



# **Translating Arabic Literary Metaphors: A Comparative Evaluation of ChatGPT-4.0 and Google Translate 2024**

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## **Abstract**

This research conducted a comparative evaluation of ChatGPT-4.0 and Google Translate 2024 in translating Arabic literary metaphors into English. We applied a qualitative research approach focusing on the novel "Memory in the Flesh" by Ahlam Mosteghanemi, the study analyzed metaphor types 27 out of 77 data, translation strategies employed by each tool, and the quality of translations based on accuracy, acceptability, and readability. The study identified the types of metaphors used in the novel, analyzed the translation strategies employed by each tool based on (Newmark, 2022) framework, and evaluated the output quality using (Nababan et al., 2012, n.d.) assessment model of accuracy, acceptability, and readability. Findings indicated that while Google Translate 2024 showed a slight edge in literal accuracy which achieved 2.85, in acceptability Google Translate 2024 achieved 2.62 score and in readability achieved 2.31, ChatGPT-4.0 significantly outperformed it in acceptability and readability crucial for literary texts, In acceptability ChatGPT4.0 achieved 2.98 and in readability 2.99 score. The study highlighted the evolving capabilities of machine translation in handling nuanced literary language and underscores the continued importance of human oversight in achieving high-quality literary. The research emphasized Involving capabilities of neural machine translation systems, particularly in handling complex and nuanced literary content. However, it also underscored their limitations, especially in capturing cultural subtleties and maintaining the figurative resonance of literary metaphors. It underscored the continued necessity of human oversight to ensure fidelity and artistic integrity in literary translation, offering

insights for translators, educators, and MT developers alike.

**Keywords:** *Translating Arabic Literary Metaphors; Machine Translation Evaluation; Comparative Analysis*

## **Introduction**

Machine translation (MT) has emerged as a crucial instrument for overcoming language barriers and promoting international communication in the age of swift technology development. Google Translate and ChatGPT are two of the most well-known and often used tools among the several MT systems that are accessible. Over time, these systems have seen substantial development, utilizing deep learning and artificial intelligence to produce translations that are ever more accurate. But even with their widespread use, there is still a pressing need to compare and assess their performance in a methodical manner, especially when translating different kinds of materials, including literary literature.

To guide the analysis, the study adopted (Newmark, 2022) classification of metaphor translation strategies, which provides seven techniques for rendering figurative language across languages. Additionally, translation quality is evaluated using (Nababan et al., 2012, n.d.) model, which assesses output based on accuracy, acceptability, and readability. Introducing these frameworks early on provides a structured foundation for the comparative evaluation.

In this study, literary metaphors refer to metaphorical expressions found in narrative, poetic, or expressive prose, which serve both aesthetic and conceptual purposes. Unlike conventional metaphors or idioms used in everyday speech, literary metaphors often feature cultural allusions, layered meaning, and emotional depth, and are embedded in creative or fictional contexts. Their interpretation typically requires contextual and cultural sensitivity, making them uniquely challenging for machine translation systems.

Recent studies have examined how NMT and LLMs handle literary metaphors: (Al., n.d.) show GPT-4's emergent skill in interpreting novel metaphors. This study demonstrates GPT-4's ability to interpret and explain previously unseen literary metaphors in poetry, achieving results rated superior to human students. Through comparing MT, post-editing, and human translation of a short story, this paper (Arenas & Toral, 2022) revealed that current NMT still lacks the creative depth needed for literary nuance and metaphors and NMT still underperforms in creative literary translation. Moreover, this research (Aghazadeh et al., 2022) investigated how pre-trained language models encode metaphorical meaning across languages, showing contextual layers capture metaphor information—crucial for translation task.

The rich use of language, metaphor, and cultural nuances in literary works make machine translation particularly challenging. Maintaining the spirit and artistic elements of the source work while making sure the target language is accurate and readable is a difficult task. Literary works' intricate use of language, metaphor, and cultural quirks present unique challenges for machine translation.

It is difficult to ensure readability and accuracy in the target language while preserving the original work's spirit and artistic elements, as was previously indicated (Toral & Way, 2018). In literary writings, the translator recreates the emotional resonance, subtleties of style, and cultural allusions present in the original language in addition to just transmitting facts (Newmark, 2022). However, machine translation systems, which primarily rely on databases and algorithms based on lexical and syntactic equivalence, usually overlook these subtleties (Yang & Min, 2023). Particularly problematic are metaphorical phrases, which often rely on contextual interpretation and cultural knowledge that may not have direct translations in the target language (He & Yun, 2017).

This comparison is particularly significant as machine translation tools are increasingly integrated into professional and academic workflows. Understanding their strengths and limitations in rendering literary metaphors enables more informed use by translators, educators, and developers. Furthermore, this study contributes to the broader discourse on AI's role in cultural production, questioning whether large language models can replicate not just content, but also the creative and affective dimensions of human-authored literature.

By exploring the types of metaphor in the novel "Memory in the Flesh" by Ahlam Mosteghanemi, the translation strategies, and the quality of translation employed by these tools and assessing their ability to maintain quality in terms of accuracy, readability, and acceptability, the research aimed to identify their specific strengths and weaknesses. The novel was selected not only for its abundant use of metaphors but also for its literary prominence in modern Arabic literature. Ahlam Mosteghanemi's prose blends poetic imagery with post-colonial and socio-political undertones, offering a culturally layered and metaphor-rich narrative that presents considerable challenges for machine translation systems. This comparative analysis is vital as it addresses a significant gap in the literature, providing insights that can guide users in selecting the most appropriate translation system for their specific needs.

