

A Semiotic Comparison of the Textual Memes Generated by Humans and AI-ChatGPT-5

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Received: 04/14/2026

Accepted: 06/30/2026

Published: 07/15/2026

Abstract

The present work is to investigate semiotically the similarities and differences in the textual memes generated by human and AI-ChatGPT-5 and to answer the research question “what are the points of similarity and difference between human and AI-ChatGPT-generated textual memes following Barthes’ framework”. Such a study contributes to the growing field of digital semiotics by examining the process of meaning-making constructed by humans and AI-ChatGPT-5 using one visual stimulus. To meet this objective, a unified image macro “*Le Défenseur*” by Honoré Daumier has been submitted to a sample of (15) first-year students from the Department of English, College of Education for Women, University of Baghdad, purposively selected based on their similar educational and linguistic backgrounds and on their familiarity with internet meme culture. A comparative purposive analysis has been conducted using Roland Barthes’ triadic framework (1972) of Denotation, Connotation, and Myth. The findings revealed that both the human and AI-ChatGPT-5 have denotatively anchored their memes on mainly two visible inputs and have mythically managed to reflect cultural and social beliefs. However, humans have demonstrated a proficiency in attaching diverse connotations to the figures identified in comparison to AI-ChatGPT-5, which focused on only triggering different social roles. The study has finally concluded that both parties have managed to denote multiple visual references and myths. However, the human captions surpassed AI-ChatGPT-5, showing richer social references, cultural depth, and personal orientations. The study calls for more research on the role of AI-discourse in reproducing culturally grounded meanings in digital communications.

Keywords: AI-ChatGPT-5 generated texts, connotation, denotation, image macro, myths, Roland Barthes, semiotics, textual memes

Cite as: Al-Musleh, F.F., & Al-Bahrani, R.H. (2026). A Semiotic Comparison of the Textual Memes Generated by Humans and AI-ChatGPT-5. *Arab World English Journal (AWEJ) Special Issue on CALL Vol.17.* (12)257-277. <https://dx.doi.org/10.24093/awej/call12.15>

Introduction

Within the realm of digital discourse, light has been shed on artificial intelligence, AI-ChatGPT-5 in particular, and on the human linguistic creativity. Such an emphasis has led to a wave of theoretical insights and inquiries that helps to shape the way meaning is encoded. Given recent advancements in large language models (LLMs), such as GPT-5, they have showed impressive capabilities in generating texts that are both contextually aware and stylistically diverse, especially in how they follow specified instructions or prompts (OpenAI, 2025). The selection of GPT-5 for this study stems from its advanced suitability in the processes of generating and analyzing textual memes. Why version-5 particularly is because the researchers conducted the study when this version was the active and the recent one. Besides, the popular use of technology and digital platforms has cultivated a dynamic communicative environment where linguistic and semiotic innovations spread widely across networks; a matter which ultimately accelerates the stages of recontextualization and memetic sharing over time (Dyner, 2024). In this vein, Abdel Qader and Matari (2024, as cited in Al Qaradaghi, 2025), Almaraz-López, Almaraz-Menéndez, López-Esteban (as cited in Mohammed et al., 2024) and, Tan (2023, as cited in Ameen et al., 2024) added that AI-ChatGPT demonstrated its proficiency in generating and producing innovative responses, pieces of writing, ideas, summaries, etc. Dembe (2024) added that since the online discourse is multimodal, it has become more common among the participants to incorporate semiotic resources into their daily interactions, using digital elements such as text, pictures, GIFs, and emojis. However, because face-to-face interactions are absent, the process of understanding will heavily relies on one's prior cultural knowledge, and on his/her awareness of the surroundings.

Semiotics is employed here, as memes function as units of communication that are based on signs, where meaning emerges from the interplay between text, image, and prior cultural knowledge. Therefore, applying a semiotic theory suits the analysis of different layers of meaning generation and interpretation in a way that makes it ideal for digital discourse.

Most studies emphasized the computational, structural, and generative features of memes rather than their semiotic aspects (Vyalla & Udandara, 2019; Wang & Lee, 2024). However, it has been observed that the construction of meaning-making in textual meme captions has not been thoroughly examined within linguistic and semiotic research, specifically with reference to a direct comparison between Human- and AI-generated content. Furthermore, it is still unclear which party is richer and more creative. Is it ChatGPT or human beings? In this vein, some scholars argued for the cultural depth and contextual richness implied in human-created memes (Cannizzaro, 2016; Galip, 2024; Khedr & Abbas, 2026) while others examined the increasing capacity of AI systems in generating content that can mimic human created memes. (Wu, Weber, & Müller, 2025). More so, several studies advocated a more balanced or integrated perspective, suggesting that both humans and AI contributions play important roles in generating meme captions; each offering different kinds of strengths (Chen Sun, & Han, 2023; Frangieh & Abdallah, 2024). Considering that AI is taking a large role in creating the contents of people's daily communications, a comparison between human- and AI-generated meme captions has become crucial for understanding the difference between the two. By examining these differences helps shedding light on whether or not AI is able to capture the essence of culturally rooted wit and the art of meaning-making. It also investigates the extent to which algorithmic generation aligns with or differs from human interpretive creativity, offering insights that are valuable for assessing the role of AI in digital discourse.

Based on the previously mentioned contestations among scholars and their calls, the researchers of the present work are to examine comparatively the points of similarity and difference between Human- and AI-ChatGPT-5 generated textual memes from a semiotic perspective. In other words, the study is to address the following research question: (1) What are the points of similarity and difference between the textual memes generated by humans and AI-ChatGPT-5 in terms of Barthes' framework of denotation, connotation, and myth? To meet this objective and answer the research question, the researchers are to adopt Barthes' Framework of Denotation, Connotation, and Myth (1972). Such a study enhances people's understanding of how meaning is constructed in the online world, highlighting the distinctive abilities involved in both humans and artificial intelligence.

Literature Review

The Concept of Memes

Originally, Richard Dawkins was the first to introduce "meme" in 1976 in "*The Selfish Gene*", describing it as a unit of cultural transmission similar to a biological gene. Thus, memes are said to act as vessels for the ideas, behaviors, and cultural norms spreading among people and communities through imitation. They are, in most of the cases, considered key to grasping and understanding online communications (Dawkins, 1976). Terminologically speaking, the term came from the Greek word "mimeme", meaning something that can be imitated. Conceptually, Dawkins illustrated memes using elements such as tunes, phrases, and fashion that transfer among individuals and shape collective cultural behavior. While Dawkins mainly approached memes from a biological perspective at the start, later scholars shifted the attention towards the digital communicative dimensions of memes within online space.

The internet has made a change to memes through transforming the vague cultural symbols into clearer digital objects in the online world. For scholars, internet memes are multimodal forms of communication that are participatory in nature, and that quickly spread across various platforms. Scholars like Knobel and Lankshear (2007) defined memes as "a particular idea presented as a written text, image, language, 'move,' or some other unit of cultural 'stuff'" (p. 202), referencing their adaptable nature across different forms. Contrastively, Shifman (2014) saw memes as imitative and transformative collections of digital items sharing content, form, and stance. While Knobel and Lankshear focused on the flexible nature of memes, Shifman emphasized the processes of remixing, imitation, and participation that allow memes to circulate online. These views underscored that memes are interconnected elements within a larger cultural framework.

