

The Tripartite Roles of Media Technology in the Progression of Human Society

Ningxue Dai^{1, a}, Shuyu Shang^{2, b}

¹Department of Radio and Television Director, Hunan Normal University. Hunan, China

²Vanburgh college, University of York YO10 5DD, York City, United Kingdom

^aDaiNingxue@hunnu.edu.cn, ^bss3340@york.ac.uk

Abstract

Media technology has gone through a significant transformation from the age of traditional media to the age of social media, and now to the age of smart media. These changes in media technology have sparked a renewed interest in examining the complex relationship between media technology and society. The impact of media technology is evident in the way it has revolutionized the way we communicate, access information and entertainment, and interact with one another. The impact of media technology on society has been the subject of intense debate among scholars and experts in the field. There are three dominant perspectives that have emerged: technological determinism, technological neutrality, and social determinism. Technological determinism posits that technology drives social change, and that technology is the primary force that shapes human behavior and society. Technological neutrality, on the other hand, suggests that technology is neutral and that its impact on society is contingent upon how it is used. Finally, social determinism argues that technology is shaped by social forces and that the development of technology is driven by societal needs and values. A comprehensive examination of the impact of media technology on human society must consider all three perspectives.

Keywords

Media technology, Technological determinist, Technological neutrality, Social determinism.

1. Introduction

In his seminal work, *Understanding the Media*, McLuhan offers a profound and provocative insight: the medium, rather than the content it carries, is the true message. According to McLuhan, any new medium or technology, by extending our capabilities and altering our modes of communication and interaction, introduces a new scale into our affairs, with far-reaching consequences for individuals and society as a whole (McLuhan, 1994). This thesis has proved enduringly influential, sparking renewed reflection and inquiry into the relationship between media technology and human experience, from the age of traditional media to the current epoch of smart media.

During the era of traditional media, the dominant model of editorial and distribution filtering relied on by newspapers, magazines, radio and television, and other portals, presented information products in a "transmitter-oriented" manner, aimed at meeting the demand for "headline" information. However, this approach could only address the demand for a limited range of popular content, while failing to satisfy the more diverse and nuanced interests and preferences of the broader audience. With the advent of information network technology and the rise of social media platforms such as Weibo and WeChat, the landscape of media consumption and production underwent a profound transformation. People could now access

and engage with information anytime and anywhere, according to their own preferences, attributes, and needs (Batorski, 2015). Yet, the filtering mode of social distribution has been inadequate in addressing the problem of information overload and personalised demand for information.

In the context of the proliferation of big data and the emergence of sophisticated artificial intelligence technology, the recommendation model of algorithmic distribution has emerged as the dominant mode of information dissemination (Bozdog, 2013). This approach involves the use of complex algorithms to analyze massive amounts of data about individual users, generating accurate "portraits" of their interests, preferences, and behaviors, and pushing personalized content to them accordingly. Algorithmic recommendations have become the mainstay of the new media information distribution model, offering a highly efficient and effective means of meeting the demands of a diverse and ever-expanding audience.

The development of media technology has not only maximized the value of information but also shifted the power of information consumption from the traditional gatekeepers to the audience, enabling unprecedented access and participation. However, the rise of social media and smart media has also led to the expulsion of traffic from traditional media operations, as the new modes of media production and consumption have rendered obsolete the old models of revenue generation and monetization. This is an unavoidable consequence of the relentless march of media technology, which poses both challenges and opportunities for media professionals and consumers alike.

1.1. Technological determinist and the anti-utopian novel

From a technological determinist perspective (Dafoe, 2015), technology is viewed as an autonomous force that evolves independently, guided solely by its own inherent logic. This viewpoint posits that technology, once unleashed, can be likened to a wild horse that is beyond human control. In this light, the consequences of technological advancements are seen as intrinsic to the technology itself, rather than being the result of human agency. The prevailing assumption is that technology is not meant to serve humanity, but rather to shape its development. Technological determinism thus implies that society is more constrained by technology than it is by the limited freedom it offers. However, such a deterministic stance fails to account for the fact that the development of media technology, particularly new media technology, is often driven by the interests of a particular class of people (Wyatt, 2008). Once this class has been able to secure its interests, further technological advancement is unlikely to occur. It is evident that technological determinism treats technology as an independent variable that is disconnected from social processes. In reality, scientific knowledge and its technological applications are a part of the wider societal development (Gomez et al., 2013).

