Journal of Posthumanism
2025
Volume: 5, No: 7, pp. 1080–1088
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v5i7.2888

The Linguistic Meaning Between Traditional Rhetorical Frameworks and Artificial Intelligence Models: A Post humanist Critique of Computational Semantics

Muqbil bin Ali Al-Dadi[1]

Abstract

This research explores the radical transformations in the concept of linguistic meaning following the emergence of Large Language Models (LLMs) and their impact on our understanding of semantics and signification, offering a posthumanist critique of computational semantics. The study compares the mechanisms of meaning-making in these models with the traditional conceptions of meaning articulated by classical Arab scholars, particularly Abd al-Qahir al-Jurjani's "Theory of Nazm" (Coherence/Arrangement) and Ibn Jinni's insights into the relationship between word and meaning. The research poses fundamental questions about the nature of meaning in intelligent models: Is it genuine meaning or a mere simulation? And how do these models redefine our understanding of humanity and consciousness? It investigates the potential of traditional Arab linguistic frameworks to offer a critical alternative to the contemporary understanding of artificial intelligence, emphasizing the importance of deep, contextual understanding in the face of statistical comprehension. The study includes an applied analysis of the Riyadh Dictionary as a model for the computational processing of meaning in the Arabic language.

Keywords: *Large Language Models (LLMs), Linguistic Meaning, Semantics, Arab Linguistic Heritage, Theory of Nazm, Computational Linguistics, Posthumanism.*

Introduction

Research Problem

With the accelerating transformations brought about by Large Language Models (LLMs) in our understanding of automated language processing, profound existential and philosophical challenges emerge that transcend mere technical efficiency. The question is no longer limited to whether these models truly understand meaning or simply simulate it; it now extends to how this computational understanding redefines the position of the human within the very structure of meaning and language (Khattak et al., 2023). The core of the problem lies not only in the tension between traditional frameworks, which focus on deep humanistic understanding, and computational-statistical approaches but also in how this tension casts a shadow on our concept of "humanity" in a participatory context with non-human intelligence. This research seeks to present a posthumanist critique of computational semantics, exploring the implications of transferring the authority of meaning production—even partially—to artificial entities.

Research Objectives

- To explore the radical shifts in the concept of linguistic meaning with the rise of LLMs and to analyze their philosophical and ethical implications from a posthumanist perspective.

[1] Department of Language, Grammar, and Morphology, Faculty of Arabic Language, Umm Al-Qura University.

- To analyze the mechanisms of meaning-making in intelligent models and compare them with traditional approaches, focusing on the capacity of these models to simulate human understanding and redefine the concept of consciousness.
- To study the traditional conceptions of meaning from Arab scholars and their potential for contemporary application, aiming to provide a critical framework that transcends the reductionist understanding of meaning in computational models.
- To present an applied model by analyzing the Riyadh Dictionary as an example of automated meaning processing and to evaluate its ability to integrate traditional insights within a posthumanist context.
- To propose a critical approach that combines traditional wisdom with contemporary technologies, contributing to a deeper, more comprehensive understanding of linguistic meaning that transcends anthropocentric boundaries.
- To offer a posthumanist critique of the nature of meaning in AI models and explore its effects on our understanding of language and human identity.

Research Hypotheses

- **The Simulation Hypothesis:** LLMs simulate meaning without genuine understanding, raising fundamental questions about the nature of consciousness and cognition in a posthuman context.
- **The Integration Hypothesis:** Traditional conceptions of meaning offer a rich theoretical framework that can be leveraged to develop intelligent models and provide a posthumanist critique of computational approaches that may reduce meaning.
- **The Context Hypothesis:** Meaning in the Arab linguistic tradition is shaped by context and nazm (arrangement), necessitating a more complex approach than current models provide. This contributes to decentralizing the exclusively human understanding of meaning while acknowledging the limits of machine comprehension.