Scholarly work pinpointed the varied aspects of memes in digital culture, since they are seen as "spreadable media that have been remixed or parodied as emergent memes which are then iterated and spread online as memes" and quickly circulate among users (Wiggins & Bowers, 2014, p.7). This view not only focuses on imitation, but also on the contingent circulation of memes, as they are constantly adapted and reinterpreted across different social contexts.

The structural diversity of memes has led scholars to categorize and sort them into unique formats and even genres. Earlier research mainly focused on two types of memes; image macros that blend visuals with captions, and reaction memes that convey emotional responses through imagery (Milner, 2012). In this context, Shifman (2014) viewed memes as socially recognized forms of communication encompassing genres like: LOLcats, rage comics, and recut trailers.

Later studies expanded meme classifications to include multimodal memes that combine texts, images, GIFs, or video or only written language, and AI-generated memes created with the help of remixed technologies.

Although there is so far no precise definition of memes owing to the elusive references of the available definitions, it is widely agreed that memes function as socially rooted and multimodal creations that demonstrate shared creativity and cultural expressions. While experts acknowledge a diversity of meme formats, image macros are particularly remarkable for their quick widespread and the skillful combination of text and image when communicating meaning. This perspective provides the basis for examining how meaning is formed and perceived in meme culture today.

Image Macro

Internet memes and image-based formats, specifically the so-called image macros, are often seen as highly conventionalized multimodal constructs deriving meaning from the interaction between image and text. Such interactions existed before the digital culture; however, meme forms codify and consolidate them through repeating patterns that are recognized online in new ways, expressing ultimately meanings, stances, and emotions (Vandelanotte, 2026).

The structural and functional qualities of image macros were subsequently sought by scholars, as they have a standard structure, which Davison (2012) described as a "set of stylistic rules for incorporating text into images" (p. 127). That is, images can set the scene while the caption offers a commentary and humor. The ability to interpret image macros as a form of visual-verbal communication highly depends on one's familiarity with meme conventions and common cultural knowledge (Dynel, 2016).

Because image macros combine verbal and visual elements within a single format, they are particularly suitable for semiotic comparison and multimodal analysis. Their meaning depends not only on the caption or image separately, but also on the relationship between them.

In digital communications, image macros are considered interactive and evolving. Their visual templates are static, whereas, their linguistic parts are changed to suit different situations, generating as a result new meanings (Zenner & Geeraerts, 2018). According to Milner (2012), "a complex interplay exists between imitation and transformation" (p. 140). That is, the dynamicity between stability and change is reflected in image macros. The modes of the textual components of image macros are varied based on people's culture and the way they use them. Hence, the adaptable nature of memes makes them the best mediums for analyzing the construction of meaning in digital discourse, and a powerful way in shaping social commentary.

Image macros have been analyzed in recent studies from various analytical semiotic perspectives and multimodal frameworks. Some of the studies focused on meaning formation in image-text interactions, shedding light on the unified communicative act and the multimodal nature of memes (Qadduri, 2026). Some others focused on the interconnected nature of meaning-making while others adopted visual grammar to exemplify how factors such as: framing, salience and layout shape interpretation in meme images (Salem, 2026). Contrastively, some other intersemiotic studies emphasized the dynamic interaction of meaning between visuals and linguistic aspects, illustrating the ways captions are modified and the visual stimuli are understood (Oyebode & Unuabonah, 2024). Taken together, these studies indicated that image macros are seen as multimodal works but with differing emphasis: some focused on integration,

some on composition, and others on the transfer of meaning between modes, offering up possibilities for further comparative semiotic research.

Semiotics and Visual Language in Meaning-Making

The study of meaning in communication today requires a theoretical base that encompasses both the symbolic and the visual dimensions of representation where semiotic frameworks play a role in providing insights into how meaning is constructed, understood, and communicated through signs. More generally, semiotics is the study of anything and everything that can function as a sign, or that might stand for other things while engaging with the world (Chandler, 2007). That is, meaning is not lodged in the utterances, but it is rather produced via real or imaginary signaling or standing for something other than themselves. Semiotic evolution indicates a rich intellectual path, placing meaning as a phenomena constructed by social and cognitive variables. The two key figures, Saussure and Pierce (as cited in Nöth, 1995; Chandler, 2007) greatly impacted the early scientific discoveries of semiotics. They both offered pivotal models for understanding signs and meaning, emphasizing the interconnected aspect of meaning and interpretation. Accordingly, semiotics serves as a lens for examining how signs function within culturally shared codes that shape interpretations.

Semiotic analysis nowadays has expanded to include the increasing significance of visual language. That is, the way visual elements, as verbal grammar, generate ordered systems of meaning that are not merely a supplement to words, but rather exist as a semiotic system in their own right, with their own internal logic and coherence (Kress & van Leeuwen, 2020). In terms of the role of visual language, scholars highlighted various views. For instance, Ali and Al-Bahrani's (2021) study reached the conclusion that visual language is a supportive element rather than a basis for meaning enhancement, as they serve as a second hand in the embodiment and reflection of reality in online advertisements. The researchers also referenced Danesi's (1994) argument that, in order to be communicative and informative, there must be a rigorous correspondence of words to visuals. Dweich, Al Ghabra, and Al-Bahrani (2022) emphasized the scrupulous employment of visual language to semiotically probe the connotative cultural values of the visual and textual indicators in selected episodes of "Tom and Jerry". The research further showed how the graphical and written cues are rich in cultural values that are mostly negative than positive, concluding ultimately the importance of treating media texts as a semiotic database when analyzing their role in the construction of viewers' perceptions, attitudes and values. Al-Rawi and Al-Mamoori (2025) referred to the participants' points of difference and/or similarity when reading images. This is because culture acts as a vertical axis linking between individuals (individualism) and groups (collectivism). That is why, one might see an individual representing only his own ideas or sharing them with others in the same speech community. This view accentuates van Dijk's point (as cited in Derakhshani et al., 2021) in that "discourses are like icebergs" (p. 1225), where only a limited aspect is visible, whereas the rest is susceptible to propositions. In the same vein, Smith and Tversky (1999, as cited in Hussien & Al-Bahrani, 2023, p. 12) explained, "a human mind categorizes events and experiences into different and similar categorizations".

Initial explorations of visual language, and especially within computational or syntactic frameworks, viewed it as a structured system in which meaning arises from the spatial connections between visual elements (Marriott, Meyer, & Wittenburg, 1998). Later developments expanded this view by including multimodal and socio-semiotic aspects. Visual

language, according to Zhang (2007), is a broader category with different types of communication. By contrast, Kress and van Leeuwen's socio-semiotics model was a major development in the area, drawing attention to elements such as salience, information value and the framing of how images convey meaning. Their concept showed how visual coherence stems from spatial or perceptual links, rather than from the order of occurrences. When they go together, semiotics and visual language give a powerful framework to understand and make sense of meaning in multimodal artifacts within digital communications.

