COMMENT ON "EXPLORING THE DATA TURN OF PHILOSOPHY OF LANGUAGE IN THE ERA OF BIG DATA"

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Comment on "Exploring the data turn of philosophy of language in the era of Big Data"

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The unprecedented growth of data in the era of Big Data has brought about changes in the scale, nature and status of data, leading researchers to adopt new paradigms and methods in philosophical research. Specifically, the theoretical focus of philosophy of language has shifted towards cognitive knowledge, emphasizing the role of data in cognitive processes in the era of Big Data. This study explores the potential scope of quantitatively researching the data orientation in philosophy of language by reconstructing quantitative methods in philosophy of language and expanding the human-data relationship in the philosophy of Big Data. The conclusion drawn is that further research is necessary to explore the relationship between language, data and philosophy.

In the late 19th century, philosophers began to pay more attention to the role of language in generating knowledge. This shift in focus led to what is known as the linguistic turn in philosophy, where language and its use became a central theme of inquiry. Researchers started using linguistic reflections as a tool to make philosophical investigations more rigorous and conceptually explicit, often employing mathematical logic to achieve this goal.

However, the linguistic turn faced challenges, particularly in the logical analysis and reconstruction of metaphysical language. While it brought notable achievements, it did not fully achieve its original vision due to the fragmentation of the logical analysis of natural

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language (Conroy; Wilson, 2023, p. 157). In the contemporary context, the world has entered an era of information revolution driven by the Internet, Big Data and artificial intelligence. With data becoming a central focus, dataization has become a fundamental aspect of the information revolution. This has brought about significant changes in philosophical research, including shifts in research objects, paradigms and methodologies. Philosophical questions now need to be examined, considering their semantics, morphology, scope and relevance, drawing from various resources, including empirical and logic-mathematical aspects.

The rise of Big Data and its applications, such as natural language processing and artificial intelligence, has the potential to transform language cognition and open new research frontiers in philosophy and social science. This paper proposes a data-driven approach to the philosophy of language in the era of Big Data, emphasizing its necessity and feasibility. By embracing a data turn in the philosophy of language, researchers can explore new directions and enhance their understanding of language and its role in generating knowledge. This approach acknowledges that philosophical questions are not only limited to logical and empirical resources, but they also require consideration within the broader context of philosophy as a science of open questions.

1 Philosophical and cognitive dilemma

This passage discusses the evolution of cognitive research in Western philosophy, particularly in the early 20th century. It highlights the shift from classical ontology to modern epistemology and the challenges faced in understanding the world and acquiring knowledge. The emergence of mathematical logic provided tools to address language-related problems, but it couldn't fully replace philosophical and everyday language (Albaladejo, 2013, p. 1). The significance of language in philosophy is emphasized, with influential works, such as Frege's "Sense and Reference" and Wittgenstein's "Philosophical Investigations", mentioned. The role of language, in metaphoric cognition, communication and conceptual metaphors, is explored, along with the cultural and rhetorical aspects of language. The passage also mentions the philosophy of information and its relevance to the information society's growth.

In the 20th century, language emerged as a central and pivotal focus in Western philosophy, leading to the development of the philosophy of language. Philosophers began to explore language in philosophical terms, delving into its nature, origin and usage, as philosophical problems. Seminal works, such as Frege's "Sense and Reference", Russell's "On Denoting", Wittgenstein's "Philosophical Investigations", Austin's "How to Do Things with Words" and Searle's "Speech Acts", played a crucial role in this philosophical revolution.

The philosophy of language encompasses various overlapping areas of research, such as the theory of metaphor, translation, and more, enriching its scope and issues. Metaphor

and metonymy, introduced by Jakobson and Saussure, have been significant contributions to the philosophy of language, shedding light on the cognitive aspects of language and how metaphoric cognition reflects universal features of human cognition, independent of linguistic commitments. Other approaches, like the relevance theory proposed by Sperber and Wilson, emphasize how language understanding depends on accessing the speaker's intention through linguistic encoding.

Lakoff and Johnson's conceptual metaphors have revolutionized our understanding of language and its relationship with the world. They argue that metaphorical practices are fundamental to our conceptual system and underpin our everyday language usage, spanning different natural languages.

