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Metaphorical conceptualization of AI in digital discourse

Conceptualización metafórica de la IA en el discurso digital

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Abstract

This study investigates the conceptual metaphors employed to characterize Artificial Intelligence (AI) within online public discourse. By using a cognitive semantic approach, this investigation aims to uncover how metaphors shape social perceptions of AI, revealing the cognitive mechanisms involved in making sense of this rapidly evolving technology. An adapted version of the Metaphor Identification Procedure (MIP) has been combined with semantic frames to analyze the metaphorical mappings between the source and target frames, offering a more precise examination of the metaphors' conceptual structure. The analysis reveals a spectrum of metaphors portraying AI both as a beneficial partner and a potential threat, reflecting diverse attitudes and concerns about its integration into society. By focusing on the frame level, this study provides a fine-grained understanding of how different aspects of AI are construed through familiar conceptual frames. The findings contribute to the field of Cognitive Semantics and offer valuable insights for AI developers, educators, and communicators, emphasizing the importance of metaphors in framing society's understanding of emerging technologies.

Keywords: artificial intelligence, cognitive semantics, conceptual metaphor, domains, frames.

Resumen

Este estudio investiga las metáforas conceptuales empleadas para caracterizar la Inteligencia Artificial (IA) en el discurso público digital. Al utilizar un enfoque semántico-cognitivo, esta investigación tiene como objetivo descubrir cómo las metáforas dan forma a las percepciones sociales sobre la IA, revelando los mecanismos cognitivos involucrados en la comprensión de esta tecnología en rápida evolución. Se ha combinado una versión adaptada del Metaphor Identification Prodecure (MIP) con marcos semánticos para analizar los mapeos metafóricos entre los marcos fuente y meta, ofreciendo un análisis más preciso de la estructura conceptual de las metáforas. El análisis revela un espectro de metáforas que retratan a la IA tanto como un buen compañero como una amenaza potencial, reflejando diversas actitudes y preocupaciones sobre su integración en la sociedad. Al centrarse en el nivel de marcos, este estudio proporciona una comprensión detallada de cómo diferentes aspectos de la IA se conciben a través de marcos semánticos familiares. Los hallazgos contribuyen al campo de la Semántica Cognitiva y aportan perspectivas valiosas para desarrolladores de IA, educadores y comunicadores, enfatizando la importancia de las metáforas en la configuración de la comprensión de la sociedad sobre las tecnologías emergentes.

Palabras clave: *inteligencia artificial, semántica cognitiva, metáfora conceptual, dominios, marcos.*

Summary

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1. Introduction

Metaphors are essential cognitive tools that enable people to understand and communicate abstract or complex concepts in terms of more familiar domains of experience (Lakoff, 1993; Kövecses, 2020). Such reasoning allows human beings to grasp the meaning and relevance of complex phenomena, such as Artificial Intelligence (henceforth, AI).

The development of AI has been one of the most groundbreaking technological advancements of our time, permeating various aspects of our society, including healthcare, education, industry and communication. As AI becomes increasingly integrated into our everyday life, understanding and examining how it is conceptualized in public discourse becomes critical. How we talk about AI can shape our perceptions of its role and influence, guiding our interactions with this technology. Conceptual metaphors offer a valuable lens for examining these perceptions, revealing how familiar, concrete cognitive domains of experience are utilized to make sense of AI's intricate nature.

In recent years, the study of metaphors in AI discourse has grown, as scholars seek to understand how language shapes the perception and integration of AI technologies. For instance, Carbonell *et al.* (2016) examined how technology metaphors shape both the perception and the evolution of AI. Their study shows that source domains like BRAIN or INTELLIGENCE provide structural frameworks that affect public and scientific understanding of AI's potential. Their analysis suggests a reciprocal relationship wherein metaphors not only influence how technologies are perceived but also guide their development trajectories.

In the same vein, Lingel (2018) addressed metaphorical language directly tied to anxieties around AI, particularly through the lens of CLONES and CYBORGS. Lingel argued that metaphors of duplication and mimicry evoke core social fears regarding identity, individuality, and labor, particularly as automation advances. Her work situates metaphors of mimicry as central to understanding the tensions of automation.

Floridi (2019) added an ethical perspective to the discussion by considering AI as a moral agent, as metaphors of autonomy and cognitive ability shape social expectations around AI's role. Floridi argued that these anthropomorphic metaphors lead to public misconceptions, framing AI as a quasi-human actor rather than as a tool shaped by human agency. This insight highlights the importance of reframing AI discourse to clarify AI's functional limitations.

Similarly, Johnson and Verdicchio (2017) examined metaphors that imply autonomy in AI. They argued that framing AI as autonomous generates sociotechnical blindness, where the human agency in AI development becomes obscured. They advocate for metaphors that better reflect AI's dependence on human input, reframing AI discourse to mitigate fear and highlight accountability.

In turn, Sutherlin (2023) critiqued the dominant "mind-machine" metaphor, arguing that it reflects Western-centric notions of intelligence and cognition that may inadvertently exclude diverse cultural understandings. Sutherlin proposed adapting this metaphor to promote global inclusivity in AI development, suggesting that broadening AI's conceptual framework could reduce bias and increase equity.

In a more recent study, Gupta *et al.* (2024) focused on metaphors as tools for advancing critical AI literacy. They analyzed source domains such as ASSISTANT and COLONIZER to uncover how different high schematic domains shape perceptions of AI's autonomy and sentience. Their findings emphasize that metaphorical language plays a pivotal role in fostering nuanced reflections on AI, encouraging educators and researchers to use metaphors to advance critical inquiry into AI technologies.

Extending this line of research, the current study explores the conceptual metaphors used to characterize AI in publicly available blog posts. The method applied to identify the metaphorical expressions is the Metaphor Identification Procedure (MIP) (Pragglejaz Group, 2007). Furthermore, semantic frames (Fillmore, 1982) are used to uncover the metaphorical mappings between core frame elements implicated in the metaphors identified. The integration of frames into the analysis allows for a deeper examination of the cognitive structures that underlie metaphorical expressions referring to AI.

The significance of this investigation lies in its dual contribution: it advances the methodological approach to metaphor identification at the conceptual level by combining MIP with Frame Semantics, and it enriches our comprehension of AI's conceptualization within public discourse. Given AI's rapid integration into modern life, it is essential to examine the metaphors we use to describe it. By questioning and reflecting on these metaphors, we can develop a more nuanced and accurate understanding of AI's capabilities and limitations, which, in turn, can shape public attitudes, policies, and technological innovation.

