

# Using Heidegger's Conceptual Framework to Analyze New Media Technologies and Explain the Effects of Technological Determinism Through the Use of These Media

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## Abstract

This paper, drawing upon Martin Heidegger's conceptual framework, re-examines and philosophically analyzes new media technologies and the implications of "technological determinism." The research employs a qualitative-hermeneutic phenomenological approach, conducting textual analysis of Heidegger's primary works and relevant secondary literature. The findings indicate that an instrumental and anthropocentric definition of technology is insufficient; Heidegger views technology not merely as a tool but as a "mode of unconcealment," particularly as Gestell (enframing), which presents the world as a "standing-reserve" ready for exploitation. The application of this insight to new media yields several key consequences: (1) the pictorial reproduction and "pictorialization" of the cognitive world; (2) the formation of "global time" and the speed of message transmission, which transforms the experience of temporality; (3) the emergence of virtual worlds leading to identity crises and the multiplicity of real/virtual identities; and (4) the reinforcement of deterministic aspects of technology, bearing both positive effects (e.g., networked crisis management) and negative ones (e.g., the colonization of time-identity and reduction of human agency). The discussion argues that a critical engagement with technology necessitates moving beyond a purely instrumental understanding and adopting a stance where humanity is the "master" of technology, not its "slave." The proposed strategy involves a re-evaluation of "dwelling in unconcealment" and fostering a conscious and reflective approach to media. Finally, the study emphasizes the need for further interdisciplinary research (philosophy of technology, media sociology, and identity psychology) to gain a deeper understanding of the effects of new media.

**Keywords:** Heidegger; essence of technology; modern media technology; technological determinism

## INTRODUCTION

Despite the profound impact of technology on human life, the lack of a comprehensive analysis of new media technologies from Heidegger's philosophical perspective creates a key gap in our understanding of technological determinism. Throughout human history, knowledge and technology have been intertwined as fundamental phenomena, playing a vital role in the evolution of humanity as a thinking being.

As humans create new things, build tools, or implement systems, their knowledge is put into action, giving rise to technology. These two (knowledge and technology) appear inseparable and mutually constitutive, thus playing a pivotal role in human existence. If we consider technology as a tool for achieving goals, facilitating tasks, and advancing work, its antiquity stretches back thousands of years, even to the era of early humans (Raghaviah, 2012). These early humans were among the first to create and utilize tools successfully; the practical application of their developing understanding led to the emergence of what we now call technology. Consequently, throughout history, the interplay of knowledge and technology has driven immense transformations in human life, and their application has revolutionized and impacted all aspects of human social, economic, political, and cultural spheres.

In the present era, technological development has enveloped all facets of 21st-century life, completely surrounding humanity. Industries such as oil, gas, electricity, agriculture, military armaments, information and communication technology, culture, and architecture, among many

others, demonstrate the pervasiveness of technology. This pervasive influence has led to the emergence of the concept of “technological determinism”—a discourse that has extended from science into the realm of philosophy, giving rise to the philosophy of technology. This concept underscores technology’s capacity to independently shape history and instigate social changes, separate from human control, while simultaneously determining social transformations in contrast to social constructivism. Consequently, numerous philosophers and thinkers have theorized on this subject. While technology has thus far been discussed generally, its penetration into various aspects of human social life indicates its multifaceted nature.

Despite this extensive attention to technology, the absence of a profound analysis of new media technologies from Martin Heidegger’s philosophy of technology creates a significant gap in the existing discourse. In the modern age, the emergence of information and communication technologies (ICTs) and media stands out as a particularly significant aspect. These tools and technologies have profoundly transformed human social life. Concepts such as Marshall McLuhan’s “global village” and Manuel Castells’ “network society” have been realized through these tools. Indeed, global communication, the formation of a global system, and even a world government are inconceivable without media and communication. The nature and essence of this phenomenon necessitate the application of the philosophy of technology to this domain (Hope, 2016).

While thinkers such as Van Loon, Don Ihde, and Bruno Latour have addressed the ontology and essence of media, Heidegger generally discusses technology rather than specifically addressing media technologies. Therefore, this paper, aiming to fill this void, endeavors to establish a connection between Heidegger’s perspective and media technology, exploring the relationship between technological determinism and these media. In other words, this research will utilize Heidegger’s theories to analyze the ontology and essence of media (Ihde, 2013). To this end, this paper specifically examines and analyzes Martin Heidegger’s views on the philosophy of technology, applying his theories to the philosophy of media technology. Furthermore, it will elucidate the effects of technological determinism exerted by new media on humanity.