Although several semiotic and visual approaches were used in analyzing the meaning of image-based communications (e.g., multimodal discourse analysis, visual grammar), the present work has primarily employed Barthes' model of signification as an analytical framework. The concept gives a handy three-level lens (denotation, connotation and myth) that successfully allows to compare meaning-making in both human and AI-created captions. It also allows a systematic path from simple visual recognition to deeper cultural interpretations and ideological implications within the same image macro.

Previously Conducted Works

Several research studies examined from cognitive, semiotic, and discourse perspectives meaning-making in language, pedagogy, as well as in multimodal discourse using visual and/or textual prompts. In EFL pedagogy, Al Rashdi (2020) examined the Omani college students' abilities to infer the pragmatic meanings from internet memes and to adopt them as a teaching tool. By employing a mixed-method approach, which included classroom observations and questionnaires administered to 29 undergraduate students, the study showed that learners generally grasped meme meanings, especially when the content connected to familiar everyday contexts such as education and social life. They can also boost learners' pragmatic and inferential skills. However, challenges emerged when memes are culturally or politically charged with references, implying that understanding relies heavily on common cultural insights.

Similarly, Vásquez and Aslan (2021) investigated the construction of humor in online image macro memes, focusing on the interplay between verbal and visual semiotic elements. A collection of 220 memes from popular platforms, such as "Facebook", "Google Images", and "KnowYourMeme," was analyzed qualitatively using multimodal discourse techniques to uncover the secrets behind their humor. They observed that humor in memes stems not only from language, but also from the combination of tactics, such as intertextuality, register changes, paronymy and semiotic mixing. The study further clarified how humor is created through the mismatch between verbal styles and striking visuals or through familiar yet artistically reinterpreted cultural allusions. Thus, memes can best be interpreted by amalgamating a strong semiotic skill with a shared cultural background, as memes can be seen as tokens for engagement within the culture of digital communication. While both studies focused on the human interpretation of memes, Al Rashdi's focal point (2020) was the pragmatic inferences in educational contexts, whereas Vásquez and Aslan (2021) focus was on humor construction in multimodal interactions within semiotics. However, both studies emphasized the importance of cultural knowledge and contextual understanding in the interpretation of memes.

Moving from a human-interpretation lens to technological and interactional ones, Dynel (2024) used interactional pragmatics to examine how platform affordances, such as re-tweeting and quote tweeting, shape multimodal communication and implicature in Twitter memes. Dynel examined how users re-contextualize embedded multimodal content through the use of manually

built dataset of 893 quote-tweeted memes in 2022. The findings suggested that the pragmatic entrenchment mechanism, where the user extends the meaning of the meme with minimum alterations, and re-pragmatisation, play an essential role in memes generation. The study demonstrated that the communicative effect of a meme significantly differ across a new setting, effecting as a result the interpretation of a meme on Twitter. It further revealed that the distribution and capturing of memes are fueled by contextual inferences, collective cultural knowledge, and the interactional features of the platform.

Similarly, Vandelanotte (2026) argued that internet memes are multimodal creations where language and visuals work together to convey meaning. The analysis showed how embodied visual signals, such as facial expressions and interactional posture, were significant in the construction of emotions, beyond the mere display of the accompanying text. In conclusion, the study found that memes are known patterns that help users to communicate their viewpoint rapidly and to understand the common sentiment through known cultural formats. Moreover, memes serve to circulate recurrent patterns through emotions by means of online communities, which promote social connection and belongingness. In comparison to earlier studies that focused on cultural interpretations and humor, Dynel (2024) and Vandelanotte (2026) extended research on memes by emphasizing the role of embodied emotional stance and platform affordances, showing that meaning in memes is grounded not only culturally, but also dynamically through interactional and multimodal processes.

Additionally, recent studies on digital discourse have increasingly focused on generative AI humor, computational creativity, the pragmatic limits of AI, and on multimodal LLM conversations. Wu et al. (2025) highlighted the imaginative possibilities of LLMs in creating memes and human–AI collaboration. However, their research showed that AI-generated humor relies more on learned and repetitive patterns, rather than on culturally rooted understanding. Fettach et al. (2026) investigated the practical side of humor processing in LLMs, revealing that although models may excel at humor recognition tasks, they often miss the mark in aligning jokes with their intended contextual meanings. In a similar vein, Zhou et al. (2026) highlighted this limitation in multimodal meme interpretation, showing that LLMs struggle to blend visual and textual cues when constructing the figurative meaning seamlessly.

Research in language education also examined learners' perceptions of generative AI tools in academic settings. A case in point is Mahfouz and AbdelMohsen's (2025) examination of how the Egyptian university students feel about using ChatGPT when writing language essays, emphasizing perceived usefulness, ease of use, as well as the ethical considerations. Their findings revealed that students typically had a favorable view of ChatGPT, seeing it as user-friendly and advantageous for enhancing their writing skills. Most people thought it was fair, but several were quite concerned about its impact on their higher order thought skills, and also on their privacy, safety and academic honesty. The survey also indicated that as AI tools become more prevalent in education, students remain particularly concerned about how AI may affect their thoughts and morality.

In contrast to earlier studies that are human- and multimodal-centered, these recent AI-centered studies shifted the attention towards computational interpretation, humor generation, and memes. However, they collectively highlighted a limitation in AI systems' ability to fully capture cultural embeddedness and contextual meanings, which contrasts with the strengths emphasized in human interpretive studies. While diverse in their methods, these studies highlighted distinct focal points of memes. However, to the best of the researchers' knowledge,

no study has tackled textual memes semiotically and comparatively between humans and AI-ChatGPT-5, especially within structured semiotic frameworks like Barthes' three levels of signification. Thus, the present work is a step toward bridging this academic gap.

Barthes' Model of Signification as a Theoretical Framework

This study adopts Roland Barthes' model of signification, which encompasses three interrelated levels of denotation, connotation, and myth, as its theoretical framework. Grounded in Barthes' works, titled, "*Mythologies*" (1972) and "*Elements of Semiology*" (1967), this model was built on Saussurean semiology, offering a structured way to understand how meaning is crafted and influenced by ideological forces.

The first-order sign includes the signifier and the signified, creating the denotation, or the literal surface-level meaning of a sign. Denotation is often seen as the clearest or the most objective meaning. However, Barthes highlighted that even this aspect is shaped by cultural and interpretive norms. That is, the seemingly simple or "literal" meanings are woven into earlier systems of interpretation.

At the second level, connotation, the denotative sign serves as the signifier for extra meanings, whereas connotation refers to the cultural, emotional, and ideological associations that go beyond the literal meaning of a sign. These meanings are shaped by social constructs and rely on common cultural codes and interpretive frameworks. Connotation addresses the way the personal and shared experiences influence signs understanding (Chandler, 2021; Fiske & Hartley, 2004, as cited in Abdullah & Mellor, 2024).