Linguists have taken a language-based approach to cognition, analyzing how different semantic systems in natural languages generate similar meanings. Cultural studies, inspired by Cassirer's works, explore how languages work and represent the world across different cultural traditions.

With the rise of the information revolution and the information society's one, the philosophy of information has also gained significance. It delves into the nature and dynamics of information, such as communication, flow and processing, as it pertains to the philosophical inquiry. In this changing context, the philosophy of language has evolved and continues to be a vibrant field of study, offering new insights and perspectives on the role of language in shaping knowledge and understanding.

2 Paradigm shifts and new epistemologies in Big Data Era

In the era of Big Data and the metaverse, the transformative role of data has been widely acknowledged, leading to a paradigm shift in various fields, including the sciences, social sciences and humanities. Data science, with its emphasis on using heterogeneous data to answer real-world questions, has revolutionized research methodologies and epistemologies. Data prospecting, the process of identifying and organizing disordered or inaccessible data resources for computation, has opened new opportunities for knowledge discovery and scientific inquiry.

The digital revolution has challenged established epistemologies and paradigms in various disciplines, necessitating philosophical guidance. While Big Data and new analytics offer novel research possibilities, the situation becomes more complex in the humanities and social sciences due to the diversity of philosophical underpinnings. Developing a situated, reflexive and contextually nuanced epistemology can be fruitful in these fields.

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Big Data and new analytics do not necessarily establish radically different disciplinary paradigms, but offer crucial insights and opportunities for various issues. For instance, the logical approach to language analysis can benefit from a quantitative empirical approach, expanding the representational range of how concepts are used and understood. Metaphorical cognition, language structural analysis, translation studies and cultural studies can all benefit from a data-driven research paradigm, advancing our understanding of language and its philosophical implications.

Data turns in philosophy involve a shift from the physical world and human languages to data as the primary object of study. This transition also entails moving from speculative and analytical methods to synthesis, from formal and mathematical logic to algorithms, and from focusing on proof and causality to discovery and relevance. Formal representation of the data allows for increased accuracy and mapping with the world, while data language offers enhanced accuracy and ease of modeling, compared to natural language.

The shift to data-driven research enables the discovery of rules and knowledge from fragments of data, fostering a synthesis-oriented approach to knowledge. The cognitive goal changes from knowledge proof to knowledge discovery, and the philosophical focus shifts from strict causality-based paradigms to relevance-based ones. To fully harness the potential of data in philosophy, data openness, interoperability and comprehensive digital collaboration become essential. The philosophical landscape is evolving, and embracing data-driven approaches can lead to novel and high-quality developments in philosophical understanding and inquiry.

This passage discusses the impact of the data revolution and the emergence of Big Data on cognitive research and epistemology. It highlights the transformation brought about by electronic technology, the Internet, social media and mobile devices in the acquisition and processing of data. Big Data is characterized by its volume, velocity, variety, veracity and value. The status of data has changed, with data being seen as an essential tool for representing information and becoming the essence of digitized qualitative representations (Bogen, 2010, p. 778). The use of heterogeneous data, in data science, has led to paradigm shifts and new epistemologies in various fields, challenging established methodologies. The passage emphasizes the importance of data prospecting, philosophical guidance and the potential for interdisciplinary collaboration. It also discusses the shift from physical world and human language to data, as well as the shift from analytical methods to synthesis-oriented methods in knowledge discovery. The focus of scientific cognition has shifted from causality to relevance, leading to a new paradigm based on non-causal analysis.

3 RESPONSES TO DATA TURN OF PHILOSOPHY OF LANGUAGE

The use of corpus-based approaches holds enormous potential for addressing issues relating to language. Corpus research involves extracting, generalizing and analyzing the increasingly extensive language network. When it comes to phenomena, such as online language violence, underage negative online behavior, the proliferation of vulgar speech and inappropriate use of online buzzwords, prior studies have analyzed their semantic content, but they have often yielded one-sided and subjective conclusions. While scholars have made proposals and utilized philosophical analysis methods to evaluate these issues against actual language (Naidu, 2020, p. 653), certain questions still require resolution. For instance, are slurs always offensive if they pertain to the same object, and do they possess a consistent goal? How frequently are slurs appropriately contextualized? Despite these being questions of philosophical significance, they are better answered using corpus analysis. Corpus studies can precisely evaluate these questions by comparing them to actual language usage, providing increased reliability and accuracy to language philosophy research.