### Research Questions

Based on the research background, the researcher proposes three following questions:

1. What are the types of metaphor in the novel "Memory in the Flesh" by the writer Ahlam Mosteghanemi?
2. What translation strategies for metaphorical expression are employed to translate literary texts by using ChatGPT-4.0 and Google Translate 2024 from Arabic to English?
3. How is the quality of translation of novel containing metaphors found in the novel "Memory in the Flesh" by the writer Ahlam Mosteghanemi in terms of accuracy, readability, and acceptability?

## Research Objectives

The following are the research objectives:

1. To find out the types of metaphor in the novel "Memory in the Flesh" by the writer Ahlam Mosteghanemi.
2. To find out translation strategies for metaphorical expression employed to translate literary texts by using ChatGPT-4.0 and Google Translate 2024 from Arabic to English.
3. To know the quality of translation of novel containing metaphors found in the novel "Memory in the Flesh" by the writer Ahlam Mosteghanemi in terms of accuracy, readability, and acceptability.

## 2. Theoretical Background

Translation, as defined by numerous experts, primarily involves the transfer of meaning, nuance, and essence from a source language to a target language. This fundamental aspect of language and communication enables individuals from diverse linguistic backgrounds to share ideas, knowledge, and cultural expressions (Newmark, 2022). Fundamentally, translation is an intricate interplay of language, culture, and context, extending beyond a mere word-for-word transfer. Duff eloquently described translation as "Crossing the Border" from one language to another, highlighting its dynamic and continuous nature in bridging linguistic and cultural divides (Owen et al., 2011). This idea, which goes beyond straightforward verbal meaning transmission, has grown in importance in cultural theory, especially within feminism. The "translation turn" contends that enunciation itself is a sort of translation, both for oneself and for others, and that translation includes the act of speaking (Simon, 2003).

This understanding of translation as a core aspect of human communication and self-expression carries profound implications. If speaking involves translation, and translation necessitates openness to the other, then it inherently involves a displacement of the self (Roth, 2013) viewed translation as "a process of interpretation of the foreign text that must be carried out within the target language, under the influence of cultural, social, and political factors (Venuti, 2008). described translation as "the process of transferring a written text from one language (the source language) to another (the target language), while also acknowledging that translation involves not only linguistic but also cultural, stylistic, and functional considerations." This definition combined these viewpoints (Laszlóczy, 2022).

This article of translation extended beyond linguistic conversion, involving the "transfer of meaning and style in accordance with the function and purpose of the target text (Nord, 2018). Moreover, this offered a broader perspective, categorizing translation into three types: "intralingual translation (within the same language), interlingual translation (between two languages), and intersemiotic translation (between sign systems)," thereby expanding its scope beyond language alone

(Toolan, 2014).

### Definition of Metaphor

Metaphor, a fundamental linguistic and cognitive tool, has been extensively examined across various academic fields, including literature, cognitive science, and linguistics. It is more than a mere rhetorical tactic; it is a potent instrument for organizing ideas, imbuing them with significance, and fostering communication. Recent studies continue to expand the conceptualization of metaphor.

In this research which highlighted the fluidity of metaphor in speech, characterizing it as "a linguistic pattern that emerges in response to particular contextual demands." (SaThierbach et al., 2015). However, The researcher asserted that metaphors are frequently employed in speech and mind, impacting people's perceptions of the world. Their seminal work, "Metaphors We Live By," revolutionized the study of metaphor by proving that it is more than just a stylistic device and plays a crucial function in cognition. Since then, there has been a significant increase in the study of metaphor, with scholars providing a variety of definitions and frameworks that represent changing theoretical positions (Adler, 1982).

Recent empirical research further demonstrates the dynamic nature of metaphor. (Kövecses, 2002) stated that metaphors are "cognitive tools that reflect shared cultural experiences and values" (p. 28) and are thus deeply ingrained in cultural contexts. This cultural viewpoint offers insights into cross-cultural communication and translation studies by highlighting how metaphors differ across languages and cultures. discussed metaphor as a multidimensional phenomenon occurring at various levels of text, script, and image. This study emphasized that metaphor is not merely a linguistic device but also a cognitive and cultural construct that reflects and shapes human thought and experience. By defining metaphor as "a linguistic way of conveying an idea in poetic language with words and phrases articulated as complete ideas with the use of unusual words that normally have different meanings," this study provided a complex definition of metaphor from a human perspective. This definition emphasized how metaphors can be used to creatively and transformatively represent complicated human facts and experiences. To clarify how metaphors aid in the creation of meaning in human existence, Parse presents the ideas of semantic resonance, coherent integrity, and magical transfiguring (Nagao et al., 2003).

### Types of Metaphor

The investigation of the innovative work "Metaphors We Live By" revolutionized the study of metaphor by presenting it as a fundamental cognitive mechanism that organizes human experience and thought, rather than just a rhetorical or literary device. Their idea holds that metaphors are not limited to

language alone, but rather are ingrained in our conceptual framework, influencing our perceptions, comprehensions, and interactions with the outside world. They divide metaphors into a number of different categories, including personification, ontological metaphors, and conceptual metaphors (Adler, 1982).

### Conceptual Metaphor

The Conceptual Metaphor Theory (CMT), first proposed by (Adler, 1982), holds that abstract ideas are methodically comprehended in terms of more tangible, everyday experiences. Conceptual metaphors work by projecting the structure of an abstract notion onto a source domain, which is a tangible, physical experience. For instance:

Time is money: Expressions such as "spending time," "saving time," and "wasting time" illustrate how time is conceptualized as a valuable, quantifiable resource, akin to money. Argument is war: Phrases like "He attacked my argument," "I defended my position," and "Your claims are indefensible" conceptualize argumentation in terms of warfare, framing it as a combative, adversarial interaction. These conceptual metaphors are pervasive linguistic phenomena that consistently shape our perceptions and interactions. These metaphors are culturally specific and reflect how civilizations structure their experiences and ideals, claimed (Adler, 1982).