The metaphors uncovered in this analysis reflect a range of perspectives on AI, spanning an array of connotations, from perceptions of AI as a partner or assistant to more dystopian views that evoke fear and disruption. By examining the diverse source frames used to conceptualize AI, we can gain valuable insights into how different metaphors highlight specific features or characteristics of AI. Each source frame emphasizes particular aspects of AI, selecting certain attributes to be metaphorically understood through more familiar, concrete experiences. This selective focus not only illustrates the varying social attitudes toward AI, but also reveals the underlying concerns and hopes that influence its portrayal. In turn, these metaphorical representations shape public perceptions and may affect how AI is integrated into various domains of society, from everyday life to more specialized fields.

Thus, the aim of this study is to provide a comprehensive analysis of the conceptual metaphors used to describe AI in blog posts and to discuss the broader social implications of these metaphors. This investigation offers a valuable contribution to the fields of Cognitive Semantics, communication studies, and AI research, providing key insights for engaging with the challenges of AI integration in our society.

This article proceeds as follows: the next section delves into the potential of conceptual metaphors. Then, the methodology is outlined, detailing the application of MIP and frames for identifying and analyzing AI-related metaphors. The results and discussion sections present a detailed analysis of the identified metaphors. Finally, the conclusion synthesizes key findings.

2. The potential of conceptual metaphors

Conceptual Metaphor Theory (henceforth, CMT), introduced by Lakoff and Johnson (1980) in their seminal work *Metaphors We Live By,* revolutionized the understanding of metaphors, shifting the focus from their role as mere linguistic flourishes to fundamental cognitive tools. According to CMT, metaphors enable us to make sense of abstract or complex concepts by mapping more familiar, concrete domains of experience onto them. These conceptual projections, known as mappings, connect a source domain to a target domain, allowing us to reason about abstract concepts through concrete, everyday experiences. For instance, the metaphor LOVE IS A JOURNEY envisions the abstract concept of love (target) in terms of a journey (source) (Lakoff & Johnson, 1980).

Lakoff (1993) also introduced the *Invariance Principle*, emphasizing that metaphorical mappings maintain the cognitive topology of the source domain while being consistent with the inherent properties of the target domain. Therefore, mappings allow knowledge from the source to influence the way we understand and reason about the target, thereby impacting not only our thoughts but also our actions and perceptions.

In Cognitive Semantics, a vital distinction is made between conceptual metaphors, which operate at the thought level, and linguistic metaphors, which are their verbal manifestations. Conceptual metaphors, in particular, play a significant role in shaping the way we think about various phenomena, influencing public discourse and social attitudes (Burgers, 2016; Muelas-Gil, 2019; Zeng & Ahrens, 2023). For instance, the metaphor ARGUMENT IS WAR underlies expressions like "His claims are indefensible" portraying how our understanding of arguments as battles manifests in everyday language (Lakoff & Johnson, 1980).

Building on the foundations of CMT, Kövecses (2020) suggested the *Extended Conceptual Metaphor Theory* and introduced the multi-level view of metaphor, which highlights that metaphors can operate across different levels of cognitive schematicity, from image schemas to domains, frames, and mental spaces. Image schemas are basic preconceptual configurations stemming from embodied experiences (Johnson, 1987), often exhibiting universal cognitive patterns. Cognitive domains encompass more elaborate conceptual structures, covering different areas of human experience, while frames represent specific knowledge configurations within these domains (Kövecses, 2020). This perspective allows for a more detailed exploration of how conceptual metaphors are structured and understood.

This study focuses specifically on the frame level of metaphor analysis, since semantic frames provide a more fine-grained understanding of how particular aspects of a frame are construed through metaphorical mappings (Sullivan, 2013). By analyzing the source frames, this study explores how different features of AI are highlighted and understood through familiar semantic frames.

By examining the metaphors used to conceptualize emerging technologies like AI, we can gain deeper insights into the cognitive processes that shape social attitudes toward such innovations (Anderson, 2023; Carbonell *et al.,* 2016; Gupta *et al.,* 2024; Johnson & Verdicchio, 2017; Lim, 2024; Tham *et al.,* 2021).

All in all, conceptual metaphors serve as essential cognitive tools, structuring our understanding of abstract phenomena. By delving into a frame-level analysis of AI metaphors, this study seeks to uncover how AI, as a complex and evolving concept, is shaped through metaphorical constructs in digital discourse.

3. Methodology

This study conducts a qualitative analysis of a variety of conceptual metaphors employed in freely available blog posts to describe and represent AI. In terms of data collection, the blog posts analyzed were sourced from openly accessible online platforms to capture a broad cross-section of public discourse surrounding AI.

The timeframe for data collection spans from 2017 to 2024, a period that aligns with significant advancements in AI technology and a corresponding surge in public interest and debate. Around 2017, advances in machine learning and natural language processing began to permeate public awareness, marking a period when AI moved from specialized, technical discussions to broader social engagement. This era witnessed the rise of prominent AI technologies, such as generative language models, virtual assistants, and automation tools, which rapidly integrated AI into everyday life and significantly influenced public perception (Cockburn *et al.,* 2019; Kuzior & Kwilinski, 2022; Sartori & Bocca, 2023).

The selection of blog posts was guided by several factors to ensure both diversity and relevance. The corpus covers both technology-focused blogs, which appeal to audiences familiar with AI, and general-interest blogs, which cater to readers who may be less versed in technical aspects but are interested in social and ethical implications. This variety helps to mitigate selection bias, as it captures a range of metaphorical representations reflecting different social, cultural, and professional perspectives on AI.

Only blog posts that directly address AI's role, impact, or social implications were included. Posts that focus strictly on technical details without metaphorical framing were excluded to ensure that the data would be rich in relevant metaphorical content, aligning with the study's goal of examining AI's broader social perception.

The metaphors selected for analysis in this study were chosen for their thematic relevance and conceptual richness. For instance, a metaphor like AI INTEGRATING INTO OUR LIVES IS AN ALIEN INVADING OUR PLANET is not only vivid and emotionally charged but also encapsulates a range of concerns. This conceptual density makes such metaphors particularly valuable, as they activate deeper cultural and psychological frameworks that reflect public concerns about AI's role in society. By contrast, metaphors that are more schematic (i.e., generic metaphors belonging to higher levels of conceptual schematicity, such as AI IS A TOOL) construe AI more superficially. Therefore, that kind of metaphors was deemed less suitable for this study, as they lack the depth necessary to capture the nuanced ethical, social, and existential concerns central to this analysis. Additionally, the focus on previously unexplored metaphors aligns with the study's aim to expand the repertoire of known metaphors in AI discourse, offering original insights into emerging public perceptions.