The anti-utopian perspective emphasizes society's apprehension towards time and space, its excessive reliance on technology, and its inability to control change. Technology is regarded as a tool for elites to control the masses, and as a harbinger of doom that initially promises positive change, but ultimately undermines the social fabric of our lives. These views highlight the issues of deceptive behavior, homogeneity, social acceleration, and the erasure of social class distinctions. Thus, they do not simply represent a viewpoint on technology but also offer a critique of society's approach to technology. Anti-utopian fiction, such as George Orwell's 1984, often uses technological determinism to depict mental manipulation. However, such arguments are primarily fictional and do not exist in reality. Technological determinism does, however, suggest that new media technologies have the power to shape specific ideologies, and thus manipulate people's behavior by controlling the subjective psychological input of the recipient. For example, the Tardis newspaper has created a subjective citizenry with modern opinions, while Cooley's "print means democracy" and "self-correcting procedures" emphasize the shaping of public opinion by media technology (Drew, 2016).

This deterministic perspective is frequently found in anti-utopian visions of the future. In such authoritarian societies, the forces of social resistance are dismantled, and the masses are kept in a state of poverty. This perspective is rooted in Marx's classical framework of productivity and the subsequent cliché of the emphasis on human subjectivity. Technological determinism, therefore, reveals the interconnectedness between technology and society, and highlights the need to consider the social, political, and economic contexts in which technology is developed and applied.

1.2. Technological neutrality and uncertainty

From the standpoint of technology-neutral theory, the concept of technological determinism can be likened to Marx's contention that the hand-powered mill generated a society led by feudal lords, while the steam engine ushered in a society led by industrial capitalists. If we accept this analogy, then the subjective citizenship engendered by the modern press can still be explained by productivity determinism, along with its corresponding limitations. This provides a robust historical context for media technological determinism. By applying historical materialism to media determinism, we can see how media development is integrated into the larger history of economic and social development (Pennycook and Rand, 2019). For instance, while Edison's invention of the electric light involved the exploration and application of scientific knowledge, it was ultimately aimed at selling the electrical energy produced by his company. According to the principle of technological neutrality, technology is intrinsically neutral. Technology creates new possibilities for human choice and action, but it also leaves the disposition of these possibilities in a state of uncertainty. What effects technology produces and what purposes it serves are not inherent in the technology itself, but depend on what man does with it. The two industrial revolutions were characterized by the successive introduction of new technologies such as steam engines and electricity. However, the technology employed during the two world wars, particularly military technology, caused significant harm to humanity. A technologically neutral perspective, therefore, contends that "those who control technology must ensure that it is used appropriately" as a precautionary measure (Reed, 2007).

However, the present study contend that technology is both neutral and, under certain conditions, value-biased. In September 2021, the "Mainstream Media Algorithm" was launched on the "Central Video" film and television section. The aim of the algorithm is to promote authoritative information from mainstream media and a considerable amount of quality content from social creators on a new user-centered mainstream media platform. The purpose of this approach is to create a positive "values" driven experience and enhance the social integration function of traditional media in the previous mass communication era (Dafae, 2015). During the presidential campaign between Trump and Hillary, Trump's campaign team utilized data-driven, precise political advertising and campaign strategies to categorize and differentiate voters to achieve their objectives. The fundamental flaw of technological neutrality and technological decision making, which are essentially the same, is that they examine the ways in which technological logos exist from two distinct perspectives, yielding vastly different conclusions. Consequently, a third perspective emerges: social determinism (Barn, 2020).