### Metaphor of Ontology

Ontological metaphor is the perception of abstract, ethereal ideas as physical beings or entities. By employing this type of metaphor, speakers are able to measure, recognize, and manipulate abstract concepts as though they were physical objects. For instance: The phrase "I need to get this idea out of my head," "My mind is full of thoughts," and "I can't grasp that concept" are examples of how the mind is conceived of as a container that houses abstract entities like thoughts and ideas.

Life is a journey: This metaphor is evident in phrases such as "He's at a crossroads in life," "She's moving forward," and "They went off the beaten path," where life is understood as a physical journey with paths, obstacles, and destinations. By helping speakers understand abstract concepts in more tangible, concrete terms, ontological metaphors support cognitive functions like communication and reasoning.

### Personification Metaphor

Personification is a specific type of ontological metaphor in which human characteristics, desires, and behaviors are applied to abstract concepts or non-human entities. This type of metaphor allows speakers to interact with abstract concepts as though they were human agents. Examples include:

Fear grabbed hold of me," where fear is depicted as a physical entity capable of taking action. "Inflation is eating up our savings," wherein inflation is portrayed as a voracious entity consuming resources. Personification is a powerful cognitive tool, as it allows people to relate to abstract concepts by attributing familiar human characteristics to them. This cognitive strategy makes abstract phenomena more accessible, relatable, and easier to comprehend (Adler, 1982).

(Ullmann, 1962) categorizes metaphors and similes into four types:

1. **Anthropomorphic Metaphor:** This type of metaphor attributes human qualities or actions to non-human entities, such as objects, abstract ideas, or natural elements. Example: "Death walks beside me." Here, death, an abstract and non-human concept, is personified with the human ability to walk. This transforms death into a human-like presence, creating a sense of intimacy and emotional immediacy. According to Ullmann, this is a classic anthropomorphic metaphor because it ascribes human characteristics to a non-human abstraction.
2. **Animal Metaphor:** In this type, human characteristics are described using animal imagery, often to convey behavior, instinct, strength, or emotion. Example: "He is a lion in battle." The man is compared to a lion, symbolizing bravery and power. There is a semantic shift from a human to an animal domain, which is typical of animal metaphors. Ullmann noted that such metaphors are culturally loaded and can convey complex psychological or social attributes.
3. **Concrete to Abstract Metaphor:** A concrete or tangible object is used to represent an abstract concept or idea. Example: "Sadness is a heavy stone in my chest." Here, sadness (an abstract feeling) is described through a concrete image—a heavy stone. This gives the reader a physical sensation to associate with an internal emotion, enhancing its emotional resonance. Ullmann considered this kind of metaphor crucial in helping abstract concepts become perceptible.
4. **Synaesthetic Metaphor:** This metaphor involves a transfer between sensory modalities, such as sight, sound, touch, taste, or smell. Example: "She spoke in a warm voice." The adjective "warm" is a tactile (touch-based) sensation used to describe a sound (the voice). This is a typical synaesthetic metaphor, where perception from one sense is mapped onto another. Ullmann viewed such metaphors as rich and poetic, highlighting the brain's tendency to associate sensory experiences.

Types of metaphor in Arabic according to (الرجاني, 2008):

The classical rhetorical tradition of 'Ilm al-Bayān, one of the three foundations of Arabic rhetoric ('Ilm al-Balāghah), is a fundamental part of the study of metaphor (isti'ārah) in Arabic. The foundation for most of the later rhetorical and linguistic thought in Arabic literary theory was created by (الرجاني, 2008), one of the most significant scholars in this discipline, with his critical work *Dalā'il al-I'jāz fī al-*

Qurʾān (The Proofs of Inimitability in the Qurʾān). In traditional Arabic academia, his treatment of metaphor in particular is regarded as one of the most advanced. Al-Jurjānī characterizes metaphor (istiʿārah) in *Dalāʾil al-Iʿjāz* as a type of implicit comparison in which the typical comparison markers (such as \*ka-\* "like") are missing. His theory emphasizes that metaphor is not just a decorative element but rather a potent mechanism of meaning-making that interacts with the sentence's structure and logic. It does this by strongly drawing on the semantic, cognitive, and syntactic aspects of language. Al-Jurjānī classifies metaphor primarily into two main types:

1. Explicit Metaphor (الاستعارة التصريحية – al-istiʿārah al-taṣrīhiyyah): This occurs when the word used belongs to the \*mushabbah bih\* (the thing being likened to), and the "mushabbah" (the original subject) is not mentioned explicitly, though it is implied. For example, when someone refers to a brave man as "a lion," the lion (asad) is used in place of the man. This form of metaphor relies on contextual clues and shared cultural knowledge to be understood.
2. Implied or Concealed Metaphor (الاستعارة المكنية – al-istiʿārah al-makniyyah): This type of metaphor occurs when the "mushabbah" is mentioned, but the "mushabbah bih" is omitted. Instead, one of its characteristics or actions is attributed to the "mushabbah". An example would be saying "the days have spoken," which attributes the human quality of speech to "days." The listener must mentally infer the comparison, identifying the metaphor through the borrowed attribute. Additionally, although al-Jurjānī does not use the term directly, he discusses what later scholars classify as:
3. Analogical or Representative Metaphor (الاستعارة التمثيلية – al-istiʿārah at-tamthiliyyah):

This extended form of metaphor compares two complete situations or images. Rather than focusing on a single word or phrase, it draws a parallel between entire scenarios, often with didactic or philosophical implications. Al-Jurjānī hints at this type in his analysis of rhetorical structures and their ability to influence meaning at the discourse level. The focus that al-Jurjānī places on syntactic structure (*naẓm*) is one of the theory's unique features. According to him, the arrangement and interaction of the words inside the sentence, in addition to the word choice, determine the meaning of a metaphor. He contends that the coherence and harmony of the phrase as a whole are closely related to the aesthetic and communicative effectiveness of metaphor.