Concerning metaphor identification and analysis, the combination of MIP (Pragglejaz Group, 2007) and semantic frames (Fillmore, 1982) is a methodological approach that has been successfully employed in several studies to explore the internal configuration of frame level metaphors (Esbrí-Blasco, 2024; Esbrí-Blasco & Navarro i Ferrando, 2023; Navarro i Ferrando & Esbrí-Blasco, 2024). These studies demonstrate the power of combining metaphor identification with a frame-based analysis to reveal deeper insights into the conceptual structures underlying metaphorical language. Building on this methodology, the current study applies this approach to the domain of AI, a relatively underexplored area within public discourse, making the current investigation a valuable contribution to Cognitive Semantics, AI and communication studies.

This combined approach allowed for the systematic identification of both the source and target frames, along with the corresponding mappings between frame elements participating in each metaphor. To aid comprehension and clarity, figures illustrating the frame element mappings are provided, facilitating a deeper understanding of the metaphorical correspondences.

By applying this methodology, the current study offers a detailed qualitative analysis of the internal conceptual structure of a number of AI-related metaphors, examining both their linguistic form and their underlying conceptual patterns. Incorporating semantic frames into the metaphor identification process enhances the rigor and depth of the analysis, shedding light on the cognitive constructs that influence how AI is represented in digital discourse.

4. Results

4.1. DIRECTING AI TO EXECUTE A TASK IS COMMANDING A SLAVE TO OBEY AN ORDER

The source frame COMMANDING A SLAVE TO OBEY AN ORDER refers to the hierarchical and power-imbued relationship in which a master exercises control over a subservient slave. In this frame, the master issues commands or orders that the slave is expected to execute without question or deviation. This dynamic encapsulates themes of authority, obedience, and lack of autonomy, emphasizing the notion that the slave exists solely to fulfill the master's demands. The actions taken by the slave are dictated entirely by the master's instructions, highlighting the complete dependence of the slave on the master's will and the absence of personal agency. This frame evokes historical and ethical considerations surrounding exploitation, servitude, and the moral implications of power imbalances in relationships.

(1) "Today, most people tend to think about AI in the context of a Master-Slave relationship. We try to give AI orders and expect it to obey. We marvel at its sheer power, unlimited attention, crazy skills mixed with stupidity and dedication. We get frustrated when it doesn't do what we want it to do" (Strakhov, 2023).

(2) "Some of our AI slaves perform more general labor, others are more specialized. We worry about these slaves getting more self-conscious, developing their own will and misaligning their goals with ours" (Strakhov, 2023).

Figure 1. Mappings involved in the metaphor DIRECTING AI TO EXECUTE A TASK IS COMMANDING A SLAVE TO OBEY AN ORDER

COMMANDING A SLAVE TO OBEY AN ORDER (SOURCE FRAME)		**DIRECTING AI TO EXECUTE A TASK (TARGET FRAME)**
A slave	⟶	**AI**
Task execution: A slave performs laborious, repetitive, or undesirable tasks for the master.	⟶	*Task execution*: AI systems are often designed to automate mundane, repetitive, or complex task that humans may find undesirable or difficult.
Autonomy: A slave has little to no autonomy or freedom, since their actions are controlled by a master.	⟶	*Autonomy*: AI operates under human programming and control, following commands without self-determination.
Subservience: A slave exists to serve the will and needs of the master, without any inherent rights.	⟶	*Subservience*: AI is developed and used to serve humans, performing tasks for human benefit without inherent goals or agency.
Ownership: a slave is considered the property of a master, lacking personal rights.	⟶	*Ownership*: AI is owned by companies, developpers, or users, who maintain complete control over it.

Source. Own elaboration.

As observed in examples (1) and (2), AI is sometimes conceived of as a slave that obeys its master's orders. Figure 1 portrays the mappings between frame elements involved in the frame level metaphor DIRECTING AI TO EXECUTE A TASK IS COMMANDING A SLAVE TO OBEY AN ORDER.

In this metaphor, AI is understood as the slave of its user, highlighting the complete dependence of AI on human direction and the inherent power dynamics in their interaction. Furthermore, a slave is expected to carry out laborious, repetitive, or undesirable tasks assigned by their master. These tasks often require significant physical effort or monotonous work that the master deems necessary but is unwilling to perform themselves. The slave's role is characterized by a lack of choice or agency, as they are compelled to fulfill the

master's demands without regard for their own desires or well-being. This dynamic illustrates a fundamental aspect of servitude, where the slave's primary function is to alleviate the master's burdens by executing tasks that are often considered menial or unpleasant. Likewise, AI is designed to perform specific tasks that are typically tedious, time-consuming, or beyond the capabilities of humans. AI operates under the strict guidance of its users, executing commands without question or deviation. The expectation is for AI to deliver results efficiently and accurately, similar to how a slave is anticipated to fulfill the master's orders without resistance.

Moreover, this relationship reinforces the notion that AI lacks personal agency or initiative; it does not choose tasks or make independent decisions but instead waits for human input to activate its functionality. Just as some master's measured their slaves' worth in terms of their ability to meet their demands, AI's effectiveness is evaluated based on its performance in executing assigned tasks. This reinforces a view of AI as a mere tool, devoid of agency and driven solely by the directives given by its human operators.

As for autonomy, the lack of autonomy experienced by a slave is mirrored in the relationship between AI and its user. A slave is entirely dependent on the master for direction and purpose, existing within a framework that denies their personal agency or self-determination. This absence of autonomy means that the slave cannot make choices about their own tasks or life; their actions are dictated solely by the master's will. Similarly, AI operates without autonomy, relying on human input to define its actions and tasks. While AI may be capable of processing information and generating outputs, it does not possess the ability to make independent decisions or initiate tasks on its own. Instead, AI functions within the parameters set by its developers or users, executing commands as instructed without any inherent understanding or personal judgment. This mapping emphasizes the idea that AI, much like a slave, is a tool that serves a specific purpose dictated by external agents.

Therefore, subservience highlights the fundamentally hierarchical relationship between a slave and their master, which parallels the role of AI as it serves human users. A slave exists to fulfill the master's needs, engaging in tasks that may be labor-intensive or undesirable, without any recognition of their own rights or desires. This relationship is characterized by an expectation of compliance and the absence of any autonomy. For AI, this subservience is evident in its design and functionality. AI is created specifically to perform tasks that assist users. The concept of subservience further emphasizes the power dynamics inherent in human-AI interactions. Users hold the authority to dictate the actions and outcomes of AI, reinforcing the notion that AI is a tool rather than an autonomous agent. This perspective invites critical examination of the ethical implications surrounding the use of AI, particularly in terms of responsibility and the potential for exploitation in the absence of agency. Thus, viewing AI through the lens of subservience allows for a deeper understanding of its role within human society and raises important questions about how we conceptualize entities that function solely to serve human interests.