This passage discusses the multidimensional changes in the philosophy of language brought about by the emergence of Big Data. It emphasizes that various branches of philosophy, including political, moral, legal, scientific and aesthetic philosophy, have been affected by Big Data. The focus of philosophy of language has shifted to data, and researchers are now studying the nature of data, the relationship between data and the world, and the nature of algorithms. Debates arise regarding the ontology of evidence in Big Data research and the specific understanding of data. The use of mathematical and computational models has become essential in quantitative analysis, allowing for the exploration of language-related issues. Computational and mathematical models provide interpretations and insights that verbal reasoning alone may not achieve (Calude; Longò, 2017, p. 595). The application of data experiments and corpus analysis has become more prevalent in philosophy of language, enabling researchers to analyze large volumes of data and compare them to actual language usage. Corpus-based methods and experimental techniques complement each other and contribute to deeper discussions in philosophy of language. The use of corpus data enhances the reliability and accuracy of philosophical research on language-related issues. Overall, the data turn in the philosophy of language has led to changes in research objects and methods, facilitating a deeper understanding of language phenomena and addressing long-standing philosophical questions.

4 POTENTIAL SCOPE FOR DATA TURN OF PHILOSOPHY OF LANGUAGE

In the era of Big Data, world's every aspect can be represented by data, similar to how language serves as a means of expression. This has led to multidimensional changes in the

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philosophy of language. Big Data enables the analysis of various developmental situations and the exploration of underlying connections, allowing for the prediction and summarization of contexts, developmental patterns and human behavior. Incorporating different perspectives in relation to Big Data is crucial, as clashes and ethical dilemmas can arise in different branches of philosophy (Furner, 2017, p. 55). The potential scope for the data turn in the philosophy of language can be summarized as follows:

Transforming Qualitative and Quantitative Research Paradigms: the vast scale and characteristics of Big Data have brought quantitative and qualitative research approaches closer together. Big Data has facilitated the convergence of these approaches in terms of data acquisition and analysis, reconstructing the relationship between them. It is important to note that the existence of Big Data does not replace the need for small data studies; rather, it complements them.

Reconstructing Quantitative Approach to Philosophy of Language: Big Data enhances the completeness of data and provides an opportunity to optimize measurement variables and trigger unexpected results. Quantitative analysis allows researchers to examine the diachronic and synchronic dimensions of the philosophy of language, exploring conceptual changes in inter-lingual contexts. Advanced computer tools, including artificial intelligence, play a crucial role in data collection, structuring and analysis.

Expanding Human-Data Relation in Philosophy of Big Data: Big Data sets have reshaped the human-data relationship, automating not only mechanical tasks, but also cognitive tasks. Data visualization technologies play a significant role in representing information and extracting meaning from patterns, trends and dependencies. The philosophy of Big Data explores the implications of Big Data for individuals, society and global issues, fostering collaboration and mutual growth between humans and data entities.

Overall, the data turn in the philosophy of language has transformed research paradigms, and expanded the quantitative approach and the human-data relationship, opening up new possibilities for interdisciplinary research in the field.

Xu and Yang (2024) examine the impact of Big Data on the philosophy of language, exploring the transformation of qualitative and quantitative research paradigms. It traces the evolution of philosophical thought from ontological to epistemological patterns and highlights the theoretical interests of philosophy of language in this context. The paper proposes a situated, reflexive and contextually nuanced epistemology, as a response to the data turn. It emphasizes the shift from speculative and analytical methods to synthesis, from formal logic to algorithms, and from proof to relevance and discovery. The emergence of Big Data has influenced the research objects and methods of language philosophy, leading to investigations into the nature of data, the relationship between data and the world, and the nature of algorithms. The paper concludes that philosophy of language, empowered by

data, offers a means to deepen our understanding of the world and responsibly shape it. It anticipates that research, in this area, will be highly promising and rewarding in the near future.

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