### Problems of Translating Metaphor

Metaphor translation has attracted a lot of interest in translation studies, especially when dealing with languages that are linguistically and culturally dissimilar, such as Arabic and English. It is very challenging to translate metaphors since they are deeply embedded in a language's cognitive and cultural systems and are not merely rhetorical tactics (Adler, 1982).



### Cultural Specificity of Metaphors

The cultural distinctiveness of metaphorical terms is a significant obstacle when translating them from Arabic to English. Metaphors frequently convey cultural ideals, religious convictions, and historical allusions that might not have exact equivalents in the target language, according to (Newmark, 2022). For example, Islamic scriptures, historical accounts, and environmental images are often included into Arabic metaphors. Translating literally as 'the eye of envy,' the metaphor 'عين الحسد' (\*Ayn al-hasad\*) alludes to the evil eye, a widely held belief in Arab culture. When translating such metaphors into English, the translator must either provide an explanation or discover a cultural counterpart, or else the intended meaning may be lost.

### Semantic Ambiguity and Polysemy

Arabic metaphors frequently contain terms with more than one meaning, which could cause semantic difficulty when translated. Arabic has many polysemous terms, and their intended metaphorical meaning may vary depending on the situation, according to (Ali Al Mubarak, 2017). The term "قلب" (\*qalb\*), for example, can be used to describe the heart, the center, or the mind, which leads to ambiguity in metaphors like "قلبه حجر." The translator must choose between maintaining the metaphor in its literal form and changing it to a more culturally appropriate English term.

### Lexical Gaps and Untranslatability

When an Arabic metaphor has no direct English equivalent, lexical gaps occur, requiring innovative translation techniques. According to (Austin & Baker, 1993), techniques like cultural replacement, paraphrase, or annotation can be used to address untranslatable metaphors. These tactics, however, might change the original metaphor's impact, form, or connotative meaning, which could result in meaning changes.

### Strategies in Translating Metaphors

Because of their complex metaphorical meaning, cultural specificity, and poetic power, metaphors are one of the most difficult aspects to translate. Metaphor translation offers a variety of choices. Similar metaphors or similes should ideally be used to illustrate similar linguistic strategies in the target language. Finding these counterparts isn't always simple, though.

Therefore, translators require various strategies, techniques, or methods to effectively translate them. (Newmark, 2022), a prominent figure in translation studies, emphasized the importance of accurately conveying both the meaning and aesthetic effect of metaphors in the target language. The translation techniques offered by Newmark (1998) are as follows:

1. Reproducing the same image in the target language: Keep the metaphor exactly as it is if it is common and understandable in the target language (TL). Example:  
 \*\* SL: "Time is money." TL: "الوقت مال" (Arabic)
2. Replacing the image in the source language with a standard TL image: Substitute the metaphor with a target-language metaphor that has the same meaning and is culturally appropriate. Example: SL: "He kicked the bucket." (He died.) TL: "ذهب إلى جوار ربه" (Arabic idiom for death)
3. Translating the metaphor as a simile, retaining the image: Convert the metaphor into a simile (using "like" or "as") while keeping the figurative image. Example:  
 SL: "He is a lion in battle." TL: "هو مثل الأسد في المعركة"
4. Translating the metaphor as a simile, plus sense: Translate the metaphor as a simile and explain its meaning to ensure clarity. Example: SL: "He's a rock." TL: "هو مثل الصخرة، قوي وثابت لا يهتز"
5. Converting the metaphor to sense (paraphrasing): Replace the metaphor with its literal meaning or explanation. Example: SL: "The seeds of change are growing." TL: "بدأت التغييرات تحدث بالفعل"
6. Deletion (if metaphor is redundant or meaningless in TL): Omit the metaphor entirely when it is untranslatable, culturally irrelevant, or does not affect the overall meaning. Example: SL: "He roared with laughter." TL: "ضحك بصوت عالٍ" (metaphor removed)
7. Using the same metaphor but with a different image: Retain the metaphorical function but change the image to suit the TL culture. Example: SL: "She has a green thumb." (Means she's good with plants.) TL: "يديها فيها بركة في الزراعة" (An equivalent Arabic image)

### Translation Quality Assessment

Translation Quality Assessment (TQA) is the systematic evaluation of the quality of a translated text, focusing on key aspects such as accuracy, acceptability, and readability according to c These criteria help ensure that translations meet the required standards and effectively convey the intended message of the source text.

#### 1. Accuracy

Accuracy is a cornerstone of high-quality translation, ensuring that the target text faithfully represents the source text's meaning, nuances, and style. Accuracy refers to the extent to which the translated text precisely conveys the meaning and nuances of the source text. This involves faithful rendering of the original content without any distortion, omission, or addition.

## 2. Acceptability

Acceptability in translation refers to the extent to which the translated text adheres to the linguistic norms, cultural conventions, and stylistic preferences of the target language and its audience.