## **RESEARCH METHOD**

This paper employs a qualitative interpretive research approach, specifically rooted in the hermeneutic phenomenology tradition, to thoroughly analyze Martin Heidegger’s perspective on modern technologies and their implications for technological determinism in new media. Hermeneutic phenomenology, originating with Martin Heidegger (1889-1976) and further developed by scholars such as Hans-Georg Gadamer (1900-2002), provides a philosophical framework for understanding human existence, interpretation, and the nature of phenomena as they reveal themselves (Guignon, 2012).

The data for this study were collected through a rigorous textual analysis of primary and secondary sources. The core data were derived from seminal works by Martin Heidegger, particularly those addressing the essence of technology, such as “The Question Concerning Technology.” These texts were meticulously examined to extract Heidegger’s foundational concepts and arguments. A comprehensive review of scholarly literature was conducted, including academic articles, books, and critical analyses by contemporary philosophers and media theorists (e.g., Don Ihde, Marshall McLuhan, Manuel Castells, Andrew Feenberg).

These secondary sources were selected to provide context, facilitate comparative analysis, and elucidate the application of Heidegger’s theories to modern media technologies. Data

collection involved identifying and extracting key passages, concepts, and arguments from these texts that directly relate to the research questions concerning technology, media, and determinism.

The analysis of the collected data was conducted using a multi-faceted approach: Key concepts within Heidegger's philosophy of technology, such as *Gestell* (Enframing), *techne*, causality, and unconcealment (*aletheia*), were systematically defined, analyzed, and clarified. This process aimed to understand their precise meaning within Heidegger's framework and their applicability to contemporary media technologies. This involved examining how these concepts were operationalized and exploring their implications explored about the study's focus (Andres & Usova, 2024).

Heidegger's views on technology were compared and contrasted with those of other influential thinkers in the field (e.g., McLuhan, Castells, Feenberg). This method highlighted the distinctiveness of Heidegger's approach, particularly the differences between ancient Greek *techne* and modern technological paradigms, and explored convergences and divergences in their analyses of media technology and its societal impact (Miri & Dehdashti Shahrokh, 2019).

Texts were subjected to an interpretive reading to establish a nuanced link between Heidegger's general philosophy of technology and the specific context of new media. This involved synthesizing insights from Heidegger's work to support arguments regarding the ontology and essence of new media and their deterministic effects.

Validation of the findings was approached through: Evidence and interpretations were cross-referenced across multiple primary and secondary sources to ensure consistency and robustness. By examining how different scholars interpret Heidegger and apply his concepts to media, the validity of the analysis was strengthened. Heidegger's ideas are situated within their historical context, emphasizing the transformation in human experience in the age of information and communication. This contextualization helps explain Heidegger's intellectual connection to contemporary issues.

The reliance on established scholarly literature and the engagement with widely discussed philosophical concepts inherently involve a form of peer review, as the arguments presented are situated within ongoing academic discourse and subject to scholarly scrutiny. The analysis seeks to align with and contribute to established interpretations while offering a novel application to media technology. This integrated methodological approach ensures a rigorous and comprehensive examination of the research topic, addressing the nuances of Heideggerian philosophy and its relevance to the complexities of modern media technologies and their deterministic influences.

## **FINDINGS**

### ***Heidegger's Two Main Phases and the Analysis of Tools***

Don Ihde divides Heidegger's intellectual life into two periods: the first, characterized by his phenomenology, focuses on Being and human ontology, lacking a historical perspective on the manifestations of being (Ihde, 2013). Heidegger's concern with Being centers on Dasein (being-there), and he engages with technology through critical questioning. He articulates a human existence that questions being; Dasein is not simply a being among beings, but a being for whom being itself is a question and a problem (Jialin & Zhang, 2022). Understanding being is a characteristic of Dasein; Dasein here is not the Cartesian cogito, but rather experiences being-in-the-world (Rogobete, 2015).

The second period reflects Heidegger's efforts to expand and enrich his understanding of technological development, while simultaneously considering human intellectual life within a historical context (Karilemla, 2019). In early Heidegger, it is the world that responds to Dasein's questioning; in later Heidegger, it is Dasein that listens to the whispering of being. In this later phase, instead of active engagement with the world, he advocates for acceptance (Ihde, 2013). However, Walter Biemel suggests this perceived shift stems from Heidegger's later focus on research topics that transcend the conventional meaning of phenomenology. This doesn't imply inconsistency or contradiction in Heidegger's work (Zamani, 2000).

Heidegger's works include *The Age of the World Picture*, *Question Concerning Technology*, *Letter on Humanism*, *Nietzsche*, *The Origin of the Work of Art*, *What is Called Thinking?*, *Metaphysics*, and *Field Path*. He is the founder of the hermeneutics of human existence, the hermeneutics of understanding being, and the hermeneutics of the human-tool relationship. His focus on Dasein and the concrete relationship between Dasein and the world leads him to explore the relationship between Dasein and tools. The human (Dasein)'s relationship with tools, as a primary means of engaging with the world, is highlighted (Karilemla, 2019). Heidegger's emphasis on action over contemplation leads him to focus on human life in everyday activities: how humans use language, understand, interact with others and objects, and achieve knowledge, including scientific knowledge (Ihde, 2013).

