

The Effectiveness of AI-Human Mediation in Recreating Literary Style: A Case of English/ Arabic Poetry Translation

Lamis Ismail Omar*, Abdelrahman Abdalla Salih

Dhofar University, Salalah,
Sultanate of Oman

Aladdin Al Zahran

Sohar University, Sohar,
Sultanate of Oman

Abstract. Over the last three decades, computerized translation has witnessed accelerating developments in its forms, effectiveness, and terminology. Considering their ability to facilitate AI-human cooperation and evolving adaptability to diverse contextual and stylistic nuances, emerging AI-driven translation tools have demonstrated remarkable progress in translation output quality. Despite the successive evolution in the types and performance of algorithmic translation tools, they continue to be challenged by the stylistic features of different text types, but most remarkably literary texts. This study addresses one of the least researched aspects in connection with the effectiveness of AI-driven translation software. The study aims to assess the quality and limitations of AI-powered translation software enhanced with human prompt engineering in producing a stylistic translation of a poem from English into Arabic. The research methodology is guided by a hybrid approach based on an experimental comparison between a professional human translation and a translation produced via AI-human interaction. The results show that the main shortcomings which disrupt the effectiveness of AI-human mediation include AI's decision-making limitations in applying translation strategies, algorithmic bias, sequential processing bias, and the lack of emotional intelligence. The results also imply that an effective AI translation requires independent human postediting to complement interactive AI-human mediation. The study has profound implications for translation education, professional translation practices, and machine translation engineering programs.

Keywords: AI-driven English/Arabic translation; stylistic recreation; poetry translation; AI-human mediation; ChatGPT; human prompt engineering

*Corresponding author: Lamis Ismail Omar; lameesiomar@gmail.com

1. Introduction

The recent advancements in the performance of AI-powered translation tools have started to challenge Translation Studies (TS) researchers to explore novel perspectives. During the early phases of MT software evolution, research contributions focused on error analysis to identify the weaknesses in MT performance and provide training models that could respond to these limitations (Popović, 2018).

Most studies on MT in the English/Arabic language combination over the last three decades adopted error analysis approaches which no longer align with research on the performance of AI in translating different text types (Omar & Salih, 2024) since the percentage of making errors has decreased considerably with the advancement of AI translation tools. The recent developments in AI-powered translation tools necessitated replacing the conventional focus on error-analysis research methods with more relevant methods that give prominence to higher-order translation competencies (Fomicheva & Specia, 2019; Zanettin, 2022) such as those needed to translate style. The following section surveys the recent advancements in MT software and relates these developments to the study's topic and arguments.

1.1 Sustained Progress, New Outlooks

Towards the end of the twentieth century, technology started to play a substantial role in changing the translation landscape thanks to the continuous advances in digital platforms, text databases, and tools (O'Hagan, 2020; Baker, 2019). The advent of the twenty-first century witnessed augmented developments in MT software attributed to the steady advancement in deep learning technologies (Jiang & Lu, 2020; Moorkens, & Lankford, 2025; O'Brien, 2024; Omar & Salih, 2024; Zanettin, 2022). These developments resonate throughout translation curricula and pedagogical frameworks, translators' professional practices as well as relevant scholarly contributions.

The most recent generations of MT, i.e. Neural Machine Translation (NMT) and AI-powered Machine Translation, informed by Large Language Models (LLMs) also known as generative language models including ChatGPT (Ren & Zheng, 2024), outperform older MT generations such as Rule-Based Machine Translation (RBMT) and Statistical Machine Translation (SMT). NMT and LLMs show greater sensitivity to contextual and stylistic considerations and produce more effective translation output. Siu (2024) observed that "conventional translation technology offered limited assistance in creative translation. However, with enhanced capabilities like LLMs, AI tools are now better positioned to provide creative suggestions and edits." (p. 47)

While NMT and LLMs use deep-learning features known as "multilayer artificial neural networks" (Siu, 2024, p. 30), they differ in terms of scope, processing capacity and performance. Recent studies have confirmed that LLMs have additional advantages as they show greater sensitivity to style, tone and textual nuances than NMTs. First, LLMs demonstrate more flexibility in dealing with diverse fields and styles as they are pretrained on a wide range of data and text

types; hence, they are described as 'generative'. For instance, ChatGPT has strong generative features related to producing texts and performing linguistic tasks other than translation (Ampo et al., 2025; Masnun, 2025; Youssef et al., 2024). LLMs are also more effective in terms of training data requirements, compared to NMT models which require huge parallel corpora to be trained. Furthermore, LLMs have higher potential than NMT tools in terms of the tasks they handle including interactive editing, revising translation drafts, and improving translation output via AI-human collaboration. All these features reinforce the potential of LLMs and make them more effective than NMT tools in attending to contextual and stylistic nuances and handling semantic and syntactic complexity.