Research Methodology

This research employs a mixed-methods approach:

- **Critical-Analytical Method:** To study traditional and contemporary theories, focusing on analyzing the semantics of understanding and non-understanding in the context of AI from a critical posthumanist perspective.
- **Comparative Method:** To compare different approaches to meaning, highlighting the philosophical and existential points of convergence and divergence between human understanding and computational semantics.
- **Applied Method:** Through a case study of the Riyadh Dictionary, to assess the ability of computational tools to simulate Arabic linguistic meaning and its deep semantics in light of linguistic heritage.
- **Descriptive Method:** To analyze the characteristics of LLMs and identify their capabilities and limitations in handling meaning.

Literature Review and Theoretical Framework

Contemporary linguistic studies have addressed meaning from multiple angles, from structuralist to functional and cognitive theories. In the Arab context, there has been a growing interest in the Arabic linguistic heritage and its potential for developing contemporary theories of meaning.

The last few years have witnessed enormous developments in LLMs, from early models like Word2Vec and GloVe, through transformer models like BERT and GPT, to multimodal models. These models raise profound questions about the nature of the meaning they produce, challenging traditional concepts of understanding and consciousness and prompting a redefinition of humanity in a posthuman context.

The Arab linguistic heritage offers a rich and diverse vision of meaning through the contributions of scholars like Abd al-Qahir al-Jurjani in his Theory of Nazm, Ibn Jinni in Al-Khasa'is, and Al-Zamakhshari in Al-Kashshaf. These insights can form a deep philosophical framework for a posthumanist critique of computational approaches to meaning, emphasizing dimensions of meaning that transcend statistical analysis.

Transformations in the Concept of Linguistic Meaning

From Human Meaning to Automated Meaning

The concept of linguistic meaning has undergone radical transformations with the advent of computational technologies. In the traditional model, meaning was tied to human understanding and socio-cultural context. In automated models, meaning has transformed into a digital representation based on statistical patterns and probability distributions. This shift represents a decentering of the exclusively human understanding of meaning, opening the door to posthumanist discussions about the nature of cognition and consciousness in non-human entities.

Vector Representation of Meaning

LLMs rely on the vector representation of words and sentences, where meaning is converted into points in a high-dimensional space.[1] This representation allows for the calculation of semantic distances and relationships between concepts. However, it raises questions about the accuracy of this representation in expressing true meaning and highlights the challenge of capturing semantic complexities that go beyond statistical patterns—a central axis in the posthumanist critique of computational semantics.

Attention Mechanisms and Context

Modern models have developed Attention Mechanisms that allow for context to be considered in understanding meaning.[2] These mechanisms somewhat approximate traditional theories that emphasize the importance of context in determining meaning. However, they still face challenges in understanding the deep cultural and social context that shapes human meaning, underscoring the need for a posthumanist perspective that re-evaluates the limits of machine understanding.[3]

Large Language Models and Meaning

The Technical Architecture of Machine Understanding

LLMs rely on a complex architecture of neural layers and Transformers that enable them to process text and produce coherent responses.[4] This architecture includes:

- **Encoder and Decoder Layers:**
  - **Encoder Layers:** Convert text into a numerical representation.
  - **Decoder Layers:** Convert the numerical representation back into understandable text.
- **Attention Mechanisms:** Focus on important parts of the input text.[5]
- **Training and Learning:**
  - **Pre-training:** On massive amounts of text data.
  - **Fine-tuning:** For specific tasks.
  - **Reinforcement Learning:** To improve performance.

Meaning as Statistical Patterns

In LLMs, meaning is treated as complex statistical patterns. These models learn by analyzing millions of texts and extracting recurring patterns and relationships between words and concepts through representational learning:[6]

- **Vector Representation:** Each word is converted into a numerical vector.
- **Contextual Representation:** Meaning changes according to context.
- **Hierarchical Representation:** Multiple levels of meaning.