In Heidegger's analysis of tools, understanding is not theoretical but achieved through use; he prioritizes action over contemplation. Through engagement, a tool authentically reveals itself in being (Karilemla, 2019). Objects gain ontological meaning through their interrelationships and use. A tool always serves a purpose; it is not an abstract object to be studied from a distance; it is a means to an end (Zamani, 2000). Heidegger emphasizes the primacy of the "downward" (practical) over the "upward" (theoretical), arguing that technology precedes science. Before Heidegger, technology was seen as applied science; Heidegger posits technology as a perspective within which science gains the opportunity to emerge (Feenberg & Heidegger, 2005).

### ***The Disparity between Technology and Its Essence***

Heidegger's fundamental question concerns the essence of technology or, as the governing spirit of technology. He seeks the "whatness" of modern technology, distinguishing between technology and its essence. From his perspective, technology is not equivalent to the nature of technology (Dreyer, 2024).

When we are searching for the essence of a tree, we must realize that what is omnipresent in every tree, in terms of being a tree, is not the tree itself that is found among all other trees. Similarly, the essence of technology is not itself technological. Heidegger uses this analogy to liberate us from a superficial understanding of technology's essence, directing our minds to the underlying presence, like a spirit, in all technological manifestations (Zamani, 2000).

Commonly, technology is defined as a tool, and this forms the starting point of the discussion. Heidegger illustrates this with an example: one might say technology is a means to an end; another might say it is a human activity. These definitions are interconnected, as setting goals and using appropriate means are human activities. Heidegger calls this common definition instrumental and anthropocentric. The basis of this crude definition is that technology is a human creation, made to serve human goals (Karilemla, 2019).

Technology is a tool in the service of humans, used to achieve their goals; hence, Heidegger considers it anthropocentric and subjective. The principal elements of this definition are: a) its human origin and b) its instrumental nature. Throughout his discussion, Heidegger reveals the inadequacy and superficiality of this definition. He acknowledges this definition's validity, even for modern technologies, considering power plants, jet aircraft, and electronic devices as human-made tools for specific purposes. However, he argues that this definition is incomplete (Zamani, 2000).

Heidegger believed that the triumph of neutral technological tools, a value placed on goal-oriented thinking, is a necessary consequence of our modern condition. But he considered these conditions historically relative. Our inability to take meaning and value seriously, our prejudice in favor of factual knowledge, is precisely a sign of this relativity (Feenberg & Heidegger, 2005)

### ***The Distinction between the Correct and the True***

Heidegger's understanding of the inadequacy of the instrumental definition of technology hinges on the distinction between the "correct" and the "true". He argues that while everything true is necessarily correct, not everything correct is true.

He considers the instrumental definition of technology a "correct" definition, but one that should lead to the true definition. He points to the differences between the correct and the true. When examining any subject, the correct always specifies aspects related to that subject; however, this specification need not unveil the subject's essence to be correct (Karilemla, 2019). Truth or the true, however, only manifests when a revelation occurs (Rogobete, 2015). The correct approach deals with related aspects that are not constitutive of the essence, describing and defining them. The true, however, engages with the subject itself, unveiling its essence. The correct is superficial and inadequate, whereas the true is profound and sufficient (Karilemla, 2019).

The truth unveils the face of truth, whereas the correct might itself serve as a veil obscuring fundamental truth. Heidegger argues that the instrumental definition of technology does not unveil its essence but only speaks of related matters (Zamani, 2000). Similar to Heidegger, Marcuse rejects any return to Greek metaphysics. Unlike Heidegger, he is unwilling to reduce all fundamental thought to reflection on the process of revealing. Instead, he seeks a historical reconstruction of the concept of essence (Feenberg & Heidegger, 2005).

Don Ihde explains Heidegger's concept of the correct and the true: this discussion originates in ancient Greece, where truth was considered concealed. In Greek thought, human encounters with creatures could unveil existence from being concealed. In Greek thought, it is not the human that is central to knowledge; humans can only respond to unconcealment through logos. Language here is unconcealed, and only in the modern age—the age of the world picture—does knowledge become representation, which we consider correct. Therefore, technology is a Type of coming out of concealment or coming out from behind the curtain, not merely a means to an end (Karilemla, 2019).

Heidegger shows that modern technology in the general sense should not be understood merely as a collection of tools; one must also consider the governing spirit of technology and the true (unconcealment). Van Loon attempts to demonstrate that new media technologies are not merely tools for transmitting messages or information but change the world and our very being in an ontological sense, not merely a sociological or psychological one. Finally, Bruno Latour goes further, viewing technologies from various perspectives through his unique worldview.

