. (2011). *The Filter Bubble: What the Internet is Hiding from You*. Penguin Press.
- Reviglio della Venaria, U. (2020). *Personalization in social media: Challenges and opportunities for democratic societies*.
- Roberge, J. (2011). What is critical hermeneutics? *Thesis Eleven*, 106(1), 5–22. <https://doi.org/10.1177/0725513611411682>
- Stephenson, N. (2022). *Snow Crash* (Reissue). Penguin Random House.
- Sunstein, C. R. (2017). *#Republic: Divided Democracy in the Age of Social Media*. Princeton University Press.
- Till, C. (2021). Propaganda through ‘reflexive control’ and the mediated construction of reality. *New Media & Society*, 23(6), 1362–1378. <https://doi.org/10.1177/1461444820902446>
- Van Dijck, J., Poell, T., & De Waal, M. (2018). *The Platform Society: Public Values in a Connective World*. Oxford University Press.
- Zuboff, S. (2019). *The Age of Surveillance Capitalism*. Cambridge, MA: Harvard University Press.