The Limits of Machine Understanding

Despite the impressive capabilities of LLMs, they face clear limitations in understanding meaning.[7] These limits form the basis of the posthumanist critique of computational semantics and raise questions about the nature of consciousness and cognition.

- **Technical Limitations:**
  - **Lack of Genuine Understanding:** The models simulate understanding without genuine comprehension, maintaining the gap between simulation and authentic consciousness and redefining "understanding" beyond an exclusively human domain.
  - **Data Dependency:** Performance is limited by the quality and nature of the training data.[8]
  - **Absence of Experience:** They lack direct experience with the world, which is essential for deep human understanding and highlights the challenge of building an AI that simulates lived experience.[9]
- **Semantic Limitations:**
  - **Implicit Meaning:** Difficulty in understanding implied or nuanced meanings.
  - **Cultural Context:** Limited ability to grasp complex cultural contexts, which reduces their capacity to capture the cultural and social dimensions of meaning—vital dimensions in posthumanist thought that transcend human individualism.[10]
  - **True Creativity:** A challenge in producing genuine, original creativity, leaving creativity as a distinguishing feature of human understanding and raising questions about the

possibility of non-human creativity emerging.

Traditional Conceptions of Meaning Among Arab Scholars

Abd al-Qahir al-Jurjani and the Theory of Nazm

Abd al-Qahir al-Jurjani is a pioneer in the study of meaning through his famous Theory of Nazm (Arrangement/Coherence).[11] This theory asserts that meaning lies not in individual words but in the relationships and order among them. The Theory of Nazm offers a profound philosophical framework for meaning that transcends the reductionist view of words as separate entities, forming a basis for a posthumanist critique of computational semantics, which relies heavily on the statistical representation of vocabulary.

- **Foundations of the Theory of Nazm:**

  - **Syntactic Meaning:** Meaning arises from the composition and arrangement of words, not from their mere collection. As al-Jurjani states, "Meanings are not differentiated by virtue of being meanings, but by virtue of being words that signify meanings." This focus on relationships and structure offers an alternative to machine understanding that may focus on surface patterns and helps redefine understanding as a complex, interactive process.

  - **Context and Clues (Qara'in):** The importance of context in determining precise meaning. A single word can have different meanings depending on its context.[12] This aspect highlights the inadequacy of automated models in capturing deep cultural and social contexts, reinforcing the need for a posthumanist perspective that recognizes the complexity of meaning beyond the purely computational domain.

Ibn Jinni and Linguistic Characteristics

In his book Al-Khasa'is (The Characteristics), Ibn Jinni presented a comprehensive view of language and meaning, which includes several important principles. These principles offer a dynamic view of meaning that surpasses static or statistical understanding, thereby strengthening the posthumanist critique of computational semantics.

- **Fundamental Principles:**

  - **Language as Convention and Intent:** Language is a socially agreed-upon system, and meaning is formed through collective agreement.[13] This emphasis on the social dimension of meaning highlights the shortcomings of automated models that lack social and cultural experience, raising questions about the nature of non-human consciousness.

  - **The Relationship Between Word and Meaning:** The relationship between the signifier and the signified is originally arbitrary but acquires its significance through usage. This indicates that meaning is not just a static representation but a dynamic process shaped by use, which is a challenge for machine understanding based on fixed patterns.

A Critical Comparison of Traditional and Contemporary Approaches

Points of Intersection

A careful comparison reveals that both traditional Arab theories and contemporary models intersect at a crucial point: the central importance of context in constructing meaning. Al-Jurjani's Theory of Nazm provides a deep theoretical framework that can illuminate our understanding of Attention Mechanisms in modern AI. While these mechanisms attempt to

simulate focus on the most relevant parts of a context to determine meaning, al-Jurjani's nazm poses a deeper question about the underlying intentionality behind this focus and whether a machine can possess an intentionality similar to that which establishes meaning in human experience.