Latour's perspective allows for a multifaceted understanding of communication technologies, particularly in the field of ICTs (Bahar and Javadi, 2018). According to Heidegger, technology is the basis of science because technology is not merely a tool but a worldview. Furthermore, it is this technological view of nature that gives rise to science, not vice versa (Ihde, 2013).

### ***Causality and Technology as Instrument***

Heidegger accepts the instrumental definition of technology, but, as we have seen, he also reveals its inadequacy by distinguishing between the "correct" and the "true". If we consider technology as a tool used to accomplish tasks or create things, the issue of causality arises.

Today, we have instances where technology itself leads to the creation of other technologies. Here are a few examples of technology as a cause: a) Modern media technologies have altered humanity's perception of the world; thus, media technology is the cause of this altered perspective. b) Media play a role in creating a space for hegemonic dominance, and the cultural industry is a product of media's function; thus, media technology is one cause of hegemonic dominance and the culture industry. c) We travel a thousand kilometers in an hour by airplane; therefore, the cause of increased speed is technology. d) Television contributes to the early maturation of children. e) Global imperialism occurs as a result of the development of media technologies. All these examples demonstrate technology's role as a cause.

According to Heidegger, a cause brings into presence something that was previously absent. Let's take hegemonic dominance as an example: it was not initially apparent, but became present due to certain causes. This means that human intellectual and mental power, media technologies, etc., worked together to reveal this hidden aspect (hegemonic dominance), lifting the veil from its concealed face. Thus, causes are instrumental in bringing into presence something that was previously hidden. Heidegger, following Aristotle, identifies four causes but goes beyond them: 1) material cause, 2) formal cause, 3) final cause, and 4) efficient cause. For Heidegger, what we understand as a cause is something to which another thing owes its existence (Zamani, 2000).

In other words, the cause is that to which something else is indebted, and the effect is that which is indebted to the other. This relationship demonstrates the responsibility and indebtedness that constitute causality. Heidegger sees the role of causes as contributing to the creation, bringing into presence, and revealing something previously concealed and absent. Therefore, we can say that in the emergence of "hegemonic dominance", the efficient cause is humanity, and the material cause is technology. According to Heidegger, this revealing is not the creation of something new but bringing out something that already existed, bringing it out of concealment (Feenberg & Heidegger, 2005).

### ***Discovery and Assault of Modern Technology***

To explain technology as a mode of revealing, Heidegger traces the etymology of the word "technology" in ancient Greece: What does the name "technology" signify? Its origin is Greek; *technikon* refers to something belonging to *techne*, and *techne* reveals something that does not reveal itself and is not yet before us (Rogobete, 2015).

He uses the examples of building a house, a boat, or a silver goblet, illustrating that these things do not bring themselves into presence but are brought forth and revealed through the intervention of the causes mentioned earlier. Therefore, what is decisive in *techne* is not the construction or use of tools, but this revealing itself (Zamani, 2000). In distinguishing between modern and ancient technology, the question arises: What is modern technology? Heidegger

argues that modern technology is also a type of revealing, but the process of revealing is comparatively different. Here, he introduces the concept of "Assault" (*Gestell*), describing modern technology's revealing as an assault.

This type of revealing in modern technology necessitates a new perspective on nature, viewing it as a resource providing energy. This matter creates a relationship between nature and humanity, a relationship based on humanity's assault upon nature. Air is challenged to yield its nitrogen; the earth is challenged to yield its minerals; minerals, for instance, are challenged as a source of uranium; and uranium, in turn, is challenged as a source of atomic energy. In this perspective, the Earth is seen as a source of mineral resources that should be exploited ever more extensively. As a result, assaults on nature through various means have led to the development of many technologies, including media technology. As a result, and with this type of looting, the age of technology has changed humanity's view of the world, leading to a new understanding.

Marcuse argues that assault upon nature "insults certain objective qualities of nature, qualities which are indispensable for the improvement and fulfillment of life", and that on the basis of such objective conditions human liberation is linked to the liberation of nature; "truth" is attributed to nature not only in a mathematical but also in an existential sense. Human liberation presupposes the recognition of such a truth in things and in nature (Feenberg & Heidegger, 2005). Heidegger also refers to another concept related to modern technology: *Gestell* (enframing), which refers to the mode of revealing that dominates the essence of modern technology and is not itself technological. *Gestell* is a name for the essence of modern technology and embodies three meanings: "challenging-forth", "producing", and "representing". In other words, *Gestell* is the essence of technology that sets human beings on a path of revealing so that, everywhere, things are brought forth as a standing reserve (Ihde, 2013). In this interpretation, in the process of discovering and assault upon nature, modern technologies such as digital media, social networks, artificial intelligence, augmented reality, and virtual reality emerge, or, to put it another way, the face of these new media is unveiled.