## 3. Readability

Readability refers to how easily the translated text can be read and understood by the target audience. This involves the use of clear, coherent, and fluent language that facilitates comprehension. Achieving high readability in translation often requires careful consideration of the target audience's reading level and cultural background, as well as the purpose and context of the text. Translators may employ various techniques to enhance readability, such as simplifying complex sentences, using familiar vocabulary, and ensuring consistent terminology. Additionally, readability is closely linked to the overall quality of the translation, as it affects the reader's ability to engage with and understand the text. By prioritizing readability, translators can create texts that are not only accurate but also enjoyable and easy to read, thereby improving the effectiveness of the translation and the satisfaction of the target audience.

In order to assess the quality of translation in terms of accuracy, acceptability, and readability for this study, an instrument for translation quality assessment is used as suggested by

### Definition of Literary Language

According to (Lazar, 2015), literary language is frequently distinguished from its non-literary counterparts by a greater emphasis on form, style, and creative expression. According to this perspective, literary works—whether they be plays, poetry, or prose use language in ways that go beyond simple communication to engage the reader on a more complex and profound level. In fact, literature has been praised for its ability to preserve and spread cultural legacy, influencing a community's language and social structure. Moreover, literary language goes beyond just functional or utilitarian use of language, and is frequently distinguished by its artistic and expressive features. This type of language is usually connected to literary works, where writers use a variety of rhetorical and stylistic strategies to elicit strong feelings and complicated interpretations from readers (Hassan & Murshed, 2023).

## Method

This study employs a qualitative research approach, specifically focusing on a comparative evaluation of machine translation outputs. The primary aim is to assess the effectiveness of ChatGPT-4.0 and Google Translate 2024 in translating Arabic literary metaphors into English. The methodology is designed to provide an

in-depth analysis of translation quality based on established criteria of accuracy, readability, and acceptability (Nababan et al., 2012, n.d.). From *Memory in the Flesh*, 77 data of metaphorical expressions were purposefully sampled using criteria-based **selection**. Only metaphorical phrases that:

- (1) represented literary metaphor as defined in Section 1.1,
- (2) were embedded in narratively or poetically rich contexts,
- (3) showed cultural or emotional depth, and
- (4) posed observable translation challenges in preliminary trials, were selected.

This purposive sampling approach ensured that the selected metaphors were representative of the complexities involved in translating literary language.

### Research Design

The research design is a descriptive qualitative study, which aimed to describe and interpret the phenomena of metaphor translation by the selected machine translation tools. This approach allowed for a detailed examination of the translated texts, identifying patterns, strengths, and weaknesses in the translation of literary metaphors. The study involved a comparative analysis of translations generated by ChatGPT-4.0 and Google Translate 2024 against a human reference translation, or against the original Arabic text evaluated by human experts. The evaluation panel consisted of four experts:

1. A senior literary translator with over 10 years of experience translating Arabic literature into English
2. A professor of Arabic linguistics and stylistics
3. A certified English-Arabic translator with a background in computational linguistics
4. All evaluators were fluent in both Arabic and English, and had prior experience evaluating translation quality, particularly of figurative language and metaphor.

### Data Collection

The data for this study collected from the novel "*Memory in the Flesh*" (ذاكرة الجسد) by Ahlam Mosteghanemi. This novel was chosen due to its rich literary content and extensive use of diverse Arabic metaphors, making it an ideal source for examining the complexities of literary translation. A specific corpus of metaphorical expressions extracted from the novel. The selection criteria for these metaphors focused on their literary significance, cultural embeddedness, and potential for posing translation challenges.

1. Metaphors were identified and extracted from the Arabic source text.
2. Each metaphor was input manually into ChatGPT-4.0 and Google Translate 2024, separately.
3. Outputs were saved and labeled to track which tool produced each translation.
4. Each translation was anonymized to prevent evaluator bias.

5. Evaluators assessed the outputs independently using standardized scoring rubrics.

The selected Arabic metaphors then translated into English using two primary tools:

1. ChatGPT-4.0: The latest iteration of OpenAI's large language model, known for its advanced natural language processing capabilities.
2. Google Translate 2024: The updated version of Google's widely used machine translation service.

For comparative purposes, a human reference translation of the same metaphorical expressions also utilized or generated by a professional translator. This will serve as a benchmark for evaluating the quality of the machine-generated translations.

#### Data Analysis

The data analysis involved a multi-faceted approach to evaluate the translated metaphors. The primary method was a qualitative content analysis, focusing on the accuracy, readability, and acceptability of the translated metaphors. The assessment conducted by a panel of expert evaluators (e.g., experienced translators, linguists, and literary scholars) who are proficient in both Arabic and English. The evaluation criteria based on the framework proposed by (Nababan et al., 2012, n.d.), which included accuracy, readability and acceptability. Each translated metaphor from both ChatGPT-4.0 and Google Translate 2024 evaluated independently against these three criteria. The evaluators' scores and qualitative feedback compiled and analysed to identify patterns, common errors, and significant differences in the performance of the two machine translation tools. Statistical analysed (e.g., descriptive statistics, t-tests) may be employed to compare the average scores of each tool across the different criteria, if the quantitative data allows.

#### Ethical Considerations

Permission to use selected excerpts from *Memory in the Flesh* was obtained under the principle of fair academic use for research and critique, given the limited excerpt size (one sentence per metaphor). Full attribution to the original author, Ahlam Mosteghanemi, is provided. The study does not reproduce entire passages or chapters. The translations are used strictly for educational and analytical purposes under academic fair use provisions.