In addition, the ownership of AI is construed as a slave being the property of their master, devoid of personal rights or autonomy. This status places the slave in a position where their identity and value are determined entirely by the master's will. Similarly, AI's developers or users have the authority to dictate how AI operates, what tasks it performs, and how it is utilized. By framing AI within the context of ownership, we gain insight into how social norms and values shape our interactions with technology, prompting discussions about the ethical and moral responsibilities that accompany such ownership.

4.2. RECEIVING GUIDANCE FROM AI TO PERFORM A TASK IS BEING ASSISTED BY A GUIDE DOG

Another source frame identified is BEING ASSISTED BY A GUIDE DOG, which entails a visually impaired person receiving help from a trained service dog. In this relationship, the guide dog plays a vital role in aiding the blind person move through their environment safely and effectively. The dog's heightened senses, such as keen hearing and spatial awareness, enable them to detect obstacles, assess surroundings, and provide critical guidance. Nevertheless, the human partner retains ultimate control over the direction and decisions, using their own judgment to determine the path forward. This dynamic exemplifies a collaborative partnership where the guide dog enhances the human's abilities while respecting their agency and autonomy.

(3) "I see our working relationship with AI as analogous to the partnership we see between a human being and a service animal — the intelligent, alert, eager-to-please service dog" (Little, 2023).

(4) "Despite walking ahead of the human, the guide dog doesn't lead in a general sense, and neither should AI. [...] Like AI, the dog's abilities are often superior — better senses of hearing and smell, superior night vision and general mobility — but the human partner is in charge" (Little, 2023).

Examples (3) and (4) evoke the frame level metaphor RECEIVING GUIDANCE FROM AI TO PERFORM A TASK IS BEING ASSISTED BY A GUIDE DOG. In example (3) the comparison points at the collaborative relationship between human beings and AI, aligning with the partnership between a person and their service dog. Example (4) emphasizes that, while a guide dog might possess superior senses, it is the human who retains control, reflecting how users utilize AI's capabilities while making their own decisions. Figure 2 depicts the particular mappings between frame elements contributing to the metaphor RECEIVING GUIDANCE FROM AI TO PERFORM A TASK IS BEING ASSISTED BY A GUIDE DOG.

Figure 2. Mappings involved in the metaphor RECEIVING GUIDANCE FROM AI TO PERFORM A TASK IS BEING ASSISTED BY A GUIDE DOG

BEING ASSISTED BY A GUIDE DOG (SOURCE FRAME)		**RECEIVING GUIDANCE FROM AI TO PERFORM A TASK (TARGET FRAME)**
Visually impaired person	⟶	AI's user
Guide dog	⟶	AI
Guidance: A guide dog helps the person avoid obstacles and reach specific destinations	⟶	*Task execution:* AI offers users direction through recommendations, data driven insights, or step-by-step instructions, facilitating navigation through complex systems or processes
Heightened sensory abilities: The guide dog possesses enhanced senses	⟶	*Enhanced analytical Capabilities:* AI employs advanced algorithms to provide support to its users
Training: A guide dog undergoes specialized training to learn how to assist its owner effectively and safely	⟶	*Programming:* AI is programmed through algorithms, machine learning models, or datasets, enabling it to assist users based on patterns and knowledge
Trust: A person places trust in their guide dog,knowing that their dog's training and instincts will help them avoid danger and make the right decisions	⟶	*Trust:* AI's algorithms are trusted to improve accuracy and decision-making
Control: The human retains ultimate authority over the direction	⟶	*Control:* The AI's user remains in charge of decision-making while utilizing AI's support to enhance their task performance

Source. Own elaboration.

As shown in Figure 2, in the frame level metaphor RECEIVING GUIDANCE FROM AI TO PERFORM A TASK IS BEING ASSISTED BY A GUIDE DOG, AI is envisioned as a guide dog. Just as a guide dog assists by steering the visually-impaired person away from obstacles and guiding them to their destination, AI plays a similar role by offering AI users direction through data-driven recommendations, insights, or step-by-step instructions. This assistance enables users to navigate complex systems and processes more efficiently, avoiding potential errors or challenges in task execution. The guide dog's role in providing physical guidance is thus mapped onto AI's role in offering cognitive support for decision-making and task management.

Moreover, the exceptional senses of a guide dog, such as their superior hearing and spatial awareness, enable them to aid the visually impaired person in navigating their environment more effectively. These enhanced senses allow the guide dog to detect obstacles, assess surroundings, and provide critical guidance to ensure safety. In a similar vein, AI possesses enhanced capabilities through advanced algorithms and data analysis. By identifying patterns, analyzing large datasets, and offering predictive insights, AI assists users in making well-informed decisions. Just as the guide dog compensates for the physical limitations of their human partner, AI augments its user's cognitive abilities, offering support in performing complex tasks.

In terms of training, the guide dog undergoes extensive, specialized training to develop the skills necessary to assist their human partner safely and effectively. This training equips the service dog with the ability to navigate obstacles, follow commands, and provide reliable support in various situations. Likewise, AI is programmed and trained through complex algorithms, machine learning models, and vast datasets. This programming allows AI to assist its users by recognizing patterns, analyzing data, and applying learned knowledge to provide accurate recommendations and solutions. Both the guide dog and AI rely on their respective forms of training to enhance their effectiveness in supporting the human partner and user.

In both cases, trust plays an essential role in the relationship between the human and their assistant, whether it be a guide dog or AI. A person places trust in their guide dog, confident that the dog's specialized training and natural instincts will help them avoid potential hazards. The trust is built over time, as the human becomes familiar with the dog's reliability in responding to complex environments. In the case if AI, the trust in AI reflects its users' confidence in its ability to process information and deliver insights that aid in navigating challenges. Thus, both the guide dog and AI serve as trusted partners, each relying on their specialized training to assist their respective human partners effectively.

In addition, control is an essential element in the dynamic between a guide dog and its human partner, as the human retains ultimate authority over the direction and decisions made during navigation. While the guide dog provides invaluable assistance in avoiding obstacles and identifying safe paths, it is their human partner who determines the route and exercises judgment in various situations. This relationship remarks the importance of the human's autonomy and decision-making capabilities. In a similar manner, the relationship between AI and its user reflects this notion of control. While AI offers valuable support through data analysis and recommendations, its user remains in charge of decision-making.