### ***Pictoriality in the Modern Age***

In the new world (the age of communication and information), technology is intertwined with pictoriality, and modern thought has become pictorial – a picture drawn by humans. What occurs in science is transformation:

A transformation in the questions asked and in how the world is seen—a world viewed from a scientific perspective with a technological basis. This approach has a close connection with the subjectivism of the new world, transforming the world into an object and a subject. In the contemporary era, the world has become an image, and humans see the world as an image. This signifies the reduction of the world to an image (Grau & Veigl, 2013, pp. 121-123). *Gestell* is a concept Heidegger introduces; it is the basis of modern technology. In other words, *Gestell* is a procedure that leads humans to consider and organize the revealing of existence as a standing reserve.

*Gestell* is a type of revealing that dominates the essence of modern technology, but it is not technological itself. Heidegger posits various relationships between humans and tools; this specific relationship has become prominent and perceptible in the modern world. Late Heidegger's concern is the modern world, especially post-World War I and II Germany. He views a decline in Being, a ruinous urban perspective on human history, where Being seems to have fallen from a glorious unconcealed period in pre-Socratic Greece to a state of severe forgetfulness

and alienation due to Plato's metaphysics and ethics (Hacking, Heidegger, & Ihde, 2014). This way of thinking about the modern world is similar to Anthony Giddens' thinking on modernity.

### ***Media Technology and the Phenomenon of the Virtual World***

Heidegger's work has significantly influenced media, communication, and internet studies (Fuchs, 2015). According to Heidegger, humanity's assault upon nature has led to the development of technology, especially communication and media technologies.

The emergence of the internet, satellites, social networks, virtual reality, augmented reality, the metaverse, etc., has brought about a dual world (the real and the virtual), and virtual communication has revolutionized human life. Heidegger argues that revealing is possible in any factor or cause that leads to the creation of something. Assault occurs when the energy latent in nature is discovered, captured, transformed, stored, redistributed, and flows from one circuit to another.

This is true of virtual space. The virtual world is the product of communication technology development, and media and communication are considered the cause of its formation. The virtual world has ushered in a new era for 21st-century humanity, and the pictorialization of the world is a noteworthy concept in the present age (Dusek, 2006). The disappearance of time and space has created conditions where space manifests more prominently in the virtual world, and individuals, confronted with this space and the abundance of information, data, and diverse resources, become confused in their identity construction. The multiplicity of identity (identity in the real world and identity in virtual space) creates difficulties in self-definition, leading to doubt and sometimes anxiety. Thus, the effects of social networks and virtual space are accompanied by an identity crisis in various dimensions. While the positive and negative effects of these networks are studied, the aim here is to produce meaning and reveal the phenomena resulting from the functions of media technology (Memar & Poursamad, 2012). These issues point to a mediatized world.

Abdulla Bichranlu, differentiating between the industrial revolution and the technological revolution, states that the emergence of new virtual media necessitates a more critical and in-depth look at the technological nature of media, especially given the term "information and communication technology revolution" (Bichranlu, 2019). This revolution is not merely about adding more tools to the world, just as the first industrial revolution was not merely about creating tools and adding devices. This revolution meant a revolution in the historical life-world of humanity and a revolution in the world and its nature.

Its scope of change is vast, encompassing all aspects of rural life, urban expansion, family relationships, the disintegration of extended families into nuclear families, institutional changes in religious, cultural, and ethical spheres, and even transformations in the most personal aspects of human existence, such as religious feeling and private worship. This illustrates the effects of virtual space on all aspects of human life. Aldamen and Hacimic (2023), in a study on the role of Twitter in managing the 2023 Turkey earthquake crisis, show that the technologically deterministic influence of Twitter on crisis management was positive.

### ***Modern Media Technology and the Unveiling of Time's Other Face***

Prior to the advent of modern communication technologies, the natural measurement of time relied on instruments like clocks, months, years, weeks, and days. The introduction of electronic and digital media, along with the near-instantaneous transmission of messages at the speed of light, profoundly transformed human communication.

Global communication is a direct outcome of media technologies, giving rise to the concept of global time in cyberspace, where messages are processed and transmitted at the speed of electronic signals. This development not only facilitated faster and easier communication but, as Heidegger would argue, also unveiled a previously hidden aspect of time, making it accessible to humanity.

In his book *Communication Time and Global Imperialism*, Win Hope posits that the emergence of global time, mediated by media and media technology, is a crucial condition for the formation of global capitalism. He argues that the cumulative advancements in telegraphy, telephony, wireless telegraphy, radio transmission, terrestrial and satellite communication, fiber optic cables, personal computers, and the internet constitute the dynamic calculation of time (Hope, 2016). This acceleration of time effectively nullifies geographical distances across the globe, creating simultaneity between message sender and receiver (Hope, 2016). Heidegger's concept of technology as the unconcealment (unveiling) or bringing-forth of previously hidden phenomena is relevant here. The global time underpinning global communication was initially hidden, obscured from human perception; modern media technology served as the catalyst for its unveiling (Hope, 2016).