Another advantage of LLMs is that they facilitate collaboration between Human Translators (HT) and Artificial Intelligence (AI) with an improved potential for output adaptability. This feature is referred to as "prompt engineering" (Siu, 2024, p. 37). Prompt engineering reflects LLMs' ability to respond to users' instructions and generate output which is more pertinent to the context or translation domain. For instance, when LLMs are used for the purpose of translation, the input consists of a human instruction on the nature of the task to be completed, i.e. a prompt, plus the input that needs to be processed. The prompt provides details about the output selected features to generate an appropriate translation. In other words, the prompt engineering feature allows users to customise the translation product by providing additional information about the translation task and, consequently, communicate the intended implicatures related to ST tone, style, register, etc.

Although LLMs have the potential for higher translation quality, they have shortcomings that need to be addressed in relevant studies. For instance, LLMs have limitations in dealing with specialized translation and low-resource languages and produce hallucinations showing limited sensitivity for paratextual components including author's style, historical background, socio-cultural background, etc. Hallucination refers to LLMs' tendency to generate "fictional details" (Siu, 2024, p. 44) especially when the software deals with up-to-date input not covered by training data. In this case, the LLM regenerates the input from outdated data used during the pre-training stage. Fictional details are also very common in translation between English and low-resource languages like Arabic. Understanding the limitations of LLMs can help translation technology engineers devise solutions that enhance the performance of AI-powered translation technologies.

Translating style is one of the most intractable challenges that encounter the human brain let alone AI software. This study aims to evaluate the performance of AI-driven translation software in translating an English poem into Arabic based on a combined comparative and empirical approach. Using human engineering prompting to simulate a stylistic translation produced by a professional translator, the study aims to experiment with ChatGPT to investigate the effectiveness of human-AI mediation in recreating literary style. The purpose behind the use of a hybrid translation model is to identify the shortcomings and gaps in AI translation software intelligence. The paper's contribution lies in its

research of a scarcely investigated topic in the field of translation technologies and novel approach to data collection and analysis. The paper also provides practical implications for translation pedagogies and research. The following section reviews the relevant literature and lays the foundation for the study's context, significance and research questions.

2. Literature Review

The continuous upgrading of AI translation tools has restructured the educational and professional demands that need to be met by translation students, educators and professionals. The increased popularization and scalability of AI translation software have intensified the psychological pressure on translation students and practitioners and created new challenges which require the cultivation of translation proficiency skills. Translation proficiency requires cultivation of higher-order competencies that enable translators to harness translation technologies rather than be under their control (Ren & Zheng, 2024).

Despite the noticeable improvement in the quality of AI-based translation output in English/Arabic translation, grammatical rule-mapping limitations of this software undermine the effectiveness of their product in terms of adaptability and contextual sensitivity (Siyam et al., 2024). Translation technology is challenged by translation tasks which require decision-making such as language creativity, contextual, rhetorical and cultural sensitivity, as well as stylistic refinement (Pym, 2014). This section reviews the literature by focusing on three areas: studies that highlighted the need to incorporate a novel translation model characterized by AI-human interaction; studies which discussed challenges related to translating style with particular focus on literary translation; and the gaps in the literature to highlights the study's significance and clarify its focus.

2.1 Towards AI-Human Mediation

Despite the unprecedented progress in the performance of AI-driven translation applications, they continue to show limitations that make them incapable of simulating the functions of the human brain. AI-powered translation systems can activate deep learning models based on huge datasets and algorithmic patterns which improve steadily through human interaction and gradually acquire an enhanced capacity for solving problems (Omar & Salih, 2024).

Accordingly, latest improvements in the output of AI-driven translation software yielded positive results in terms of translation quality. Nonetheless, there are still shortcomings in terms of responding to the requirements of complex features related to text typology and stylistic nuances, and these shortcomings intensify in under-resourced languages like Arabic. Thus, it is incumbent to conduct more research on the performance of translation technologies in translating low retrieval texts especially those with an expressive and stylistic appeal such as literary and rhetorical texts.

Successful literary translation cannot be guaranteed by demonstrating linguistic proficiency. Rather, it requires extralinguistic sensitivity to the ST's artistic features, tone and style (Škobo & Petričević, 2023). Translators' ability to process

issues related to stylistic creativity is the result of combining Intelligence Quotient (IQ) with Emotional Quotient (EQ) competencies. Although integrating AI systems in translation processes has enhanced the effectiveness of translation outcomes and expanded the scope of information dissemination and cross-cultural communication (Soysal, 2023), AI translation software cannot function independently from human expertise. AI systems have displayed advanced cognitive capacities as they can reason logically, solve problems and recognize patterns by virtue of their acquired IQ. Nonetheless, these applications have shortcomings in displaying EQ which involves the activation of higher order thinking such as affective communication, empathy, and sensitivity to socio-cultural nuances.