4.3. USING AI TO PERFORM A TASK IS BEING ASSISTED BY A COPILOT WHILE FLYING

The source frame BEING ASSISTED BY A COPILOT WHILE FLYING involves the prototypical situation in which a pilot operates an aircraft with the assistance of a copilot. In this scenario, the copilot plays a crucial supportive role, sharing the responsibilities of navigation, decision-making, and task execution. This collaborative relationship enhances the safety and efficiency of the flight, as the copilot provides expertise, monitors instruments, and helps manage complex situations.

(5) "Prepare for any turbulence ahead and change your workflow to avoid foreseen obstacles. That is, you can use AI to gather insights from your current and future projects, and anticipate how the risk of dependencies, delays, and resource shortages can impact your trajectory. […] don't kick your new copilot out of the cockpit just yet. AI is here and it's already transforming the way we work on a day-to-day basis" (Proggio, 2024).

(6) "The work has been done and it is time to build consensus and act, and we are not yet ready to have AI make these decisions; while AI has helped give us the data, the pilot is going to land the plane"(Fuel Cycle, 2023).

As illustrated in examples (5) and (6), AI can be construed as a copilot to emphasize its collaboration and support in task execution. Example (5) highlights AI's role in providing insights and guidance to navigate challenges, while example (6) remarks the importance of human oversight in decision-making. Figure 3 shows the specific mappings between frame elements participating in the metaphor USING AI TO PERFORM A TASK IS BEING ASSISTED BY A COPILOT WHILE FLYING.

Figure 3. Mappings involved in the metaphor USING AI TO PERFORM A TASK IS BEING ASSISTED BY A COPILOT WHILE FLYING

BEING ASSISTED BY A COPILOT WHILE FLYING (SOURCE FRAME)		**USING AI TO PERFORM A TASK** (TARGET FRAME)
Pilot	----------▶	**AI's user**
Copilot: A copilot assists the pilot in navigating and managing the flight	----------▶	*AI:* AI assists users in performing tasks, enhancing their ability to achieve goals and manage complexities
Collaboration: The copilot collaborates with the pilot, sharing responsibilities for the flight's success	----------▶	*Collaboration:* AI collaborates with users, working along-side them to optimize processes and improve outcomes
Navigation: The copilot helps navigate the air-craft, guiding it through various phases of flight	----------▶	*Guidance:* AI assists users in navigating tasks, providing step-by-step guidance
Decision-making: The copilot aids the pilot in making real-time decisions based on flight conditions and data	----------▶	*Decision making:* AI supports users in making informed decisions by analyzing data and predicting outcomes

Source. Own elaboration.

As depicted in Figure 3, in the frame level metaphor USING AI TO PERFORM A TASK IS BEING ASSISTED BY A COPILOT WHILE FLYING, AI is conceptualized as a copilot. Copilots aid the pilot in navigating and managing the flight. Similarly, AI helps users perform tasks, improving their capacity to reach goals and manage challenges.

In terms of collaboration, a copilot works alongside the pilot, sharing responsibilities and contributing expertise to ensure the safety and efficiency of the flight. This collaborative dynamic allows for better decision-making and problem-solving during critical moments. This can be conceptually projected onto AI, which operates as a supportive partner for users, enhancing their capabilities and helping them perform tasks.

Moreover, the copilot helps navigate the aircraft, guiding it through various phases of flight, ensuring that the pilot remains on course and responds effectively to changing conditions. This role involves monitoring instruments, interpreting data, and suggesting adjustments to maintain optimal flight paths. Likewise, AI assists users in navigating tasks by providing step-by-step guidance, facilitating a smoother workflow. By analyzing user inputs and contextual information, AI can suggest the next steps, highlight potential obstacles, and recommend strategies to overcome challenges. This guidance helps users maintain focus and efficiency, much like a copilot ensures that a flight remains on track, ultimately leading to more successful task completion.

As for decision-making, the copilot assists the pilot in making real-time decisions, drawing on flight conditions and data to ensure the aircraft operates safely and efficiently. This collaborative process involves continuous monitoring of various parameters, such as altitude, speed, and weather conditions, allowing the copilot to provide timely recommendations and alternative options during critical moments. In a similar vein, AI supports users in making informed decisions by analyzing vast amounts of data and predicting potential outcomes. Through advanced algorithms and machine learning techniques, AI can identify patterns and trends within the data, offering insights that help users evaluate different scenarios. This support enables users to consider various factors and make strategic choices with greater confidence, ultimately enhancing their decision-making processes in complex and dynamic environments.

4.4. AI INTEGRATING INTO OUR LIVES IS AN ALIEN INVADING OUR PLANET

The source frame AN ALIEN INVADING OUR PLANET refers to the situation in which extraterrestrial beings enter the Earth with the intent to dominate or alter human life. This frame evokes a sense of intrusion and upheaval, as aliens are often depicted as foreign entities with advanced technologies and unknown motives. The invasion

implies a threat to human existence, activating fear, uncertainty, and resistance. The implications of this frame encompass not only the conflict between humans and aliens but also the potential for change, as the invasion can lead to adaptations in society, culture, and technology.

(7) "AIs—Artificial Intelligences—are the "aliens" of which we speak. Numerous words, sentences, paragraphs, pages, and books have been written about our AI constructs, and these testimonials run the gamut from Disneyesque optimism to the pessimism displayed in The Terminator" (Sipper & Moore, 2019).

(8) "Fears of this "alien" form are also stoked when ominous headlines declare AI as soon being "billions of times smarter than humans." Or when it's suggested that humans need to merge with their tech or be lost for good" (Sipper & Moore, 2019).

(9) "This list of big ways AI is invading all areas of our lives barely scrapes the surface of the artificial intelligence bubbling up around us" (Endsley, 2017).

As vividly illustrated in examples (7), (8) and (9), AI can be conceived of as an alien invader. In example (7), AI is characterized as "aliens", capturing the range of public perceptions from optimistic views to fears, reflecting the complexity of social attitudes toward AI. Example (8) amplifies this notion by highlighting concerns about AI's rapid advancement, implying that its intelligence may soon surpass human capabilities, leading to existential threats. Example (9) emphasizes the pervasive nature of AI, indicating that it is increasingly invading various aspects of our lives, reinforcing the metaphor of an alien invasion into our daily existence.