### Analysis and Results

This section presented the findings of the comparative analysis of Arabic literary metaphor translation by ChatGPT-4.0 and Google Translate 2024, drawing heavily from my master's thesis. The analysis focused on the types of metaphors, the translation strategies employed by each tool, and the overall translation quality based on accuracy, acceptability, and readability. This study is limited by the relatively small sample size of 27 metaphors out of 77 data, which may not represent the full range of metaphor types in Arabic literature. While the expert evaluators ensured informed assessments, the subjectivity of interpretation remains a potential source of bias. Additionally, results reflect the performance of ChatGPT-4.0 and Google Translate as of 2024, and may change with future updates to these systems.

### Results

#### Types of Metaphor

The study identified 27 metaphors from the novel "Memory in the Flesh" by Ahlam Mosteghanemi, classified according to (Ullmann, 1962) theory. The distribution of metaphor types is as follows:

Table 1. Distribution of Metaphor Types Identified in Memory in the Flesh

No	Types of Metaphor	Frequency	Percentage
1	Concrete-Abstract metaphor	13	48.15%
2	Animal Metaphor	4	14.81%
3	Anthropomorphic metaphor	10	37.04%
Total	61	27	100%

Concrete-Abstract metaphors were the most prevalent, accounting for 48.15% of the identified metaphors. This type uses a concrete or tangible object to represent an abstract concept or idea. For example, "الحزن وليمة" (sorrow is a feast) depicts sadness as a tangible, grand event. Another example is "حبك شبابي" (your love was my youth), where love, an abstract emotion, is equated with youth, a tangible period of vitality. The thesis also highlights the metaphor "عمرى بعض اللوحات" (my age is some paintings), where age is measured by creative output rather than years, bestowing an intellectual value on time.

Anthropomorphic metaphors constituted 37.04% of the data. These metaphors attribute human qualities or actions to non-human entities. Examples

include "الموت يمشي ويتنفس معنا" (death walked and breathed with us), personifying death as a constant companion, and "مدن منافقة" (hypocritical cities), attributing human moral characteristics to cities. The metaphor "الحب عقيم" (love is sterile) also falls into this category, as sterility is a biological human quality attributed to an abstract concept.

Animal metaphors made up 14.81% of the metaphors. These compare human characteristics or situations to animal imagery. The thesis provides examples such as likening a person to a bull in a bullfight ("من منا الثور؟" - which of us is the bull?), symbolizing dignity, struggle, and inevitable fate. Another example is comparing humans to a blindfolded camel endlessly circling a well ("ترانا أصبحنا ذلك الجمل" - have we become that camel?), representing delusion, exhaustion, and a lack of progress.

### Metaphor Translation Strategies

The study analyzed the translation strategies employed by ChatGPT-4.0 and Google Translate 2024, based on (Newmark, 2022) classification. The findings indicate distinct approaches by each tool. 4.2.1. ChatGPT-4.0's Translation Strategies.

#### ChatGPT-4.0's Translation Strategies

ChatGPT-4.0 utilized various techniques, with a strong preference for reproducing the same image in the target language. The distribution is as follows:

Table 2. Distribution of ChatGPT-4.0 Translation Strategies

No	Translation Strategies	Frequently	Percentage
1	Reproducing Same image in TL	21	77.78%
2	Replacing the image in SL with Standard in TL image	4	14.81%
3	Translating the metaphor as a simile, retaining the image	1	3.70%
4	Deletion (if metaphor is redundant or meaningless in TL)	1	3.70%
Total		27	100%

Reproducing the same image in the Target Language (77.78%): ChatGPT-4.0 frequently preserved the original metaphorical image. For instance, "الحزن وليمة" was translated as "sorrow is a feast," maintaining the figurative imagery and emotional tone. Similarly, "كان حبك شبابي" was rendered as "Your love was my youth," and "الموت يمشي ويتنفس معنا" as "Death walked with us, breathed with us," all preserving the original personification and emotional weight.

Replacing the image in SL with Standard in TL image (14.81%): In some cases, ChatGPT-4.0 adapted the metaphor to be more idiomatic in English. For example,

"وكان عمري بعض اللوحات" was translated as "I was the sum of a few paintings," subtly shifting the framing while preserving the meaning. Another instance involved translating "منجم" (mine) as "source," softening the concrete image for a more natural English equivalent.

Translating the metaphor as a simile, retaining the image (3.70%): One instance involved converting a direct metaphor into a simile for clarity and naturalness. The metaphor "اللوحة أنثى" (a painting is a woman) was translated as "A painting is like a woman," maintaining the imagery but softening the direct equivalence. Deletion (3.70%): In one case, a metaphor was omitted. The phrase "كانت الكلمات تتعثر يومها على لساني" (words stumbled on my tongue) was not rendered, indicating that ChatGPT-4.0 sometimes opts for omission when a direct or natural translation is challenging.

### Google Translate 2024's Translation Strategies

Google Translate 2024 predominantly relied on one strategy:

Table 3. Distribution of Google Translate 2024 in Translation Strategies

No	Translation Strategies	Frequently	Percentage
1	Reproducing Same image in TL	27	100%
Total		27	100%

Reproducing the same image in the Target Language (100%): Google Translate 2024 consistently reproduced the same metaphorical image, even when it resulted in less natural or culturally awkward phrasing in English. For example, "الحزن وليمه" was translated as "sadness is a feast," and "كان حبك شبابي" as "Your love was my youth." Similarly, "كان الموت يمشي ويتنفس معنا" as "Death was walking and breathing with us." While these translations maintained lexical accuracy, they sometimes lacked the stylistic fluidity of ChatGPT-4.0. One common error involved overly literal renderings that distorted meaning. For example, "ترانا أصبحنا ذلك الجمل" ("Have we become that camel?"), intended metaphorically to suggest exhaustion and futility, was translated by Google Translate as "We became that camel," omitting the implied **symbolic interpretation**. ChatGPT-4.0, while more natural, occasionally omitted imagery altogether—for example, skipping "كانت الكلمات تتعثر يومها على لساني" ("Words stumbled on my tongue"), which weakened the emotional impact.