A critical perspective reveals that while technology, particularly modern media technology, has offered numerous opportunities, it has also placed humanity on a trajectory from which it is difficult, if not impossible, to deviate. Its pervasive influence on various aspects of social life has created a relative space for human engagement with technology, where individuals possess neither complete autonomy in avoiding technological phenomena nor complete control over their actions and behaviors. With the development of new technologies, such as social networks and artificial intelligence, technological determinism seems to exert a greater influence. Extensive research indicates that this determinism, mediated through various media, plays a role in both positive and negative aspects of human experience.

### ***Technological Determinism***

This term emerges with the significant development and expansion of technology, which directly and indirectly encloses humanity. Theoretical discussions of technological determinism acknowledge technology's capacity to shape history independently of human control, while simultaneously determining social changes in contrast to social constructivism. The deterministic discourse eliminates human agency and defines new media technologies as revolutionary and transformative (Herrero, 2024).

Conversely, technological determinism, as a reductionist theory, claims that a society's technological progress is driven by its intrinsic logic of efficiency, which determines the formation of social structures and cultural values. From this perspective, technology significantly impacts human behavior and social structures, influencing civilizations and cultures. Proponents of technological determinism believe that technology operates independently of other forces and has significant impacts at both macro and micro societal levels. Fundamental drivers of social change and growth are also technological advances.

Throughout history, many thinkers have discussed and debated the concept of technological determinism. Thorstein Veblen, the American sociologist and economist who linked technology to significant social change and emphasized the importance of technical innovation in altering economic and social systems, is a prominent figure associated with this approach (Aldamen & Hacimic, 2023). Karl Marx, the German philosopher and economist, also developed

the concept of technological determinism, stating that a society's technology follows its own intrinsic logic of efficiency and determines the evolution of social structures and cultural values.

Marshall McLuhan, the Canadian communication theorist, was also influential in shaping technological determinism. McLuhan (1964), in his seminal work *Understanding Media: The Extensions of Man*, significantly articulated that the medium through which information is transmitted alters human perception and influences social behavior. Some argue that the influence of social media is as much shaped by socio-political and cultural factors as it is by technology (Aldamen and Hacimic, 2023).

In general, technological determinism implies an approach imposed on humanity through technology. However, this term is relative. For example, humans are both free in their use of technology and subject to technological determinism. Aldamen and Hacimic (2023), in a communication study on the role of social networks in crisis management, categorize technological determinism into positive and negative dimensions, indicating its influence on both positive and negative aspects of human life. Therefore, this study attempts to explain modern technologies within Heidegger's conceptual framework and then relate it to technological determinism in new media (Facebook, Twitter, Telegram, etc.) and social networks.

## DISCUSSION

Heidegger stands out as one of the few philosophers who has approached technology from a purely philosophical standpoint, analyzing its essence and nature using philosophical concepts, terminology, and tools.

This philosophical approach, shared by other thinkers in the field, provides a framework for examining the pervasive and thought-provoking phenomenon of technology through a philosophical lens. Heidegger distinguishes technology from its essence and spirit, highlighting the existence of a natural resource that existed prior to its appropriation by humanity. According to his interpretation, the conditions for the emergence of technology already existed; humans acted as agents, giving technology a concrete form and unveiling its hidden nature. His perspective on the precedence of science and technology prompts a deeper and more nuanced consideration of their relationship.

Heidegger believes that science has a technological basis, challenging the common understanding of technology merely as a tool. Analyzing the cause-and-effect relationship between humanity and technology helps clarify the discussion. When a toolmaker decides to create a tool, what motivates this action? If human knowledge and science are the causes of tool creation, then the precedence of science and technology needs re-evaluation. Furthermore, if we consider human thought and reason as tools themselves, the relationship between science and humanity becomes even more complex.

Heidegger's explanation of *techne*, *Gestell*, unconcealment, and unveiling aims to establish the governing spirit of technology. Because of this, technology and its development possess the power to transform and change. New technologies, especially media technologies, have revolutionized the modern world by bringing forth previously hidden phenomena, leading to a profound shift in human understanding of both the world and himself/herself. The nature of technology is intrinsically linked to human thought, significantly impacting human ideas and behavior. While humanity possesses the agency to bring technology into existence, Heidegger posits that the way this technology interacts with the world and humanity itself lies outside of human control.