Barthes expanded this model by adding a second-order system, called myth, where meanings become more culturally naturalized and ingrained, appearing as universal or self-evident truths. This process shows how signs perpetuate the dominant cultural and ideological narratives (Barthes, 1972); consider Figure 1:

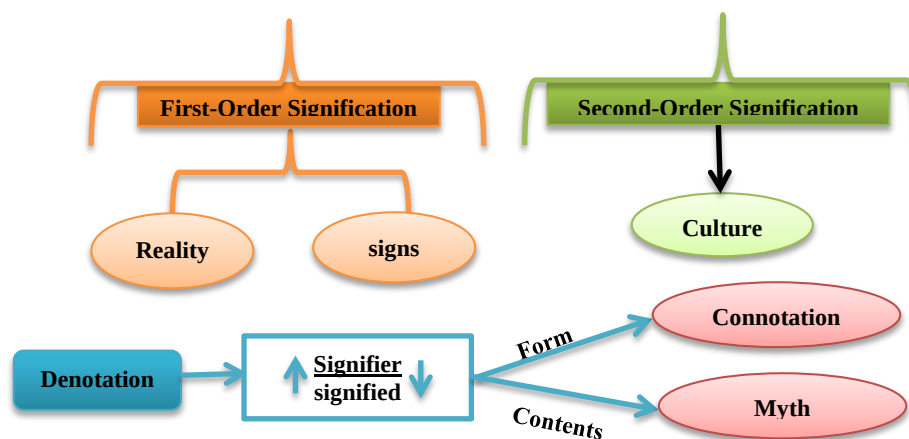


Figure 1. Barthes' Model of Signification, as diagramed by the researchers of the present work (Adopted from Barthes., 1972, pp. 114–116)

Barthes' approach is an efficient tool for analyzing meme captions, as meme communication is loaded with cultural allusions, implicit meanings, and collective interpretive knowledge based on one's cognitive ability. This paradigm assists in the analysis of meaning on several levels, allowing for a systematic comparison of captions produced by both humans and AI, and reveals disparities in the way

meaning is constructed and interpreted as per the same visual stimulus. The three levels of Barthes' model are adopted in the process of interpretation, starting with denotation, which is examined using the direct descriptions of what is visually represented and the clear references in captions written by humans and ChatGPT-5. Then, the connotative meaning is identified by using the cultural, social, and emotional meaning of the items as seen in the participants' comments in the post-test interview. And at last, the level of the myth is generated to find the recurring ideological patterns and shared beliefs in the dataset, revealing the deeper cultural assumptions behind human and AI views on the same image.

Methods

This study employs a qualitative research design to examine how meaning is constructed in human- and AI-generated captions. The qualitative aspect serves as the main focus of the study, emphasizing the interpretive analysis of meanings that are context-specific and culturally rooted, fostering a deep exploration of the symbolic and semiotic aspects of the data. According to Creswell and Creswell (2018), qualitative research naturally leads to interpretation because it looks at the social and cultural meanings attached to words, showing eventually how the participants' unique differences shape their realities and create meanings. Qualitative research entails a systematic collection and interpretation of textual and visual materials, making it ideal for analyzing multimodal forms such as meme captions within wider qualitative traditions that examine the contextual aspects of meaning-making (Denzin & Lincoln, 2018). Thus, employing a qualitative approach helps in identifying recurring patterns and the semiotic elements in captions generated by both human and AI, and in clarifying the analysis while maintaining its interpretive richness. This study aims to examine the nuances of meaning-making and to compare the differences between human and AI-generated text, making a qualitative design the best choice.

The study employs a semiotic comparative analysis using Barthes' triadic framework to interpret the human and AI-ChatGPT-5's answers inductively to uncover the recurring patterns of meaning. Initially, the researchers considered the answers of both parties and classified them thematically, based on Barthes' three layers of meaning. Finally, a comparison between the human and AI-generated meme captions has been conducted across all three levels to examine the variations in the interpretative depth, cultural context, and the intricacy of meaning creation.

Data and Participants

The data of study includes textual captions generated by humans and by artificial intelligence in response to a single image macro. The visual stimulus selected is a public-domain artwork by Honoré Daumier (c. 1862–1865), called "*Le Défenseur (The Defender/ Counsel for the Defense)*" ([https://commons.wikimedia.org/wiki/File:Honor%C3%A9_Daumier,_Le_D%C3%A9fenseur_\(Counsel_for_the_Defense\),_c._1862-1865,_NGA_168817.jpg](https://commons.wikimedia.org/wiki/File:Honor%C3%A9_Daumier,_Le_D%C3%A9fenseur_(Counsel_for_the_Defense),_c._1862-1865,_NGA_168817.jpg)); consider Figure 2. The image macro depicts a courtroom scene in which two main figures engage in a communicative exchange. One figure appears to address an unseen authority beyond the frame while the other remains visually silent or disengaged. The image serves as a common visual reference for both human participants and AI systems, ensuring that the analysis centers on the difference in the process of making meaning rather than on the visual stimuli. The choice of the image was first based on the researchers' of the present work perspectives, selecting an image belonging to the genre of "problem pictures". Such a type facilitates the process of decoding, identifying, and feeling what is there. At the same time, it activates the participants' minds and

sets their ideas and imagination in motion. Three images were selected from this genre and submitted to a three-member jury to determine the most suitable one. A cover letter has been prepared and submitted to the jury, too, asking them about the type and number of images, the level and number of participants, and the clarity of the prompt used, maintaining the validity of the study.



Figure. Le Défenseur (The Defender / Counsel for the Defense), by Honoré Daumier, c. 1862–1865. Public domain. Source: Wikimedia Commons

Regarding the human participants, the study involves 15 participants, all first-year students from the Department of English at the College of Education for Women, University of Baghdad. The participants have been purposively selected for their similar educational backgrounds and language skills, ensuring data consistency while adhering to ethical considerations. They have been asked to sign a consent letter before conducting the test. Then, they have been tasked with generating textual captions reflecting their interpretation of the *ad hoc* image. Their responses form the human-generated dataset for the analysis. The relatively small number of participants ($n = 15$) is considered appropriate given the qualitative and interpretive nature of the study, which prioritizes the depth of meaning-making over generalizability. The number and level of the participants have also been confirmed by the three-member jury to maintain the validity of the study.

In Parallel, the AI responses have been generated from AI-ChatGPT-5. The system received the same image along with a standardized prompt to generate 15 textual captions. This guarantees that both datasets, human-generated and AI-generated, are comparable in quantity and context.

Research Instruments

The present study has used tools designed to aid in data collection and generation. The main tool is the selected image macro, which serves as the visual stimulus for both human participants and AI system. The image acts as a shared visual cue to inspire captions that reflect different ways of understanding and interpreting meaning. This public domain artwork is ideal for academic use, as it comes without any copyright limitations. The image was particularly selected by three jury members from the English department, majored in applied linguistics and linguistics, to maintain the validity of the study.

Alongside the visual stimulus, the study uses a Google Form for digital data collection. This form collected responses from first-year students, the participants of the study. The Google Form offers a streamlined method for the participants to submit their captions in response to the same visual prompt. This guarantees that responses are gathered under unified conditions and within a consistent framework. The entire test has been conducted on campus, in the English language lab, maintaining the confidentiality of their answers and a total control over the entire process.