Figure 4. Mappings involved in the metaphor AI INTEGRATING INTO OUR LIVES IS AN ALIEN INVADING OUR PLANET

AN ALIEN INVADING OUR PLANET (SOURCE FRAME)		**AI INTEGRATING INTO OUR LIVES** (TARGET FRAME)
An alien	----------▶	**AI**
Intrusion: the presence of an alien suggests an unwanted or unexpected intrusion into human life	----------▶	*Integration:* AI is perceived as infiltrating various aspects of our daily life
Dominance: aliens are often depicted as possessing advanced technologies that enable them to dominate or alter human existence.	----------▶	*Superiority:* AI is perceived as having superior capabilities that could overshadow human skills
Uncertainty: an alien invasion provokes uncertainty about the aliens' motives and intentions	----------▶	*Uncertainty:* AI may trigger public apprehensions about its unpredictable development
Threat: an alien invasion is seen as a threat to human survival	----------▶	*Threat:* the rapid integration of AI into society is often viewed as a potential danger to jobs, privacy, and even humanity itself

Source. Own elaboration.

Figure (4) represents the mappings between frame elements participating in the frame level metaphor AI INTEGRATING INTO OUR LIVES IS AN ALIEN INVADING OUR PLANET. In this metaphor AI is categorized as an alien. The arrival of extraterrestrial beings represents an unwanted or unexpected disturbance in human life. This frame often elicits feelings of fear and anxiety, as aliens are commonly portrayed as foreign entities capable of disrupting the established order and safety of human existence. The intrusion by aliens evokes a profound sense of vulnerability. By the same token, the integration of AI into our daily lives is perceived as an intrusion that raises comparable fears. As AI increasingly permeates various aspects of society, it is often viewed as

infiltrating the private and public domains where human beings traditionally held control. This perception of AI as an intrusive force leads to significant concerns surrounding privacy, security, and autonomy.

With regard to dominance, aliens are commonly portrayed as having advanced technologies that grant them the power to dominate or fundamentally change human life. Therefore, aliens are oftentimes regarded as entities that can easily outmatch human capabilities, prompting a sense of vulnerability and fear. In the case of AI, the perception of AI models is often rooted in the belief that they possess superior capabilities that can overshadow human skills and expertise. This leads to anxieties about the potential for AI to outperform or even replace humans in various tasks and professions. The mapping between this frame element points at a collective concern about the evolving relationship between humans and these superior entities, whether they be aliens or AI.

As for uncertainty, human beings have pervasive doubts regarding the motives and intentions of extraterrestrial beings. An alien invasion provokes a sense of unease, as the unknown nature of aliens leads to anxiety about their potential actions and impacts on humanity. In a parallel manner, the public's perception of AI is often steeped in uncertainty about its unpredictable development and the ethical implications that arise from its integration into society. Just as people may resist alien forces due to their unknown intentions, this uncertainty can fuel resistance against AI technologies.

In terms of the threat to existence, an alien invasion is often viewed as a direct challenge to human survival, posing risks that could disrupt or even eliminate life as we know it. In a parallel manner, the rapid integration of AI into various facets of society is frequently perceived as a significant danger to fundamental elements of human existence, including jobs, privacy, and, by extension, humanity itself. The increasing concern surrounding job automation exacerbates fears of economic instability and the potential obsolescence of human labor, highlighting the need for thoughtful engagement with these transformative technologies.

4.5. DEVELOPING AI IS CULTIVATING A GARDEN

The source frame CULTIVATING A GARDEN entails a gardener taking care of a plot of land by planting, nurturing, and maintaining various plants to ensure their growth and health. This activity involves continuous effort, including watering, fertilizing, weeding, and protecting the plants from pests or harsh weather conditions. The gardener must be attentive to the specific needs of each plant, adjusting care as the garden evolves and grows. The ultimate goal is to create a flourishing, balanced ecosystem where all plants thrive. Success in gardening is not instant but requires patience, consistent attention, and a long-term investment of resources to achieve a fruitful and well-maintained environment.

(10) "We commonly say that deploying AI is like planting a garden that a company must water if it wants it to yield the expected crop. What we mean is that this technology is not something you can set and forget. AI models need examples and training. And it needs ongoing investment—perhaps indefinitely" (Peters, 2023).

(11) "Imagine envisioning the AI ecosystem as a vast and vibrant garden. This garden, brimming with diverse plant life, insects, animals, and microorganisms, symbolizes the entirety of the artificial intelligence landscape. [...] Within the AI ecosystem, stakeholders collaborate, share insights, and build upon each other's innovations to propel the field forward. This ecosystem serves as fertile terrain for nurturing ideas, evolving technology, and devising solutions to both challenges and opportunities within AI (Zerrini, 2024).

In example (10), AI is construed as a garden, emphasizing the ongoing care and investment needed for AI to be effective, much like a garden that requires regular watering and attention. In example (11), AI is understood as a "vast and vibrant garden" remarking the collaborative nature of AI development, just as different species in a garden support and interact with each other to thrive.

Figure 5. Mappings involved in the metaphor DEVELOPING AI IS CULTIVATING A GARDEN

CULTIVATING A GARDEN (SOURCE FRAME)		**DEVELOPING AI** (TARGET FRAME)
A garden	⟶	**AI**
Care: In a garden, plants need consistent care (i.e., watering, pruning, and protection from pests) to ensure they grow and thrive	⟶	*Maintenance:* AI requires continuous training, data input, and adjustments to remain effective and functional over time
Growth: A garden flourishes over time, with plants evolving from seeds into mature, productive organisms	⟶	*Development:* AI has a gradual development, which improves as it is refined and exposed to more data
Interdependence: In a garden, diverse organisms rely on one another for nutrients, pollination, and balance	⟶	*Interdependence:* In AI, stakeholders collaborate and share innovations to drive progress and ensure development
Yield: A well-tended garden produces crops or flowers	⟶	*Output:* AI, when properly developed and maintained, delivers the expected technological outcomes or results

Source. Own elaboration.

Figure (5) depicts the mappings between frame elements involved in the frame level metaphor DEVELOPING AI IS CULTIVATING A GARDEN. In this metaphor, one key mapping involves the relationship between care in a garden and maintenance in AI systems. Plants in a garden need regular care, such as watering, pruning, and safeguarding from threats like pests, in order to ensure healthy growth. This care involves regular nurturing to create an environment in which the plants can flourish. In turn, in the target frame DEVELOPING AI, this concept of care translates to the ongoing maintenance necessary for AI systems. Just as a garden cannot be left unattended, AI models require continuous updates, training with new data, and recalibrations to adapt to changing conditions or new tasks. Without such maintenance, the system's performance could degrade, much like neglected plants in a garden. This mapping focuses on the need for long-term investment and attentiveness in AI systems to ensure they continue to function optimally and deliver their expected outcomes.