Currently, technology pervasively shapes human life and the environment, impacting all aspects of human behavior. Naturally, this intervention has both positive and negative consequences, and escaping the dominance of technology is not a simple task. This is where the debate surrounding technological determinism arises. Heidegger argues that when confronting technological determinism, we can neither fully accept nor reject it, but rather utilize it fully while ensuring we remain its master, not its slave. Only in this way, he suggests, can we navigate the technological world with "astonishing simplicity and peace" (Jialin and Zhang, 2022). Modern media technology has created a visual world where seeing holds greater value than thinking (Berger, 2001).

Don Ihde further emphasizes the reduction of the world to an image. This perception cannot be ignored in the context of technological determinism. The issue of technology involves an analysis of the crafting of the Greek cup based on Heidegger's early Aristotelian interpretation. Greek *techne* implicitly appears here as a model of liberating technology, contrasting with modern technology. Instead of violating the inherent capacities of things like modern technology, *techne* understands them. Modern technology, unlike *techne*, does not perceive the objective essences embedded in the nature of the world. It seems to merely serve subjective ends rather than inherent purposes. It does not respond to inherent purposes as merely a tool without value.

Andrew Feenberg, in analyzing the perspectives of Heidegger and Marcuse on technology, notes that, from the standpoint of modern common sense, tools have independent goals and technology is "neutral" in the sense that there is no priority among the various uses to which it can be put. This instrumentalist philosophy of technology is the spontaneous product of technology itself. Technology confronts nature as raw material, not as a world that emerges from within itself, but as something waiting to be transformed into what we want it to be. This world is understood mechanically, not teleologically, and is usable without any inner purpose.

Based on this understanding of reality, the world has made enormous technical advances. Nothing holds us back from exploiting the world. Everything is subjected to an analytical intelligence that breaks it down into usable parts. Reason now only relates to the means, not the end. This points to a civilizational crisis from which there seems to be no escape: we know how to get there, but we don't know why we're going or even where we're going. It seems that the Greeks lived in harmony with the world, while we are alienated from it because of our freedom to define our goals as we wish (Feenberg & Heidegger, 2005). As Giddens argues, humanity is riding an unbridled horse galloping towards a cliff and destruction, but what matters to humans is the thrill of the ride, not the impending doom (Tasht Zar & et al, 2012).

## CONCLUSION

In light of Heidegger's philosophical analysis, new media technologies, beyond mere tools, are powerful manifestations of the essence of *techne* (*Gestell*), which have transformed how the world is opened and revealed to humans. These media, with their constant "challenging forth" for attention, data generation, and the creation of virtual experiences, shape a world where reality is continuously represented and reproduced pictorially.

As Heidegger pointed out, the essence of technology is not technology itself, but rather this "unconcealment" that reveals being in a particular way. New media technologies advance this unconcealment such that nature, human relationships, and even individual identity all become

resources for a “standing-reserve” ready for continuous exploitation. This process, as discussed in the paper, gives rise to concepts such as the “change in the concept of time” (*global time*) and the “identity crisis” in virtual space, as humans, in the face of the speed and scope of these media, redefine their traditional understanding of time, place, and self.

Ultimately, what emerges from the analysis of Heidegger’s views concerning new media technologies is a philosophical warning: although we appear free in our use of these technologies, this freedom is relative, and the technologies themselves, especially new media, place us on a trajectory from which escape is not easy. Heidegger suggests that neither absolute acceptance nor complete rejection of technology, but rather “dwelling in the unconcealment” and “mastering technology as master, not becoming its slave” is the path to an authentic encounter.

In the age of new media, this means distancing ourselves from passivity in the face of algorithms and media representations, rather than simply merging into the “standing-reserve” as consumers or data sources. Understanding the essence of media technology lies not merely in its instrumental use, but in how it reveals reality and shapes our being; a matter that necessitates a constant re-evaluation of the relationship between humans and these powerful tools.

## RECOMMENDATIONS

Inspired by Heidegger’s philosophy, this research argues that our interaction with new media technologies requires a perspective that transcends simple tool usage. To effectively manage the challenges posed by technology’s pervasive influence, or “Gestell,” a deeper understanding of its fundamental nature – how it “unveils” and shapes our world – is essential. This necessitates a shift in our approach across various levels, moving from passive consumption to a more conscious and active engagement.

At the educational level, this means integrating the philosophy of technology into curricula to cultivate critical media literacy. Students should learn not just how to use technology, but how to critically analyze its impact, understand how data transforms into “standing-reserve,” and develop skills for discerning media narratives. Future research should focus on the effectiveness of such “Heideggerian media literacy” in fostering a more aware relationship with technology.

On a societal and policy level, we must strive to temper the dominance of technological acceleration. This involves promoting “unmediated” interactions in physical spaces, valuing contemplation and presence over constant speed, and enacting policies that protect individual privacy and ensure algorithmic transparency. Supporting the development of “human-centric” technologies that prioritize dignity and meaningful connection is also crucial.