As AI-powered translation software like Chat-GPT has shown limitations in capturing the ST's stylistic nuances, it has become necessary to mitigate the side effects of these limitations by investing in human expertise to produce faithful literary translations that maintain the original work's artistic value. Constantine (2019) remarked that machine translators that use deep learning networks can invest in contextually supported statistical input which allowed them to develop human-like competencies. Yet, they still lack the human capacity for conscious reasoning.

Accordingly, computerized translators have intelligence but lack the human consciousness which enables them to deduce an "author's intention" (p. 476). In this sense, machine translation is not a replacement of human translators (Jiang & Lu, 2020). Rather, it is "an auxiliary tool for human translation [...] which can effectively reduce the workload of translators, improve work efficiency, and optimize translation quality" (Škobo & Petričević, 2023, p. 1397).

Shahmeranova (2023) emphasized the importance of hybrid translation models which benefit from AI software's affordances enhanced with human creativity. These tools benefit from upgraded datasets that improve their sensitivity to cultural and stylistic nuances. O'Brien (2012) called for adopting the human-computer interaction model which reconceptualizes the role of AI translation software. In a recent study, O'Brien (2024) observed that AI-driven translators can empower but not replace human translators because these systems have been developed based on the concept of 'emulation' which makes them fall short of creative thinking.

The author elaborated on Shneiderman's (2020) model of Human-Centered Artificial Intelligence (HCAI) explaining that the growth of the translation industry should be based on attaching more importance to human translators' empowerment than AI involvement in the translation process. Although recent research highlighted the need to explore the interaction between human translators and AI-driven tools, very few studies researched the topic in reference to translating style (Jiménez-Crespo, 2025).

2.2 Stylistic Literary Translation

AI-human complementarity relieves human translators from simple translation tasks and gives them the opportunity to focus on “high-end” translation responsibilities (Jiang & Lu, 2020, p. 1401). One of the concerns related to the transformation in the performance of AI-powered tools is their impact on employment opportunities among translators. The improvement in AI-driven translation has created demand for creative translators with multi-disciplinary translation proficiency.

In other words, such progress will re-channel human talents to the translation of more demanding materials with unique stylistic features that require human intervention such as legal documents and literary texts (Jiang & Lu, 2020). Showing sensitivity to style throughout the translation process should not be limited to literary texts; as it is also important in translating technical discourse where style plays a significant role in a text’s rhetorical function (Folaron, 2020).

Style is a complex concept which refers to a writer’s regular and consistent choices that make a text’s language distinctive compared to ordinary language use (Huang, 2015). According to Parks (2014), style is “an organized and interrelated series of deviations from a norm” (p. 56). A text’s style is not limited to an ornamental function. Rather, it is the key to its meanings as it pertains to a complex set of contextual, pragmatic, cognitive and metacognitive aspects which challenge translators in any language combination (Boase-Beier, 2010).

While technical and literary texts have stylistic features which influence the translation process, the stylistic features of literary texts are more challenging to translate because they “are not as homogeneous as technical texts” (Guerberof-Arenas & Toral, 2022, p. 186). The consistent stylistic patterns of technical texts create a predictable structure which can be used to train AI-driven tools for improvements in their translation product. Conversely, the translation of creative texts requires human quality assurance because of their complex and intertwined stylistic features and since style is the main criteria in judging on the translation quality of these texts (Esselink, 2020).

Guerberof-Arenas and Toral (2022) found that human translation is more effective than machine translation combined with human post-editing in translating literature stylistically. The study concluded that NMT continues to show limitations in translating literary texts creatively even if it is trained on data from literature. One issue which influences the quality of AI translation is the tendency of AI-powered tools to isolate syntactic analysis from semantic and contextual components (Jiang & Lu, 2020).

Other issues are related to AI’s limited ability to process complex syntactic structures due to their algorithmic bias (Qi, 2024; Vanmassenhove, et al., 2021) and sequential processing bias (Wang, 2020). Algorithmic bias refers to AI software’s limited lexical richness compared to HT because training data overrepresent dominant lexical structures at the expense of unique ones. Similarly, sequential processing bias refers to AI’s tendency to complete tasks

sequentially as opposed to the human brain which handles multiple tasks simultaneously.