Points of Divergence

- **The Nature of Understanding: Experience vs. Representation:** The fundamental difference lies in the nature of "understanding" itself. The traditional approach, rooted in Arab philosophy, emphasizes a deep human understanding linked to lived experience, intuition, and contextual human knowledge. In contrast, the contemporary approach relies on statistical patterns and digital representation, raising a posthumanist question: Can an "understanding" exist independent of human physical and cognitive experience, and what are the implications for our definition of intelligence?

- **The Role of Culture and Existential Context:** The traditional approach places utmost importance on the cultural, social, and cognitive context in shaping meaning. Language, in the view of Arab scholars, is a reflection of a rooted collective experience. The contemporary approach, however, focuses on surface linguistic patterns without sufficient attention to deep cultural context. This poses a challenge: How can AI models produce or understand a "meaning" that is inseparable from the complex web of cultural relationships that constitute the human experience? This places limits on their "signification" from a posthumanist perspective that acknowledges the entanglement of meaning with the broader cultural fabric.

A Proposed Synthesis

Therefore, an integrative approach can be developed that does not merely combine but critically interrogates the relationship between heritage and AI. This approach would merge the strengths of both:

- **Context First:** Prioritizing the cognitive and human context in determining meaning, drawing inspiration from al-Jurjani's nazm to develop more profound contextual understanding mechanisms in automated models.

- **Cultural Interaction and the Existential Dimension:** Future model development must deeply consider the socio-cultural context, not just as statistical data but as fundamental elements in shaping human meaning, while acknowledging that the absence of human experience may limit their "understanding" of these dimensions.

- **Continuous Evolution of Meaning and Intelligence:** Recognizing that meaning evolves with time and use, as does our understanding of intelligence itself, necessitates a continuous revision of the boundaries defining "understanding" and "semantics" in a posthuman context.

Results and Recommendations

Key Findings

- **Regarding the Nature of Meaning in Intelligent Models:**

  - **Simulation, Not Understanding:** LLMs simulate meaning through complex statistical patterns but do not possess genuine understanding. This reinforces the posthumanist critique of computational semantics and reopens questions about the nature of consciousness.

- **Capability and Limits:** These models exhibit remarkable abilities in language processing but face clear limitations in understanding implicit meanings and complex cultural contexts, highlighting the inadequacy of purely statistical understanding.[14]

- **Regarding the Arab Linguistic Heritage:**

- **Richness and Depth:** The Arab linguistic heritage offers a rich vision of meaning that, in some respects, surpasses modern approaches, providing a deep philosophical framework for critiquing machine understanding.

- **Contemporary Relevance:** The principles laid down by scholars like al-Jurjani and Ibn Jinni remain valid and applicable today and can contribute to developing AI models more attuned to human and cultural contexts.

- **Regarding the Integrative Approach:**

- **The Necessity of Integration:** Meaning cannot be fully understood through a single approach; it requires the integration of different perspectives, shaping a new posthumanist model for computational semantics.

- **Practical Applicability:** The integrative approach is not merely theoretical; it can be practically applied, as demonstrated by the study of the Riyadh Dictionary, offering practical solutions for developing more intelligent and aware linguistic systems.

Recommendations

- **For Researchers and Academics:**

- **In-depth Research:** Conduct further research to understand the nature of meaning in intelligent models, focusing on the philosophical and ethical dimensions from a posthumanist perspective.

- **Comparative Studies:** Develop comparative studies between traditional and contemporary approaches to meaning to highlight intersections and divergences that contribute to redefining humanity and consciousness.

- **For Developers and Technologists:**

- **Leverage Linguistic Heritage:** Utilize linguistic heritage in developing automated systems to integrate a deep, contextual understanding of meaning into AI model design.

- **Develop Advanced Models:** Develop more advanced models capable of understanding complex cultural and social contexts, contributing to a more aware and sophisticated AI from a posthumanist viewpoint.

