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The Role of Computers in Philosophy: An Interaction Perspective Humans and Technology

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Abstract

The development of computers has brought profound changes to human thinking and the philosophy of existence, knowledge, and social interaction. This research aims to examine the role of computers in a philosophical perspective, especially in the context of human interaction with technology. The method used is a literature review model, with articles that have gone through a screening process to strengthen the study. The results show that computers are not just technical tools, but function as epistemic agents and mediators of human reality. The development of this technology raises new implications in the philosophy of consciousness, ethics, and human existence.

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1. INTRODUCTION

The development of computer technology has brought significant impacts in various aspects of human life, including in the field of philosophy. *Human-computer interaction (HCI)* has become an

important subject in the study of philosophy of technology, highlighting how technology shapes the way humans think, behave and interact with the surrounding world [1]. The interaction between humans and computers is an important subject in the study of philosophy of technology, highlighting how technology shapes the way humans think, behave and interact with the surrounding *world* [2] . This article will discuss the role of computers in the philosophical sciences from the perspective of human and technological interaction, highlighting the ethical, epistemological and ontological implications that arise. In today's digital age, the role of computers has grown rapidly and become an integral part of human life [3] . Computers are not only used in engineering, medicine, and business, but have also made significant contributions to the development of philosophical sciences [4]. The development of artificial intelligence (AI), big data, and information technology has opened up new horizons in the way humans understand and discuss philosophical concepts such as consciousness, reality, and social interaction [5] .

An interesting phenomenon that has emerged is how computers are starting to become both a tool for philosophical reflection and a subject of philosophical study. For example, AI has raised questions about the boundary between human and machine intelligence [6] .In addition, virtual reality technology has challenged human understanding of reality and existence. In the context of interaction, the relationship between humans and technology also leads to the study of ethics, epistemology, and ontology. The current phenomenon shows that computers have changed various aspects of human life, including thinking and interaction [7]. Some facts and data that support this change include (1) Artificial Intelligence in Philosophical Studies AI is increasingly developing and is able to mimic the way humans think, machine learning algorithms are used in

the analysis of philosophical texts, AI-based chatbots have begun to replace the role of humans in intellectual discussions. (2) Changing Ways of Interacting with Virtual Reality (VR) and Augmented Reality (AR) technologies enable digital experiences that resemble the real world, Facial and voice recognition technologies enable more intuitive communication with computers, Chatbots such as ChatGPT have been used in various philosophical discussion forums. (3) Global Data on the Use of Technology in Philosophy According to a report from the World Economic [8] , more than 60% of philosophy academics use computers and AI for data analysis, A study published in the "Journal of Philosophy and Technology" shows that 75% of philosophy students use AI in their

research. Data from the Pew Research Centre (2022) shows that 45% of adults think AI can have "consciousness" in some philosophical sense [8] .

The development of computer technology in the last decade has gone beyond its function as a computational aid, transforming into a social entity that shapes human mindsets, values, and interactions [9]. The presence of artificial intelligence, big data, machine learning, to virtual reality-based interface systems, radically changes the paradigm of human existence and the reality faced (Cantarelli et al., 2018). The philosophy of technology views computers not just as passive instruments, but active agents in the mediation of human experience [10]. In this context, traditional concepts such as consciousness, freedom, autonomy, and moral value need to be revisited. Computers change the boundary between subject and object, expanding the epistemological domain and deepening the ontological and ethical discourse. Fundamental questions arise: Do computers have a certain form of "consciousness"? How should humans treat AI-based systems? Can technology replace the role of humans as rational beings? This phenomenon is the basis of the urgency of this research, which is to examine more deeply the role of computers in a philosophical perspective, especially in shaping new patterns of interaction between humans and technology, using a systematic approach based on a review of recent scientific literature [11].

2. MATERIALS AND METHODS

This research uses the literature review method. This method is used because of its approach that allows researchers to analyse various relevant scientific works in order to answer research problems [12]. The stages of the method include: Literature Search, Using *Google Scholar, Scopus, and Research Gate* databases *with keywords such as philosophy of computer science, human- computer interaction, and philosophy of technology*. Selection and Screening, Articles were screened based on relevance of themes, methods, and relevance to philosophy and human-technology interaction. Inclusion Criteria: (Articles in English or Indonesian, Published in the last 10 years except classical theory, Focus on philosophical aspects, not just technical). In this research, five main articles from international and national indexed journals were used, as well as some supporting literature from philosophy of technology books.