Moreover, the growth of a garden involves the gradual transformation of seeds into fully developed, productive plants, a process that unfolds over time with proper care and nurturing. In a similar vein, the development of AI systems mirrors this progression. AI models start with foundational algorithms and, through continuous refinement and exposure to data, evolve into more advanced and capable systems.

In addition, in the source frame of CULTIVATING A GARDEN, interdependence is key to its vitality. Various plants, organisms, and ecological interactions work together, creating a balanced environment that sustains growth and resilience. Each component relies on others to thrive, contributing to the overall well-being of the garden. Similarly, in the target frame, the AI ecosystem depends on the collaboration and interaction of diverse stakeholders, including researchers, companies, and different technologies. This interdependence drives innovation and progress in AI, with each group contributing unique insights and resources that help advance the field as a whole.

With regard to the yield and output, a well-maintained garden produces a yield, whether in the form of crops, flowers, or other tangible results. This yield represents the culmination of consistent care and effort put into the garden's cultivation. Likewise, in the target frame AI development yields valuable outputs as a result of ongoing refinement and maintenance. These outputs may include actionable insights, accurate predictions, or efficient automation solutions, which serve as the practical benefits derived from successfully cultivating and developing AI systems.

4.6. USING AI TO COMPLETE A TASK IS TAKING STEROIDS TO BOOST PERFORMANCE

The source frame TAKING STEROIDS TO BOOST PERFORMANCE refers to the practice of athletes consuming steroids to enhance physical performance and achieve immediate results. In this context, steroids are viewed as

substances that can temporarily increase strength, endurance, and overall athletic capability, allowing competitors to excel in their respective sports. However, the use of steroids also carries significant risks, including adverse health effects, dependency, and ethical implications regarding fair competition.

(12) "Steroids elevate short-term performance but leave you worse off in the long term. For example, imagine a student who is assigned homework to read and critique a passage of text. The student could use a large language model (LLM) as a steroid by simply dropping the text of the passage into ChatGPT or any similar tool, prompting it to produce such a critique, and passing the output back to the teacher" (Hofman *et al*., 2023).

As illustrated in example (12), the use of AI tools like ChatGPT can produce quick results for tasks, similar to how steroids enhance athletic performance temporarily. However, just as steroids can negatively impact long-term health, relying on AI for some tasks may hinder a student's ability to develop certain skills over time.

Figure 6. Mappings involved in the metaphor USING AI TO COMPLETE A TASK IS TAKING STEROIDS TO BOOST PERFORMANCE

TAKING STEROIDS TO BOOST PERFORMANCE (SOURCE FRAME)		**USING AI TO COMPLETE A TASK (TARGET FRAME)**
Steroids	⟶	AI
Enhancement: Steroids are commonly known to enhance athletic performance in the short term	⟶	*Enhancement:* AI tools provide quick solutions or improved performance for various tasks
(Long term) effects: The use of steroids often leads to negative health effects	⟶	*(Long term) effects:* Over-reliance on AI for completing tasks may hinder a person's skill develop-ment
Dependency: Athletes using steroids may develop a dependency on these substances	⟶	*Dependency:* Users of AI tools may become reliant on these technologies, feeling incapable of completing tasks without assistance
Devaluation of skills: The use of steroids can devalue the achievements of athletes, as their enhanced performance may be viewed as less authentic or earned	⟶	*Devaluation of skills:* using AI tools can devalue the outcomes of tasks, leading to perceptions that the results lack authenticity or genuine effort

Source. Own elaboration.

Figure (6) depicts the mappings between frame elements configuring the frame level metaphor USING AI TO COMPLETE A TASK IS TAKING STEROIDS TO BOOST PERFORMANCE. In this metaphor AI is viewed as a tool that provides short-term enhancement, analogous to the use of steroids in sports. Steroids are widely recognized for their ability to temporarily boost athletic performance, allowing athletes to experience an immediate increase in strength, speed, or endurance, and thereby achieve goals that may have otherwise required extensive training and dedication. Similarly, in the target frame, AI offers rapid solutions and improved performance across various tasks. For instance, users can deploy AI to quickly generate written content, analyze complex datasets, or automate repetitive tasks, facilitating the swift accomplishment of objectives.

In relation to the long-term effects of consuming steroids, while initially providing performance enhancements, it could result in detrimental health consequences and a decline in athletic ability over time. Athletes who rely on these substances may face physical harm, which ultimately affects their long-term prospects in their sport. In a similar vein, an over-reliance on AI tools for completing tasks poses a risk to the users' skill development and critical thinking capabilities. When users lean too heavily on AI for quick solutions, they may neglect to cultivate their analytical skills and independent thought processes. This mapping highlights the relevance of finding a balance between using AI and continuing to develop one's personal skills. This balance is crucial to prevent the risk of becoming too dependent on technology, which can lead to a decline in essential abilities.

Furthermore, athletes who resort to steroids often find themselves dependent on these substances, believing they cannot achieve their optimal performance without their aid. This dependency can create a reliance that diminishes their natural abilities and training efforts. Likewise, AI users may develop a similar reliance on these technologies. They might begin to feel that they cannot complete tasks without the assistance of AI, which can weaken their intrinsic motivation and hinder the development of their own skills and capabilities.

In relation to the devaluation of skills, in the source frame the use of steroids can diminish the perceived value of athletes' achievements. When athletes enhance their performance through artificial means, their accomplishments may be regarded as less authentic or less deserving of recognition. This perception can cast doubt on their abilities and the integrity of their success. In the case of AI, reliance on AI tools can correlate with a similar devaluation of the results produced in various tasks. When outcomes are generated with the assistance of AI tools, there might be a belief that those results lack authenticity or genuine effort. This perception can diminish the perceived value of a given outcome, as other people may question whether the output truly reflects the user's skills and capabilities.

5. Discussion

This section reflects on the nuanced ways in which the metaphors analyzed in section 4 shape our understanding of AI and influence public perception in digital discourse. We will explore the implications of these metaphors on social attitudes toward technology, highlighting how language shapes our relationship with AI and its role in contemporary life.

The metaphor DIRECTING AI TO EXECUTE A TASK IS COMMANDING A SLAVE TO OBEY AN ORDER emphasizes the hierarchical power dynamics in human-AI interactions. It portrays AI as a subservient entity, devoid of autonomy and personal rights, much like a slave. This framing highlights AI's role as a tool created to fulfill human needs, executing tasks that are often laborious or undesirable. This metaphor raises critical ethical questions about treating AI as mere property. It invites reflection on the responsibilities of users and the moral implications of power dynamics inherent in these relationships. By conceptualizing AI through ownership and subservience, we gain insights into how social norms shape our interactions with technology, urging us to consider the ethical responsibilities that accompany our engagement with these powerful tools.