This study also employs an AI tool known as ChatGPT, version 5. A prompt has been provided to the tool to create captions for the same image macro, and the outputs have been downloaded and saved in a separate file. This ensures that AI-generated data matches the visual input given to human participants, enabling a controlled comparison between the two datasets.

Then, the responses have been collected, organized, and prepared for analysis using a data management system. The human-generated captions were downloaded from Google Forms responses, while the AI-generated captions were collected separately and merged into a single dataset for analysis. This organization streamlined data comparison and the analytical framework implementation, focusing on denotation, connotation, and myth.

Collectively, the study primarily uses an image macro, Google Forms, ChatGPT-5, and a data organization system as its key tools. These tools guaranteed systematic data collection and preparation, enabling consistent analysis and reliable comparison of human and AI-generated captions.

Research Procedures

An organized methodical set of procedures has been carried out to accomplish the objective of the current investigation. A shared visual stimulus has been provided to both human participants and the artificial intelligence program ChatGPT-5. The image macro selected based on the jury members' opinion has been displayed to both parties in order to generate meme captions while viewing it.

To collect textual captions from the human participants, a Google Form has been used. To create a structured dataset, the responses have been grouped, organized, tabulated, and sorted into the three layers of signification: denotation, connotation, and myth. Concurrently, AI-ChatGPT-5 has been prompted to construct (15) possible captions based on the same image, and the outputs have been downloaded and saved as a separate dataset during this process. An interview session has been scheduled to objectively identify the myth implied in each meme, with reference to the meme generator.

It is to be noted that, to maintain the reliability of the study, the researchers first conducted a pilot test with five participants to assess the feasibility of the entire process, the clarity of the images, the time required, and any questions they might raise. Their answers have been tentatively analyzed to be later compared with those of the main test.

Results

This section presents the findings from the semiotic analysis of human- and AI-ChatGPT-generated textual memes, using Barthes' three levels of signification framework. The textual memes generated by Human and AI-ChatGPT-5 are presented in Appendix (A).

Denotatively speaking, and based on Appendix A, both human and AI-ChatGPT-5 have anchored their memes on two visible inputs or references: An old and fat standing person who is

talking or blaming the other, or who is addressing another young seated person, the second figure, or a third one being set beyond the scene frame (authority side), but is referred to using directional gestures, or a sort of interaction or engagement. The analysis has shown that only (P2, P6, P9, P11, P12, and P15) have three references; two of them are depicted in the image, whereas the third is set behind the scene frame. As for AI-ChatGPT-5-generated memes, only three captions, C2, C9, and C15 rely on three visual inputs.

At the **second-order level**, it has been noted that there are significant differences between the two parties. Speaking of the human-generated memes, the human participants vary in the use of connotative references attached to the figures highlighted, as shown below:

The speaker is referred to as: {your sibling, the teacher, me (1st person), my friend, the lawyer, man, woman, mom, my dad, indefinite character (a teacher, or a secretary)}.

The younger man is addressed as: {you (2nd person family member), you (the student), the deadline (personification), 1 (1st person, friend), defendant, my brain (personification), woman, criminal, son, student, an artist}

The third unseen person represents: {judge, honor, students, teacher}

It has further been observed that two of the human participants (P8 & P11) recognize the young boy figure as a female character, whereas P10 recognizes the old fat man as a woman in the character of a Mom. Besides, P3 and P7 depersonalize the young boy as a deadline or one's mind.

Another observation is that the court scene has been metaphorically used as: {a setting for shooting an accusation or for embarrassment, a classroom, a part of a house, a public setting, or your own room}. Only four participants (P5, P6, P9, P15) refer to the court scene, highlighting, however, different problems and issues.

There is also a natural and spontaneous sense in human-generated memes, exemplified by the use of informal, slang, hybrid, and texting language and styles, as in "u, ur," and the use of emoji, which involves lots of narrative style and dialogue. There is also a sort of emotional richness; cases in point are: {"but ur face saying something else; **a full-blown mental breakdown**; Just look at his hair!; Me panicking during the exam; It's cold today, isn't it?; "Oh my God, finally a way out!"; and my dad feeling happy}.

As for the AI-ChatGPT-generated memes, and particularly at the **second-order signification**, it has been shown that the social roles highlighted for the figures identified include the following:

The speaker is represented as: {you (2nd person indefinite), lawyer, student, indefinite speaker, 1st person (as a presenter, layman, speaker, student, colleague)}

The younger man is associated to: {another person, lazy student}

The third unseen person is seen as: {judge, honor, audience}

As shown, only four captions assign the old and fat man the identity of the 2nd person speaker "you"; the rest associate the speaker with the 1st person.

Similarly, AI-ChatGPT-5 metaphorically associates the court scene with different settings, such as: {a social or public setting, a classroom, and a personal setting}. Only one caption (C2) refers to the court scene.

Most of the captions generated by AI-ChatGPT-5 are formal and standardized, as they follow the templates “me + a situation” or “when + a clause”. Besides, the punchline is very short and merged with the template, as in: {“regret it, vibes don’t lie”}.

It is worth noting that AI-ChatGPT-generated memes, represented by C1 and C2, suggest regret and intuition without setup, whereas C3 and C6 show communication disruption and persistence without a social context. This suggests that AI interpretations involve conceptual meanings rather than situational framings.

As far as myths are concerned, both human- and AI-generated memes reflect cultural beliefs and social assumptions that go beyond the immediate context. These myths show common views on authority, responsibility, behavior, and social roles in daily life. To derive the myths from the human-generated memes, an interview session was conducted with the participants to discuss their possible cultural ideologies, which were then derived and generalized from their generated captions. Results are illustrated in Tables 1 and 2.

Table 1. *Human-generated myths*

Participants	Human-Derived Myths
P1	Life situations mimic courtrooms, with accusations, defenses, and justifications.
P2	Authority is pervasive and is always on alert.
P3	Time is an autonomous authority that teaches and controls people.
P4	The conflict between the social norms and one’s irrationalized self-indulgence.
P5	When appearances (or flimsy arguments) become reliable proofs for one’s moral and intellectual capabilities.
P6	Truth and realities are deeper than what appears.
P7	The fragmented self between the judge and defendant.
P8	When judging, others minimize social norms.
P9	Justice is maneuvered strategically.
P10	The domestic sphere mimics courtrooms.
P11	Accountability is usually negotiated by absurdly justifying the failure.
P12	Confirming authenticity is subject to ongoing validation and security checks.
P13	To be recognized by the authority highlights two opposing feelings: prestige and vulnerability.
P14	To be free of responsibility is to be liberated.
P15	Prioritizing household order over ethical norms.

Table 2. *AI-ChatGPT-generated myths*

Participants	ChatGPT-Generated Myths
C1	Voicing your thoughts requires confidence and increases the sense of accountability and defense: (Life involves continuous performance pressure).
C2	Flimsy and unsound arguments might substitute logic and evidence.
C3	A disrupted team and the loss of control over things: (Life involves continuous performance pressure).
C4	Failure to maintain meticulousness and logic leads to failure and weakness.
C5	Students are judged by their work and defense, not by their level of exhaustion (Life involves continuous performance pressure).
C6	Speaking fluently can cover up technical failures (Life involves continuous performance pressure).