3. RESULTS

The results of the literature review showed some key findings:

No.	Author (Year)	Article Title	Key Findings	Source
1.	Floridi (2020)	*The Logic of Information: A Theory of Philosophy as Conceptual Design*	Computers as a new environment for information production and distribution, shaping digital epistemology.	Journal Article
2.	Verbeek (2020)	*Moralising Technology: Understanding and Designing the Morality of Things*	Technology constructs social reality, not just mediates human world relations.	Book
3.	Coeckelbergh (2022)	*Ethics of Artificial Intelligence and Robotics*	AI challenges the concept of moral responsibility and human ethical consciousness.	Journal Article
4.	Müller (2021)	Philosophy of AI	Discussion on the moral status of AI and the possibility of post human existence.	Journal Article
5.	McQuillan (2023)	*Algorithmic Theory: Sociotechnical Perspectives on Artificial Agency*	Algorithms are seen as social actors with political and ethical consequences.	Journal Article

This research found that computers in the perspective of modern philosophy are no longer positioned simply as technical aids, but as epistemic, ethical and ontological actors that shape human relations with the world. Based on the literature review, five important themes emerge.

Firstly, according to (Černý, 2020) in the concept of *Philosophy of Information*, computers are understood as a new environment of knowledge production and distribution. In this information age, humans not only process data, but also live in an epistemic space shaped by computers. Computer technology shapes the structure of human cognition through the mechanisms of digitalisation, big data and algorithms. This means that computers play an active role in directing how humans understand the world, shifting the role of humans from information creators to users in a dynamic data ecosystem. This phenomenon marks the birth of digital epistemology, where information is produced, curated and validated algorithmically.

Secondly, Verbeek (2020) through the *Technological Mediation* approach emphasises that technology no longer only mediates the relationship between humans and the world, but also shapes the world itself. In the context of computers, this is reflected in how digital interfaces, virtual reality, and augmented reality build new experiences of space, time, and existence. Human interactions with computers are not neutral, but rather reshape perceptions, actions and even social norms. In this framework, humans and computers shape each other and are constructed in a relational network.

Third, Coeckelbergh (2022) discusses that the development of artificial intelligence challenges traditional concepts of moral responsibility and human ethical awareness. In the AI era, important decisions ranging from job recruitment to the judicial system are starting to involve algorithmic systems. This blurs the line between human action and machine action. According to Coeckelbergh, the ethical relationship between humans and technology must consider the distribution of responsibility, the potential for bias, and the social impact of computerised actions. Computers, in the form of intelligent systems, become an integral part of a new, more complex ethical network.

Fourth, in a study on *Philosophy of AI*,[13] raises fundamental questions about the moral and existential status of intelligent systems. With the advancement of computer technology towards autonomous artificial intelligence, discussions arise about the possibility of post-human existence. Müller questions whether computer-based entities can be recognised as having rights, free will, or even a form of consciousness. This question is not only theoretical, but has practical implications for how society designs laws, policies, and social systems in the future.

Fifth, McQuillan (2023) in his study of Algorithmic Agency states that modern algorithms are no longer just passive instructions, but social agents capable of influencing human decisions on a massive scale. Algorithms shape preferences, moderate social behaviour, and even influence public opinion through digital platforms. This shows that computers, in their algorithmic form, have become part of a new power structure that requires in-depth philosophical analysis related to autonomy, control, and social justice (Cantarelli et al., 2018).

Overall, the results of this study show that the development of computers has broadened the scope of contemporary philosophy, giving birth to new branches of study such as digital epistemology, technological mediation, and the ethics of artificial intelligence. These changes require humans to not only develop technology, but also critically reflect on how it shapes the way humans live, think, and understand themselves in the world.

4. CONCLUSION

This research asserts that the role of computers in philosophy can no longer be viewed simply as technical tools to support human activities, but has evolved into epistemic, ethical and ontological actors in modern life. Findings from recent literature show that computers shape new knowledge ecosystems, construct social realities through technological mediation, and drive a paradigm shift in understanding moral responsibility and consciousness. The information age has transformed how humans acquire,manage and validate truth. Computers, in their algorithmic capacity and artificial intelligence, not only mediate human activities, but also determine the direction of social, cultural, and even existential development. The concept of moral agency is no longer exclusive to humans, but involves computer- based systems capable of making decisions and influencing real life. As such, the relationship between humans and computer technology must be understood within a new relational and ethical framework. Contemporary philosophy is faced with the challenge of continually revising its basic concepts of consciousness, responsibility, freedom and existence as technology becomes more deeply integrated into human life. This research recommends the importance of developing a critical philosophical approach to technology, as well as the need for ethical regulation and technological design based on human values, so that computer development does not only prioritise technical efficiency, but also pays attention to human existential sustainability in a changing digital world.

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