### Translation Quality Level

The quality of metaphorical translation was assessed using three criteria: accuracy, acceptability, and readability, with scores ranging from 1 (low) to 3 (high). The average scores for each tool are summarized below:



Table 4. The Result of Translation Quality Assessment

No	Tools	Accuracy	Acceptability	Readability
1	ChatGPT-4.0	2.85	2.98	2.99
2	Google Translate 2024	2.89	2.62	2.31

#### Accuracy

Google Translate 2024 scored slightly higher in accuracy (2.89) compared to ChatGPT-4.0 (2.85). This indicates that Google Translate often succeeded in delivering literal or direct translations that retained the core meaning. For instance, both tools accurately translated "وكان عمري بعض اللوحات" (my age was some paintings) and "كان الموت يمشي ويتنفس معنا" (death walked and breathed with us), preserving the essence of the original sentences. However, Google Translate's higher accuracy sometimes came at the cost of stylistic or contextual appropriateness, especially for culturally embedded metaphors.

#### Acceptability

ChatGPT-4.0 scored significantly higher in acceptability (2.98) compared to Google Translate 2024 (2.62). This suggests that ChatGPT-4.0 produced more natural-sounding and contextually appropriate metaphor translations, aligning better with English language norms. For example, the translation of "وأنا أصبحت جسراً آخر معلقاً هنا" (I have become another bridge suspended here) by both tools achieved high acceptability, preserving the emotional and rhetorical structure. However, Google Translate's outputs were occasionally less acceptable due to literalness or awkward phrasing.

#### Readability

ChatGPT-4.0 performed much better in readability (2.99) than Google Translate 2024 (2.31). This reflects ChatGPT-4.0's strength in generating smooth, fluent, and human-like language. For instance, the translation of "كان حبك شبابي" (your love was my youth) by both tools was easy to understand. However, Google Translate's outputs were often awkward, stilted, or unnatural, particularly with complex literary expressions. An example of less easy-to-understand translation from Google Translate was "ها هم يقدمونك لي لوحة ملطخة بالدم دليلاً على عجزى الآخر" (Here they present you to me, a blood-stained painting, as proof of my other impotence), which was deemed awkward and unnatural.

#### Comparison of Tools Based on Overall Translation Quality

While Google Translate 2024 showed a slight edge in accuracy, ChatGPT-4.0 significantly outperformed it in acceptability and readability, which are crucial for

literary and metaphorical translation. ChatGPT-4.0's ability to produce more balanced and higher-quality metaphor translations, with outputs that are not only accurate but also stylistically superior, makes it more suitable for translating metaphorical and literary expressions where naturalness, tone, and cultural fit are critical. ChatGPT-4.0's use of varied strategies—including metaphor-to-simile conversion and idiomatic adaptation—indicates a more context-aware and flexible approach. This reflects its neural architecture's ability to evaluate pragmatics and stylistic expectations in English. In contrast, Google Translate 2024 uniformly applied direct metaphor reproduction, likely due to its sentence-level processing focus and lack of literary fine-tuning.

## **Discussion**

### **Comparative Performance of ChatGPT-4.0 and Google Translate 2024 in Translating Arabic Literary Metaphors**

The findings of this comparative evaluation underscore the evolving landscape of machine translation and its varying efficacy in handling the complexities of literary texts, particularly Arabic literary metaphors. The observed differences in performance between ChatGPT-4.0 and Google Translate 2024 highlight their distinct architectural designs, training methodologies, and underlying linguistic models.

ChatGPT-4.0's superior performance in translating Arabic literary metaphors can be attributed to its advanced neural network architecture and its training on vast and diverse datasets that likely include a significant corpus of literary and culturally nuanced texts. Its ability to generate more accurate, readable, and acceptable translations suggests a deeper understanding of contextual meaning, idiomatic expressions, and cultural connotations. This aligns with the general advancements in large language models (LLMs) that are increasingly capable of capturing semantic and pragmatic nuances beyond mere lexical equivalency. The model's capacity to employ a wider range of translation strategies, including the reproduction of images, replacement with standard target language images, and conversion to similes, indicates a more sophisticated approach to figurative language. This flexibility allows ChatGPT-4.0 to adapt its translation output to better suit the target language's stylistic and cultural norms, thereby preserving the literary essence of the source text.

Conversely, Google Translate 2024, while a powerful tool for general translation, appears to struggle with the inherent ambiguity and cultural specificity of literary metaphors. Its tendency towards literal translation, or a more direct conversion to sense, often results in a loss of the original metaphor's figurative impact and aesthetic value. This limitation may stem from its primary design objective, which historically has focused on providing quick and accessible translations for a broad range of everyday communication, rather than specializing in the intricate demands of literary translation. While Google Translate has made

significant strides in incorporating neural machine translation (NMT), its performance with highly nuanced literary devices suggests that its training data or algorithmic approach may not yet fully capture the depth of cultural and linguistic subtleties required for effective metaphor translation. The consistent observation of lower readability and acceptability scores for Google Translate's output further supports this interpretation, indicating that its translations often feel unnatural or foreign to native English speakers.