Translating literature involves the activation of advanced competencies that invite the translator to recreate the original text's stylistic features without compromising the target text's (TT) readability. This requires decision-making proficiency to solve translation issues on the linguistic and extralinguistic levels (Yao et al., 2025). Conscious decision-making is at the heart of Vermeer's (1989/2004) functional approach which views translation as an activity with a purpose (*skopos*), and it plays a pivotal role in the success or failure of the translation process.

The ST style reflects the author's choices; nonetheless, the style of a translated text expresses the choices made by the translator, i.e. translator's style (Baker, 2000). In other words, recreating the style of a text throughout a translation process is an intentional decision-making process which requires a high level of consciousness in deciding upon the appropriate translation strategies to produce a certain stylistic impact (Boase-Beier, 2010; 2020).

A stylistic translation requires concentrating on the general function of the source text, instead of observing its detailed semantic features, but this should not be at the expense of meaning making. One challenge that disrupts the natural flow of a translation is related to the failure to maintain harmony between the text's content and stylistic deviations, on the one hand, and across all stylistic deviations, on the other hand. This is referred to as "unity between style and content" (Parks, 2014, p. 120). If a translation does not observe this unity, "we begin to laugh [...] at the gap between the ambitious gesture and the questionable achievement" (p. 4).

Translating style demands focusing on three components: regularity, frequency and deviation from a norm while showing sensitivity to several ST features including type, genre, function, choices, patterns, etc. Although style evolves through the consistent use of certain linguistic features (phonemic, phonological, grammatical, lexical, rhetorical, etc.), mastering the knowledge that governs the use of such features alone does not guarantee the understanding, interpretation or reproduction of stylistic aspects.

In translating literature, it is more appropriate to talk about the recreation of the ST's stylistic components and impact (Youdale, 2020). In other words, providing a stylistic literary translation requires creativity which is closely linked to translators' intuition and emotion. Guerberof-Arenas and Toral (2022) defined creative translation as a process which allows the TT readers to have a similar experience to that of the ST readers by "identifying and understanding a problem in the source text, generating several new and elegant solutions that depart from the source text and choosing the one that best fits the target text and culture" (p. 207).

One aspect related to creative translation is the natural flow of TT syntax to leave a similar impact on the readers. Similarly, Parks (2014) remarked that literary

translation should achieve a similar reader reaction to that triggered in ST readers because “much of language has to do, not with the grammatical rules and transformations we can learn in the classroom (though they are vital), but with what the people who speak the language consider normal and acceptable” (p. 3).

As such, a stylistic translation is a creative approach which attempts to preserve not just what the ST said, but also how it is said by maintaining the most distinctive features of an author’s stylistic choices. The translator is concerned more with the impact of the translation on the readers and their response to TT features. Hence, this method is appropriate for literary translation, where faithfulness is both to content and style (Ghazala, 2013). A stylistic translation attempts “to emulate the quality of the original while trying, at least partially, to [...] balance accuracy with the need to reproduce a similar effect on the target reader”. (Baker, 2001, p. 203). Accordingly, a stylistic translation is faithful, relevant and conducive to a stylistic impact.

According to Vinay and Darbelnet (1995), a stylistic translation requires the use of oblique translation strategies such as transposition, modulation, equivalence and adaptation as these help translators maintain the ST’s rhetorical and stylistic impact by observing the TT’s naturalness and subtleties of culturally embedded content, register and tone. Other translation techniques that can be used in stylistic translation include transposition, amplification and reduction which help the translators maintain the TT’s naturalness, tone (AlManna, 2020; Molina & Hurtado Albir, 2002) and other stylistic components such as metaphors, rhyme and rhythm (Omar, 2012; 2020; 2021; 2022).

These strategies are useful in producing a stylistic translation because they help the translator in reconstructing the ST’s syntactic structure while maintaining its conceptual frameworks and stylistic nuances. Translating literary style has been discussed by notable scholars in the field. Nonetheless, few studies analysed translation mechanisms that attend to literary texts’ stylistic features by examining the intentionality and synergy embedded in using translation techniques that embellish style while preserving the ST’s conceptual content (Omar, 2020; 2021).

This gap widens when it comes to studies that researched the topic from the perspective of recent technological advancements. The current study is significant as it bridges a gap in the literature on translating literary style and triggers a debate on the need to deflect human talents to unexplored translation proficiency skills on the pedagogic, scholarly as well as professional levels, as will be elaborated in the next section.

2.3 Study’s Significance

Understanding and translating style involves engagement with complex factors that grant a text an exceptional identity including the author’s use of linguistic and extralinguistic patterns. Stylistic features exceed the ornamental function as they communicate views, attitudes and tones embedded in the contextual interaction between sociocultural factors and multiple levels of meaning.