C7	Persuasion through gestures and references.
C8	Failure is always attributed to external factors rather than to personal actions.
C9	The use of communicative strategies in socially mitigating personal shortcomings.
C10	Deadlines are sometimes non-negotiable constraints.
C11	Manipulative strategies can distract attention.
C12	Verbal support is needed to sound convincing.
C13	Confidence strengthens weak reasoning.
C14	Truth is still valid even when it is poorly stated.
C15	Reclaiming authority may unintentionally reduce audience interest and attention.

Discussion

To answer the research question, which reads, “What are the points of similarity and difference between Human- and AI-ChatGPT-generated textual memes from the semiotic perspective?”, the analysis has revealed the following:

Collectively, at the first-order signification, the denotational references foregrounded are somehow stable and shared between the two parties. Both human participants and AI-ChatGPT-5 have identified the major visual references and interactional patterns in the image macro. This suggests that both humans and AI can easily process the surface visual structure, constructing direct references from the same multimodal input.

That is, different social roles and gender identities have been assigned and highlighted among the human participants. This confirms grounding the re-interpretive feature at the connotational level, and reflects the participants’ ability to activate semantically dense and culturally embedded connotations. That is, humans’ activated settings are contextually and socially oriented, reflecting various everyday life issues and experiences that range from domestic or familial to social and interpersonal, and to psychological and emotional.

The human participants managed to create mini-stories with unexpected punchlines, illustrating their knowledge of the structure of memes. These examples demonstrate how humans interpret visual features to create complex, context-specific scenarios. They also reveal that humans understand images as scenes and representations of lived experiences and social emotions. This finding resonates with Vandelandotte (2026), highlighting that memes draw significant communicative power from embodied and emotional stances. Here, meaning goes beyond merely the linguistic content, incorporating instead implied affective positioning and interactional signals. In this context, the human captions showcase a rich semiotic engagement, as they consistently infuse their interpretations of the visual stimulus with emotional, relational, and situational depth. In contrast, the more abstract and general nature of AI-ChatGPT-generated captions suggests a lesser reliance on embodied stance and situational grounding, leading to interpretations that feel more detached and conceptually focused. Such findings support Cannizzaro’s (2016) and Galip’s (2024) views that memes are culturally grounded and socially embedded semiotic constructions rather than being merely computationally reproduced patterns.

That is, the social roles are somewhat limited and more specific than the human participants’ memes. No gender identities other than the ones recognized have been treated differently; the figures have been treated as they are. More so, most of the roles do not refer to discursive acts, but to lived experiences.

The highlighted settings are general or refer to the classroom or any academic setting, or to any socially encountered situations. However, the range of significations is still limited in

comparison to the human participants'. The scenes are even more abstract, focusing on actions rather than people, such as transferring blame and avoiding responsibility straightforwardly. There is further a sort of emotional limitedness.

It is worth noting that the AI-ChatGPT-generated memes, represented by C1 and C2, suggest regret and intuition without setup, whereas C3 and C6 show communication disruption and persistence without a social context. This suggests that AI interpretations involve conceptual meanings rather than situational framings. Such findings support Wu et al. (2025), Fettach et al. (2026), and Zhou et al. (2026), who emphasized that AI-generated humor and multimodal interpretations often rely on generalized learned patterns and may lack culturally situated contextual depth.

As clearly shown, there is a court-related aspect in each of the human-generated myths. Myths in human-generated captions are particularly rooted in social, cultural contexts, psychological beliefs about daily life, academic pressures, family dynamics, and in legal systems. Such diversity in the general cultural and ideological messages confirms that the process of re-signification is carried out subjectively at the second-order signification layer.

As elaborated in Table 2, AI-ChatGPT-generated myths are broader and more abstract. This is because most of the myths generated do not belong to a specific culture or address a particular event; they rather imitate a recurrent pattern that might be encountered in any culture, by anyone, at any time. They do not use the image metaphorically to generate court-associated meaning but in different settings. Instead, the myths generated highlight common behaviors, like regret, distraction, blame-shifting, and communication tactics.

This study helps to grasp how meaning is created in conversations between humans and AI. It further indicates that AI can serve as a helpful tool for generating interpretations; however, it should not replace human understanding, particularly in situations that demand cultural or ideological awareness.

The visual language or prompt used in this context is basic and highly supportive of both parties in eliciting cultural and ideological connotations, a conclusion that is contrary to that of Ali and Al-Bahrani (2021). Besides, the creative re-signification of the situation in the image by the human participants has made them sound more communicative and conversational at the same time, a point in line with Danesi's (1994). Being relative to an everyday or familiar situation facilitated the process of re-signifying the same image in diverse ways; a conclusion in line with Al Rashdi (2020), Vásquez and Aslan (2021), and Dynel (2024).

Both human and AI-ChatGPT-generated memes are humorous; however, human memes are more humorous, more vivid, and mechanism-based, whereas AI-ChatGPT-generated ones are less vivid, more abstract, lack cultural depth and details, are conceptual, mild, and are heavily reliant on meta-discourse markers. The source of humor is a blend of the visual and the process of re-signification or re-imagination, a conclusion in line with Vásquez and Aslan (2021).

Both parties have managed to generate textual memes, regardless of the style or pattern used, and regardless of the sense of artificiality or naturalness. This means both are aware of this digital phenomenon and of the purpose behind using them. The various connotations and myths highlighted reflect the multiple purposes memes might serve, a point that aligns with Knobel and Lankshear's (2007) and Shifman's (2014) perspectives on memes as socially shared and culturally participatory communicative practices.

Conclusion

The present study aimed to compare the similarities and differences between Human- and AI-ChatGPT-generated textual memes, employing Barthes' semiotic framework of denotation, connotation, and myth. The results have shown that both humans and AI can effectively create textual memes from the same visual stimulus and share common meanings. However, key distinctions have emerged at the connotative and mythological layers. Memes created by humans have showcased deeper social roles, contextual adaptability, emotional nuances, and cultural significance. Those generated by AI-ChatGPT-5 have leaned more toward abstraction, generalization, and repetitive language patterns. Moreover, the findings have further revealed that human participants transformed the court setting into more diverse domestic, social, psychological, and interpersonal contexts. In contrast, AI-ChatGPT's interpretations have been notably restricted in their contextual and cultural diversity. Human participants' memes have shown a rich tapestry of ideological and cultural beliefs, whereas AI ChatGPT's myths have revealed broader and more universal behavioral trends.

This study has also shown that visual cues can successfully evoke cultural and ideological meanings. However, humor and wit in textual memes arise from the interplay of visual elements and from re-significations. Moreover, AI have been shown to mimic some aspects of meme communications, whereas human participants have excelled at crafting culturally nuanced, emotionally vibrant, and context-aware meanings, supporting consequently recent multimodal meme research finding in that the embodied emotional stances and social contexts shape digital meaning-making.