Finally, in design and engineering, ethical considerations must be embedded from the outset. Education should equip future innovators with an understanding of the existential and social consequences of their creations. Furthermore, developing “anti-Gestell” tools that empower users to manage their digital lives and resist commodification is vital. By adopting these multifaceted strategies, we can transition towards a relationship with technology where humanity guides its development for a more meaningful and authentic existence.

## REFERENCES

- Aldamen, Y., & Hacimic, E. (2023). Positive Determinism of Twitter Usage Development in Crisis Communication: Rescue and Relief Efforts after the 6 February 2023 Earthquake in Türkiye as a Case Study. *Journal of Social Sciences; Basel*, 12(8). doi:DOI:10.3390/socsci12080436

- Andres, A., & Usova, B. (2024). A conceptual analysis of collaboration in information literacy librarianship. *The Journal of Academic Librarianship*, 50(5). Retrieved from <https://doi.org/10.1016/j.acalib.2024.102934>
- Berger, J. (2001). *Ways of seeing*. Translated by Firouzeh Mohajer (2nd Edition ed.). Agah Publications.
- Bichranlu, A. (2019). *The Relationship between Technology and Media; A Meta-Synthesis Approach*. Faculty of Social Sciences, University of Tehran.
- Dreyer, W. (2024). Theology, philosophy and technology: Perspectives from the Hervormde Kerk. *HTS Theologische Studies*, 1-7. Retrieved from <https://doi.org/10.4102/hts.v80i1.9220>
- Dusek, V. (2006). *Philosophy of Science and Technology, First published*.
- Feenberg, A., & Heidegger, M. (2005). *The Philosophy of Technology, Text of a lecture*.
- Fuchs, C. (2015). Martin Heidegger's Anti-Semitism: Philosophy of Technology and the Media in the Light of the Black Notebooks. *Journal of Triple*, 1(13), 55–78.
- Grau, O., & Veigl, T. (2013). *Imagery in the 21st Century, second edition*.
- Guignon, C. (2012). Becoming a person: Hermeneutic phenomenology's contribution. *Journal of New Ideas in Psychology*, 30(1), 97-106. Retrieved from <https://doi.org/10.1016/j.newideapsych.2009.11.005>
- Hacking, I., Heidegger, M., & Ihde, D. (2014). *The Philosophy of Technology*. (T. b. Etemad, Trans.) Nashr-e Markaz Publications, 5th Edition.
- Herrero, J. (2024). Immersive Stories: From Technological Determinism Towards Narrative Determinism. *Journal of Media and Communication; Lisbon*, 12. DOI:10.17645/mac.8415
- Hope, W. (2016). *Communication and Global Capitalism, 1st edition*.
- Ihde, D. (2013). *Art and Technology (Heidegger's Phenomenological Philosophy on Technology)*. (T. b. Etemad, Trans.) in the book *Philosophy of Technology*.
- Jialin, L., & Zhang, B. (2022). Analysis of Heidegger's "Ge-Stell" Thought of Modern Technology and Art. *Journal of Environmental and Public Health*, 22, 1-8. Retrieved from <https://doi.org/10.1155/2022/7469970>
- Karilemla, f. (2019). Heidegger's History of Being and the Phenomenology of 'Other' Cultural Traditions. *Filosofia. Revista da Faculdade de Letras da Universidade do Porto*, 137-157. Retrieved from <http://dx.doi.org/10.21747/21836892/fil35a6>
- Memar, S., & Poursamad, A. (2012). Virtual Social Networks and Identity Crisis (With Emphasis on the Identity Crisis of Iran). *Social Studies and Research in Iran*, 1(4).
- Miri, M., & Dehdashti Shahrokh, Z. (2019). A Short Introduction to Comparative Research. *Allameh Tabataba'i University*. Retrieved from [https://www.researchgate.net/publication/336278925\\_A\\_Short\\_Introduction\\_to\\_Comparative\\_Research](https://www.researchgate.net/publication/336278925_A_Short_Introduction_to_Comparative_Research)
- Raghaviah, J. (2012). Technology in History: An Overview. *Centr for Socio-economic and Environmental Studies*. DOI:10.13140/RG.2.2.19336.80646

- Rogobete, S. (2015). The Self, Technology and the Order of Things: in dialogue with Heidegger, Ellul, Foucault and Taylor. *Social and Behavioral Sciences* 183, 122–128.  
doi:10.1016/j.sbspro.2015.04.854
- Tasht Zar, F., & et al. (2012). Religion and Modernity from the Perspective of Anthony Giddens. *Faslname-ye Adyan (Quarterly Journal of Religions)*, 6(15).
- Zamani, A. (2000). The Nature of Technology from Heidegger's Perspective. *Comprehensive Portal of Humanities Sciences*.