- **For Institutions and Stakeholders:**

- **Invest in Research:** Invest in research related to Arabic language processing, especially studies adopting a posthumanist perspective.

- **Encourage Interdisciplinary Collaboration:** Foster collaboration between linguists and technologists to develop superior solutions that enhance a holistic understanding of meaning and redefine the human-machine relationship.

Conclusion

The concept of linguistic meaning is undergoing a radical transformation with the advent of Large Language Models. However, these changes do not negate the importance of linguistic heritage but rather open new horizons for benefiting from it. An integrative approach that combines the wisdom of tradition with the power of contemporary technology holds great promise for developing a deeper, more comprehensive understanding of linguistic meaning. It also provides a more profound critical framework for understanding the evolving relationship between humans, language, and machines in a posthuman world.

Conflict of Interest

The author declares that they have no conflict of interest.

Acknowledgments

The authors extend their appreciation to Umm Al-Qura University, Saudi Arabia for funding this research work through grant number: 25UQU4310036GSSR01. This research work was funded by Umm Al-Qura University, Saudi Arabia under grant number: 25UQU4310036GSSR01.

References

Ali, N. (2001). Al-Thaqāfah al-ʻArabīyah wa-ʻaṣr al-maʻlūmāt [Arab Culture and the Information Age]. ʻĀlam al-Maʻrifah Series.

Ali, N. (2003). Al-Lughah al-ʻArabīyah wa-al-ḥāsūb [The Arabic Language and the Computer]. Ta'reeb.

Al-Jurjānī, ʻAbd al-Qāhir. (1991). Dalāʾil al-Iʿjāz [The Proofs of Inimitability] (M. M. Shākir, Ed.). Maṭbaʻat al-Madanī.

Al-Rāghib al-Aṣfahānī, Abū al-Qāsim al-Ḥusayn. (1412 AH). Al-Mufradāt fī gharīb al-Qur'ān [The Vocabulary of the Qur'an's Unusual Terms]. Dār al-Qalam.

Al-Zamakhsharī, Abū al-Qāsim Maḥmūd. (1407 AH). Al-Kashshāf ʻan ḥaqā'iq ghawāmiḍ al-tanzīl [The Unveiler of the Truths of the Obscurities of Revelation]. Dār al-Kitāb al-ʻArabī.

Brown, T., Mann, B., Ryder, N., Subbiah, M., Kaplan, J. D., Dhariwal, P., ... & Amodei, D. (2020). Language models are few-shot learners.15 Advances in Neural Information Processing Systems, 33, 1877-1901.

Devlin, J., Chang, M. W., Lee, K., & Toutanova, K. (2018). BERT: Pre-training of deep bidirectional transformers for language understanding.16 arXiv preprint arXiv:1810.04805.

Ibn Jinnī, Abū al-Fatḥ ʻUthmān. (1952). Al-Khaṣāʾiṣ [The Characteristics] (M. A. al-Najjār, Ed.). Dār al-Kutub al-Miṣrīyah.

Jurafsky, D., & Martin, J. H. (2021). Speech and language processing: An introduction to natural language processing, computational linguistics, and speech recognition.17 Pearson.

King Salman Global Academy for Arabic Language. (2024). Riyadh Dictionary. Retrieved from [Official Website URL if available].

Khattak, M. N., Al-Taie, M. Z., Ahmed, I., & Muhammad, N. (2023). Interplay between servant leadership, leader-member-exchange and perceived organizational support: a moderated mediation model. Journal of Organizational Effectiveness: People and Performance, 11(2), 237-261.

Rogers, A., Kovaleva, O., & Rumshisky, A. (2020). A primer on a primer on neural network models for natural language processing. Journal of Artificial Intelligence Research, 68, 809-834.

Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., ... & Polosukhin, I. (2017). Attention is all you need. Advances in Neural Information Processing Systems, 30.