While the study offers valuable insights, it does have its limitations. Speaking of the sample size, it is modest and culturally uniform, with all participants sharing the same educational and social background. The research hinged on one image macro and a single AI model, OpenAI's ChatGPT-5, potentially constraining the broader applicability of the results. Furthermore, the semiotic reading of connotation and myth involves a level of interpretive subjectivity, even within the structured analytical framework.

Future research could broaden the dataset by including participants from diverse cultural and linguistic backgrounds, exploring various image macros, examining gestures, humor, the difference between memes and caricatures, meme genres, and analyzing outputs across different AI models. Future studies could blend semiotic analysis with quantitative or multimodal methods to unveil deeper insights into AI-generated digital discourse.

Funding: This paper is not funded.

Acknowledgments: Not applicable.

Conflict of Interests: The authors declare no conflict of interest.

Authenticity: This manuscript is an original research paper.

Artificial Intelligence Statement: AI and AI-assisted technologies (Quillbot) have been used to refine the language and grammar; however, they have not been thoroughly depended on. The authors are held responsible for the accuracy and integrity of the contents.

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References

- Abdullah, A. K. & Mellor, N. (2024). The representation of Arab masculinity in advertising: A semiotic analysis. *AlBahith Alalami*, 16(64), 1-25.
<https://doi.org/10.33282/abaa.v16i64.1208>
- Ameen, L. T., Yousif, M.R., Al-Noori, N.A.J., & Majeed, B.H. (2024). The Impact of Artificial Intelligence on Computational Thinking in Education at University. *International Journal of Engineering Pedagogy*, 14(5), 192-203.
DOI: <https://doi.org/10.3991/ijep.v14i5.49995>
- Ali, S. A. & Al-Bahrani, R. H. (2021). Cognitive Linguistic Study of the Persuasive/Attention Strategies Used in Selected American English E-Advertisements. *Arab World English Journal (AWEJ)*, Special Issue on CALL (7), 279-29. DOI: <https://dx.doi.org/10.24093/awej/call7.20>
- Al Qaradaghi, A. (2025). Infallible or Fallible For students' use? Interdownload and Confessions with OpenAI' ChatGPT. *Alustath Journal for Human and Social Sciences*, 64(2), 1-15. DOI: 10.36473/2zaxcp93
- Al Rashdi, M. (2020). A Small-Scale Exploratory Study on Omani College Students' Perception of Pragmatic Meaning Embedded in Memes. *Arab World English Journal (AWEJ)*. Proceedings of 2nd MEC TESOL Conference 2020, 298-313.
DOI: <https://dx.doi.org/10.24093/awej/MEC2.22>
- Al-Rawi, B. J. & Al-Mamoori, F. S. (2025). Cultural Dimensions in Television Advertising: A Semiotic Study. *Albahith Alalami*, 17(68), 89-111. Doi: <https://doi.org/10.33282/abaa.v17i68.1274>
- Barthes, R. (1967). *Elements of semiology* (A. Lavers & C. Smith, Trans.). Hill and Wang.
- Barthes, R. (1972). *Mythologies* (A. Lavers, Trans.). Hill and Wang.
- Cannizzaro, S. (2016). Internet memes as internet signs: A semiotic view of digital culture. *Sign Systems Studies*, 44(4), 562–586. <https://doi.org/10.12697/SSS.2016.44.4.05>
- Chandler, D. (2007). *Semiotics: The basics* (2nd ed.). Routledge.
- Chandler, D. (2021). *Semiotics for beginners: Denotation, connotation and myth*. <https://visualmemory.co.uk/daniel/Documents/S4B/sem06.html>
- Chen, L., Sun, L., & Han, J. (2023). A Comparison Study of Human and Machine-Generated Creativity. *Journal of Computing and Information Science in Engineering*, 23(5). <https://doi.org/10.1115/1.4062232>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.

- Davison, P. (2012). The language of internet memes. In M. Mandiberg (Ed.), *The social media reader* (pp. 120–134). New York University Press.
<https://doi.org/10.18574/nyu/9780814763025.003.0013>
- Dawkins, R. (1976). *The Selfish Gene*. Oxford University Press
- Dembe, T. (2024). The impact of social media on language evolution. *European Journal of Linguistics*, 3(3), 1–14. <https://doi.org/10.47941/ejl.2049>
- Denzin, N. K., & Lincoln, Y. S. (2018). *The SAGE handbook of qualitative research* (5th ed.). SAGE.
- Derakhshani, M., Qaiwer, Sh. N., Kazemian, B., & Mohammadian, Sh. (2021). Critical Discourse Analysis and Rhetorical Tropes in Donald Trump’s First Speech to the UN. *Theory and Practice in Language Studies*, 11(10), 1224-1236. Doi: <http://doi.org/10.17507/tpls.1110.10>
- Dweich, Z. A., Al Ghabra, I. M. M., & Al-Bahrani, R. H. (2022). Cartoons: Themes and lessons: A semiotic analysis. *Journal of Language and Linguistic Studies*, 18(Special Issue 2), 966–981. <https://www.jlls.org/index.php/jlls/article/view/3423>
- Dynel, M. (2016). ‘I has seen image macros!’ Advice animal memes as visual-verbal jokes. *International Journal of Communication*, 10, 660–688. Retrieved from https://www.researchgate.net/publication/293464876_I_has_seen_Image_Macros_Advice_Animals_memes_as_visual-verbal_jokes
- Dynel, M. (2024). The pragmatics of sharing memes on Twitter. *Journal of Pragmatics*, 220, 100–115. <https://doi.org/10.1016/j.pragma.2023.12.001>
- Fettach, Y., Bied, G., Toivonen, H., & De Bie, T. (2026). *Cards against LLMs: Benchmarking humor alignment in large language models*. arXiv. <https://arxiv.org/abs/2604.08757>
- Frangieh, C., & Abdallah, M. (2024). A linguistic comparison between human- and AI-generated texts in Lebanon. *CALR Linguistics Journal*.
<https://doi.org/10.60149/tmsy9941>
- Galip, I. (2024). Methodological and epistemological challenges in meme research and meme studies. *Internet Histories*, 8(4), 312–330.
<https://doi.org/10.1080/24701475.2024.2359846>
- Hussien, L. O. & Al-Bahrani, R.H. (2023). A Cognitive Linguistic Study of Visual Language as a Reflection of Culture: Violence Against Women in Iraq. *Journal of the College of Education for Women*, 34(1), 10-32. Doi: <https://doi.org/10.36231/coedw.v34i1.1651>
- Khedr, N.A. & Abbas, N.F. (2026). AI in Literary and Non-Literary Discourse: A Systematic Review of Human and Machine Authorship, and Style and Perception. *Arab World English Journal*, (Special Issue 3), 88-101. <https://dx.doi.org/10.24093/awej/AI3.6>
- Knobel, M., & Lankshear, C. (2007). Online memes, affinities, and cultural production. In M. Knobel & C. Lankshear (Eds.), *A new literacies sampler* (pp. 199–227). Peter Lang.
- Kress, G., & van Leeuwen, T. (2020). *Reading images: The grammar of visual design*. Routledge. <https://doi.org/10.4324/9781003099857>
- Mahfouz, I. M., & AbdelMohsen, M. M. (2025). Investigating College Students’ Attitudes and Perceptions of Using ChatGPT in Writing Language Essays. *Arab World English Journal (AWEJ)*, (Special Issue on Artificial Intelligence), 21- 39.
<https://dx.doi.org/10.24093/awej/AI.2>
- Mohammed, S.I., Jasim, A.L., Al-Jumaily, A.A., Mikhael, E.M., & Ali, F.Z. (2024). Perceptions of Senior Pharmacy Students Towards the Impact of Artificial