As for the metaphor RECEIVING GUIDANCE FROM AI TO PERFORM A TASK IS BEING ASSISTED BY A GUIDE DOG, it plays a crucial role in shaping our understanding of AI as an assistive technology. By metaphorically construing AI as a guide dog, this metaphor emphasizes the supportive relationship between AI and its users, highlighting trust and guidance. This conceptual metaphor invites users to view AI not merely as a tool for task execution but as a collaborative partner that enhances their abilities, conceptually aligning the sensory skills of a guide dog and the analytical strengths of AI, which together support users in navigating their environment. By conceptualizing AI in this manner, this frame level metaphor encourages a more positive public perception of technology as a supportive ally rather than a threat or replacement. It fosters an understanding of AI as an entity designed to augment human capabilities, thereby reinforcing the notion of collaboration in the digital age. This metaphor ultimately suggests that, like guide dogs, AI can enhance the user experience, enabling humans to perform tasks more efficiently while navigating the complexities of modern life.

With regard to the frame level metaphor USING AI TO PERFORM A TASK IS BEING ASSISTED BY A COPILOT WHILE FLYING, its use in digital discourse emphasizes the collaborative and supportive role of AI in enhancing human capabilities. The source frame of being assisted by a copilot illustrates a partnership where both the pilot and copilot share responsibilities, leading to improved navigation, decision-making, and task execution. This metaphor reflects a more nuanced understanding of AI, portraying it not merely as a tool, but as a collaborative partner that provides guidance and insights. It also points at the importance of human oversight, suggesting that while AI can assist in managing complexities and analyzing data, final decisions still rest with its user. This metaphorical conceptualization of AI invites reflection on the evolving relationship between humans and technology, encouraging a balanced view of AI as an enabler rather than a replacement.

In relation to the metaphor AI INTEGRATING INTO OUR LIVES IS AN ALIEN INVADING OUR PLANET, it encapsulates the tensions and uncertainties surrounding AI's integration into society. By conceiving AI as an alien intruder, this metaphor remarks the profound sense of vulnerability experienced by humans, triggering concerns about the motives behind AI's rapid advancements and the potential threats they pose to humanity. This metaphor emphasizes the anxiety associated with the idea that AI, much like an alien force, possesses capabilities that

may disrupt or even transform human existence. Moreover, this metaphor captures the complex interplay between fear, adaptation, and the transformative impact of AI on daily life. Such fears illustrate deeper social anxieties regarding technological advancement and the implications of ceding control to AI models perceived as superior. Therefore, it is essential to carefully consider how we conceptualize AI within our lives, as well as the potential consequences of viewing it through the lens of dominance and superiority.

Concerning the metaphor DEVELOPING AI IS CULTIVATING A GARDEN, it emphasizes the continuous and dynamic nature of AI development. By conceptualizing AI as a garden, this metaphor suggests that AI systems require constant care, attention, and cooperation among various stakeholders to thrive and produce valuable results. This conceptual metaphor reinforces the idea that AI is not a static technology that can be built and left alone but instead demands ongoing refinement, much like how a garden must be regularly tended to in order to flourish. Ultimately, this metaphor points at the long-term commitment required to develop AI effectively, portraying it as an evolving process rather than a one-time achievement. This framing encourages a deeper understanding of AI as a technology that, when nurtured carefully, can grow and produce significant benefits, while also implying that neglect could lead to missed opportunities or even detrimental outcomes.

Regarding the metaphor USING AI TO COMPLETE A TASK IS TAKING STEROIDS TO BOOST PERFORMANCE, it emphasizes the dichotomy between the short-term benefits of AI tools and the potential long-term consequences of over-reliance on this type of technology. AI can offer immediate enhancements in productivity and performance, similar to the instant gains athletes experience from steroids. However, this metaphor also serves as a warning about the risks associated with such dependence, remarking the need for AI users to engage in ongoing personal development. Moreover, by construing the use of AI as the consumption of steroids, we address a cultural concern regarding authenticity in achievement. When results generated with the help of AI are perceived as less genuine, it raises questions about the value of individual contributions and the integrity of work. This metaphor urges society to strike a balance: embracing the efficiency that AI offers while remaining committed to cultivating essential skills and preserving the authenticity of our efforts.

6. Conclusion

The present study has examined a range of conceptual metaphors utilized to describe AI in publicly accessible blog posts. By adopting a cognitive semantic framework, this article has uncovered a variety of metaphors associated with AI, identified through a frame-based metaphor identification procedure. In addition to recognizing metaphorical expressions and their underpinning conceptual mechanisms, this study has also highlighted the mappings between frame elements involved in these AI-related metaphors.

The findings of this study offer valuable insights into the social attitudes and perceptions surrounding AI. The conceptual metaphors identified and analyzed bring diverse connotations, which shape our understanding of AI's role and influence in contemporary society. For example, by metaphorically conceptualizing AI as a slave we position AI as a subordinate tool, emphasizing control and submission. In contrast, viewing AI as a guide dog highlights a partnership based on assistance, trust, and support. Similarly, the metaphor of AI as a copilot suggests a collaborative relationship where AI is a complementary partner, aiding in decision-making but not overtaking control.

More dystopian or skeptical perspectives emerge from the conceptualization of AI as an alien invader, as it evokes fear of disruption, dominance, and the unforeseen consequences of AI integrating into human life. The metaphorical construal of AI as a garden shifts focus to the ongoing maintenance, cultivation, and nurturing required for AI to thrive, reflecting the need for careful management needed to ensure responsible development. Lastly, the categorization of AI as steroids brings attention to the risk of dependency, as well as the short-term benefits and potential long-term consequences of relying heavily on AI for cognitive tasks.

On the whole, the diverse metaphors examined in this study illuminate the various roles AI may play in society and reflect the spectrum of optimism and caution surrounding its use. Whether envisioned as a tool, partner, or potential threat, AI's metaphorical representations will continue to evolve as technology advances. Therefore, recognizing these metaphors is crucial for shaping future discourse, policy, and the ethical implications of AI integration.

In conclusion, this study significantly contributes to our understanding of conceptual metaphors and their influence on our perception of AI. By investigating how metaphors shape our thought, this article enriches the field of Cognitive Semantics and has broader implications for communication studies, education, and the

development of AI technologies. The way we conceptualize AI through metaphors not only frames our understanding but also guides how we interact with and integrate AI into society. This investigation calls for a deeper examination of how society metaphorically construes AI, urging us to reflect on the metaphors we employ in public discourse and the consequences they generate.

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Conflict of interest

The author declares that she has no known competing financial interests.