From a social determinist perspective, understanding the implications of emerging technologies has always posed a challenge for society. In the examination of media technology, two distinct perspectives can be taken, one from the ruling class and the other from the manual laborers. The ruling class typically promotes a society that is designed to suppress the resistance of the people, with the notion that the working class is only capable of low-end work. Consequently, manual workers are often organized in a manner that conforms to the assembly line system and the Taylor system, which results in labor characterized by monotonous, homogeneous content, and a low demand for skills and knowledge. This relatively

undifferentiated labor is compared and evaluated based on the hours worked, and abusive supervision and strict production regimes often lead to a decline in motivation and anti-productive behavior, as it is believed that such work performance is inversely proportional to the people's IQ (Poell and Van, 2015).

2. Social Determinism and Digital Capitalism

The social determinist perspective highlights the critical role of social factors in determining the relationship between media technology and society (Janssen, 2014). The widespread adoption of technological prototypes is determined by socio-political, historical, and cultural factors, and society's characteristics play a significant role in determining which technologies are adopted. For example, the acceptance of color television and fax technology was not widespread until decades after the technology emerged.

The political economy of communication theory posits that capitalism is gradually transitioning into a digital era, where digital capital is repackaged to attract digital workers to socialize on digital platforms, and their digital lives are absorbed into the reproduction of the interfaces of these digital platforms. In this era, "surveillance" is the means through which digital capitalism achieves its power and commercial objectives. Surveillance capitalists use digital tools such as algorithmic recommendations to manipulate information based on individual surveillance data profiles, thereby influencing and dominating people's perceptions and behavioral tendencies (Fuchs, 2018). For instance, in some companies, surveillance cameras in remote offices are a tangible manifestation of surveillance capital, collecting personal information about workers and using algorithms to autonomously mine, aggregate, correlate and analyze information to form new data and even make decisions automatically. The results of these decisions are used as the basis for performance reviews and even dismissals (Pace, 2018).

An important "accelerator" and "brake" model of how social factors determine the emergence and development of media technologies has been proposed to suggest that progress is achieved by a paradoxical interplay of inhibition and propulsion, like standing on an escalator going up and going down. This paradoxical interaction is reflected in technological progress, which first accelerates and then brakes. The history of technology is characterized by both processes, sometimes in rapid succession, and it moves human life forward, gradually reaching a new equilibrium at a higher level than before. Social needs facilitate technological progress, but the presence of social repression makes for a longer time flow from output to diffusion of technology.

3. Conclusion and Discussion

In contemplating the intricate interplay between novel media technologies and society, we are fundamentally exploring the intricate interdependence between technology and the people who wield it. Whether we embrace the doctrine of technological determinism, adopt the stance of technological neutrality, or subscribe to the philosophy of social determinism, we must apprehend the relationship between media technology and society in a nuanced and dialectical manner, one that takes into account the dimension of ethics and value norms that underpin our societal and technological systems.

At the heart of this dialectic is the recognition that media technologies are neither inherently good nor bad, but rather it is the manner in which they are employed that imbues them with ethical and moral import. The ethical dimension is especially salient in the case of new media technologies that enable the collection and processing of vast amounts of personal data, as such technologies have the potential to significantly impact individual privacy and autonomy. Thus, we must attend to the ethical implications of technological innovations and work to ensure that our deployment of these tools is consonant with our ethical values and norms.

Furthermore, this dialectic demands that we recognize the reciprocal relationship between media technology and society. While media technologies are shaped by the social and cultural context in which they emerge, they, in turn, shape and transform that context, often in unexpected ways. Thus, we must be attentive to the ways in which media technologies impact and reshape our social and cultural fabric, and work to ensure that our use of these technologies is aligned with our societal values and norms.

In conclusion, the relationship between new media technologies and society is a complex and dialectical one that demands our careful consideration. By attending to the ethical and moral implications of technological innovation, and by recognizing the reciprocal relationship between technology and society, we can work towards a more harmonious and equitable integration of new media technologies into our social and cultural systems.

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