- Intelligence on University Education and Scientific Writing: A Qualitative Study. *Al-Rafidain Journal of Medical Sciences* (ISSN 2789-3219), 6(1), 142–146.
<https://doi.org/10.54133/ajms.v6i1.538>
- Marriott, K., Meyer, B., & Wittenburg, K. B. (1998). A survey of visual language specification and recognition. In K. Marriott & B. Meyer (Eds.), *Visual language theory* (pp. 5–83). Springer.
- Milner, R. M. (2012). *The world made meme: Discourse and identity in participatory media* (Unpublished Doctoral dissertation). University of Kansas, United States. Retrieved from <https://kuscholarworks.ku.edu/handle/1808/10256>
- Nöth, W. (1995). *Handbook of semiotics*. Indiana University Press.
- OpenAI. (2025). *Introducing GPT-5 for developers*. <https://openai.com/index/introducing-gpt-5-for-developers/>
- Oyebode, O. O., & Unuabonah, F.O. (2024). Multimodality and appraisal choices in Nigerian coronavirus-related WhatsApp memes. *Communication and the Public*, 9(3), 328–344. <https://doi.org/10.1177/20570473241264334>
- Qadduri, H. H. (2026). *Stylistics of humor in internet memes: A pragmatic and multimodal analysis*. *Journal of the College of Education for Humanities, University of Thi-Qar*, 16(1), 511–530. <https://jedh.utq.edu.iq/index.php/main/article/view/866>
- Salem, N. (2026). The Semiotics of a Slap: Metafunctional and Visual Grammar Analyses of Meaning-Making in Selected Macron Memes. *Public Journal of Semiotics*, 12(1), 56–78. <https://doi.org/10.37693/pjos.2026.12.28612>
- Shifman, L. (2014). *Memes in digital culture*. MIT Press.
<https://doi.org/10.7551/mitpress/9429.001.0001>
- Vandelanotte, L. (2026). Emotional dimensions in the linguistic analysis of internet memes. *Language Sciences*, 116, 1–20. <https://doi.org/10.1016/j.langsci.2026.101829>
- Vásquez, C., & Aslan, E. (2021). Cats be outside, how about meow: Multimodal humor and creativity in an internet meme. *Journal of Pragmatics*, 171, 101–117.
<https://doi.org/10.1016/j.pragma.2020.10.006>
- Vyalla, S., & Udandara, V. (2019). Memeify: A large-scale meme generation system. *arXiv*.
<https://arxiv.org/abs/1910.12279>
- Wang, H., & Lee, R. K.-W. (2024). MemeCraft: Contextual and stance-driven multimodal meme generation. In *Proceedings of the ACM Web Conference 2024 (WWW '24)* (pp. 4642–4652). ACM. <https://doi.org/10.48550/arXiv.2403.14652>
- Wiggins, B., & Bowers, G. B. (2014). Memes as genre: A structural analysis of the memescape. *Media and Society*, 1, 1–21. Retrieved from https://www.researchgate.net/publication/288811719_Memes_as_genre_A_structural_analysis_of_the_memescape
- Wu, Z., Weber, T., & Müller, F. (2025). One does not simply meme alone: Evaluating co-creativity between LLMs and humans in humor generation. In *Proceedings of the International Conference on Intelligent User Interfaces (IUI '25)*.
<https://doi.org/10.48550/arXiv.2501.11433>
- Zenner, E., & Geeraerts, D. (2018). One does not simply process memes: Image macros as multimodal constructions. In E. Winter-Froemel & V. Thaler (Eds.), *Cultures and traditions of wordplay and wordplay research* (pp. 167–193). De Gruyter.

Zhang, K. (2007). *Visual languages and applications*. Springer. <https://doi.org/10.1007/978-0-387-68257-0>

Zhou, S., Mohammad, S. M., Plank, B., & Frassinelli, D. (2026). I came, I saw, I explained: Benchmarking multimodal LLMs on figurative meaning in memes. *arXiv*. <https://arxiv.org/abs/2603.23229>

Appendices

Appendix A

Human- and AI-ChatGPT-generated textual memes in response to the selected image

Participant s	Human-Generated Memeings	Caption s	AI-ChatGPT-Generated Memeings
P1	"When u trying to explain to ur sibling that ur not the one who ate their food, but ur face saying something else"	C1	"When you present your argument and immediately regret it."
P2	"When the teacher <u>asks</u> who failed the exam, and the teacher already knows it's you."	C2	"Your honor, vibes don't lie."
P3	"Me (standing, having a full-blown mental breakdown) trying to start studying at 11:58 PM, and the impending Deadline (sitting) looking at me like: 'Sweetie, just accept your fate and sleep.'"	C3	"When the group project suddenly goes off-script."
P4	"When my friend tells me to stop spending my money on buying food and I say 'I'm waiting for u to go to a new restaurant 🍽️'"	C4	"Me explaining a meme that wasn't funny to begin with."
P5	"Your Honor, my client did not commit the crime. The proof? Just look at his hair! He hasn't fixed it for a long time... so how could he possibly organize a crime when he can't even organize his own hair?"	C5	"Me presenting my thesis at 2% battery."
P6	Lawyer: "Your Honor, she actually used the new dishes of her mother!" Defendant: "they don't know that I accidentally broke one of them"	C6	"When the PowerPoint slide freezes, but you keep talking."
P7	"Me panicking during the exam and trying not to leave any question vs. my brain knowing I already messed up"	C7	"Me pointing at the future consequences."

P8	"Man: She won't stop talking to strangers... Woman: It's cold today, isn't it?"	C8	"When you blame the system instead of yourself."
P9	"The lawyer said to the judge, "Ask him to swear if he committed the crime." The criminal quickly replied, "Oh my God, finally a way out!"	C9	"Me redirecting attention away from my mistake."
P10	"Mom's looking for plates... they're piling in my room"	C10	"Me explaining why the deadline is inflexible."
P11	"Look, she's always late for her lectures: I don't know where the university is located."	C11	"I call this strategy: distraction."
P12	"Your honor, She calls herself an artist, but she draws once a year"	C12	"When you ask someone else to answer."
P13	"When a teacher uses my name as an example, I get that feeling of distinction."	C13	"Me insisting the math is mathing."
P14	"My dad feeling happy because he is finally free of school and college fees"	C14	"I have a point. It's just... over there."
P15	"Lawyer: Your Honor she didn't kill her brother. Woman: The house will remain clean now. (True story hhhh)"	C15	"When you say 'hear me out' and everyone stops listening."