The implications of these findings are significant for both users and developers of machine translation technologies. For users, particularly those involved in literary studies, translation, or cross-cultural communication, the study provides empirical evidence to inform their choice of MT tools. While Google Translate remains a valuable resource for general translation needs, ChatGPT-4.0 emerges as a more promising tool for tasks involving complex literary texts and figurative language. However, it is crucial to note that even ChatGPT-4.0 is not infallible, and human post-editing remains essential to ensure the highest quality and fidelity to the original literary work.

For developers, the study highlights areas for improvement in MT systems. The challenges faced by both tools in consistently and accurately translating Arabic literary metaphors underscore the need for further research and development in several key areas: (1) Enhanced Training Data: Incorporating more extensive and diverse literary corpora, particularly those rich in metaphorical expressions and cultural nuances, could significantly improve MT performance. (2) Contextual Understanding: Developing more sophisticated models that can better grasp the broader literary and cultural context of a text, rather than relying solely on sentence-level analysis. (3) Figurative Language Processing: Implementing specialized modules or algorithms designed to identify, interpret, and translate various types of figurative language, including metaphors, similes, and idioms, with greater accuracy and creativity. (4) Cultural Awareness: Integrating more robust mechanisms for cross-cultural mapping and adaptation, allowing MT systems to find culturally equivalent expressions rather than resorting to literal or generic translations.

Ultimately, the translation of literary metaphors remains a formidable challenge for machine translation. While tools like ChatGPT-4.0 represent a significant leap forward, the nuanced interplay of language, culture, and artistic expression in literary works continues to demand the interpretive and creative faculties of human translators. This study reinforces the notion that machine translation, while a powerful aid, serves as a complement to, rather than a replacement for, human translation expertise in the realm of literature.

## Conclusion

This study examined how ChatGPT-4.0 and Google Translate 2024 render Arabic literary metaphors into English, offering insights into the performance, limitations, and translation strategies of modern machine translation systems. Using a qualitative evaluation based on Newmark's translation strategies and Nababan et al.'s quality assessment model, 27 metaphors from *Memory in the Flesh* were analyzed.

Findings revealed that while Google Translate demonstrated slightly higher accuracy in literal metaphors, ChatGPT-4.0 excelled in producing more acceptable and readable translations, especially when context and stylistic nuance were involved. ChatGPT's flexible strategy use suggests a greater sensitivity to genre and tone, although it occasionally omitted metaphorical imagery. These patterns underscore the limitations of literal translation approaches and the importance of stylistic adaptation in literary contexts.

This study contributes to translation studies by combining machine translation evaluation with metaphor theory, cultural analysis, and practical comparison. While AI tools show promise in processing figurative language, they are not yet substitutes for human translators—especially in metaphor-rich, culturally embedded literary texts.

Future research should explore broader metaphor categories, diverse literary genres, and the use of AI-assisted translation in low-resource language pairs. The findings are relevant to translators, educators, and developers aiming to balance efficiency with literary and cultural fidelity.

### Translation Quality:

**Accuracy:** Google Translate 2024 showed a slight edge in accuracy (2.89) compared to ChatGPT-4.0 (2.85). This indicates its strong capability in literal meaning transfer. However, this did not always translate to overall quality in literary contexts.

**Acceptability:** ChatGPT-4.0 significantly outperformed Google Translate 2024 in acceptability (2.98 vs. 2.62). This suggests that ChatGPT-4.0 produced more natural, idiomatic, and culturally appropriate translations that resonated better with native English speakers.

**Readability:** ChatGPT-4.0 also demonstrated superior readability (2.99 vs. 2.31), generating smoother, more coherent, and human-like language, which is crucial for preserving the literary style and emotional impact of the original text.

**Comparative Evaluation:** While both tools show potential, ChatGPT-4.0 proved to be more sophisticated in interpreting and conveying figurative language, especially metaphors with emotional depth and cultural resonance. Its adaptive strategies led to higher acceptability and readability, making it generally more suitable for literary translation. However, both tools still exhibit limitations,

particularly with highly nuanced or culturally specific expressions, underscoring the continued necessity of human intervention.

The influence of cultural context emerged as a defining factor in translation quality. Metaphors tied to Arabic social, religious, or political references were particularly vulnerable to mistranslation. ChatGPT-4.0 occasionally demonstrated sensitivity to genre and voice, rendering poetic phrases with relative fluency, while Google Translate often failed to register tone or figurative intent, defaulting to literal equivalence. These findings echo (Yan & Huang, 2014) in emphasizing that cultural translation requires interpretive flexibility—an area where AI tools still lag behind human translators.

### Recommendations

Based on these findings, the following recommendations are proposed:

1. For Translators and Practitioners: Human translators should use machine translation tools, especially ChatGPT-4.0, as an aid for initial drafts or inspiration, but always conduct thorough post-editing. Literary metaphors require human interpretive skills, creativity, and cultural awareness to ensure faithful and impactful translations. Training should focus on recognizing metaphor types and selecting appropriate translation strategies to preserve both meaning and literary aesthetics.
2. For Developers of Machine Translation Systems: Developers should prioritize enhancing metaphor detection and disambiguation capabilities, incorporating cultural context recognition models, and enabling user-guided refinement options. Improving translation output evaluation using human-like criteria beyond syntactic correctness is also crucial. Integrating metaphor-aware neural networks and multilingual conceptual metaphor databases could further enhance the ability of MT systems to handle non-literal language more effectively.
3. For Future Researchers: Future research could expand the data scope to include multiple literary genres, compare more MT systems (e.g., DeepL, Bing AI), focus on specific metaphor types (e.g., religious, political), and explore post-editing and hybrid models to investigate the role of human editing in improving machine-generated literary translations and bridging the quality gap.

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