Moreover, translating style is not a sequential process which follows a fixed order of translation strategies. Rather, it requires a synchronised activation of several strategies at a time while negotiating their use based on a higher level of intelligence not observed in the function of AI-powered translation software. Although translation technologies powered by large learning models were designed to attend to stylistic nuances, few studies explored the performance of AI-powered translation tools in translating stylistic textual properties.

Boase-Beier (2010; 2020) criticized the limited number of studies conducted to investigate the role of style in constructing and reconstructing texts via translation. Youdale (2020) remarked that studies which researched the role of translation technologies in translating poetry are scarce since poetry is more complex on the semantic, syntactic, and stylistic levels than other literary genres.

Recent studies on the Effectiveness of AI-powered translation tools in English/Arabic translation were conducted in response to the demand for researching the role of translation technologies in subject-specific domains. Altakhineh et al. (2025) observed that few studies compared the performance of AI-powered translation tools with that of human translators in the English/Arabic language combination. The authors compared the translation output of human translators with that of ChatGPT and concluded that human translators have better performance than ChatGPT in processing intricate legal components such as culturally oriented legal terms and stylistic features.

El-Karnichi (2024) reviewed educational approaches to translation in the Arab world vis-à-vis the speedy advancement in AI-informed translation tools. The author remarked that human translators should upgrade their translation proficiency skills to harness recent breakthroughs in translation tools informed by deep learning features. Al-Munayyi and Al-Shahrani (2025) conducted an evaluative study of AI tools accuracy in translating idiomatic expressions. Although the study ranked ChatGPT as the top among investigated tools in terms of translation output quality, it highlighted the weakness in its proficiency level.

This study is significant as it aims to bridge a gap in several topics related to the research's theme including the translation of literary style from English into Arabic, the effectiveness of AI-driven translation tools in translating literature stylistically, and the role of AI-MT mediation in improving the style of literary translation. The study seeks to answer the following research questions:

1. How effective is AI-human mediation in providing a stylistic English/Arabic translation of poetry?
2. What are the limitations of AI-human interaction in refining the style of AI-translated literary texts?
3. What are the future considerations for using AI tools in translating literature?

The next section elaborates on different aspects of the research methods relating to analytical approaches, ST specifications, and TT specifications.

3. Methodology

3.1 ST/TT Data Sets

This study is based on a comparative analysis of three sources of data: the ST, TT1 and TT2. The ST is a Victorian English poem composed by Richard Milnes, known as Lord Houghton, to narrate an incident from the infancy of Prophet Mohammed, PBUH, (Milnes, 1876). The poem is characterized by its cultural relevance to the Arabic language and varied stylistic features including narrative style, diction, rhythmical and rhyming features as well as figurative language, which makes it challenging to translate stylistically.

TT1 is a translation by Al-Hajri—a translator, poet, and academic known for his stylistic translations of English poetry into Arabic. Al-Hajri holds a doctorate in comparative literature and has received wide recognition for his published translations in the field (Al-Hajri, 2006;). The ST and TT1 are featured in an anthology of translated poems by Al-Hajri (2016, pp. 138–141). As for TT2, it features a final version of an empirical translation produced via cooperation between a professional human translator and ChatGPT.

3.2 Data Generation Instrument and Analysis Methods

The study adopts a hybrid experiential and comparative data generation and analysis method which aims to test the effectiveness of AI-human cooperation in reproducing a stylistic translation of English poetry into Arabic. The study is based on a qualitative analysis of two TTs based on a side-by-side comparison of different stylistic features. The first text is produced by a professional translator with experience in stylistic poetry translation, and the second text is generated empirically using ChatGPT in combination with controlled human prompt engineering as a data-generating instrument. The contrastive analysis involves a cross-textual juxtaposition of two data sets in accordance with the following steps:

1. Conducting a comparative analysis between the ST and the TT1 to explore the effectiveness of the stylistic translation produced by a professional human translator.
2. Identifying the translation strategies used in recreating the ST's stylistic features.
3. Applying the same translation strategies used by the HT to AI-generated translation, using of human prompt engineering.
4. Setting the target text produced by a professional translator as a reference translation to measure the effectiveness of AI-human mediation in producing a stylistic translation based on a comparative analysis.

The functional stylistic comparison between a professional translation and a technologically mediated one helps minimize the bias for several reasons. First, the professional translation sets the standards against which the comparison can be made without making subjective judgements. Second, the analysis of shortcomings in TT2 is based on objective criteria. These include the use of consistent and appropriate translation techniques to recreate diverse stylistic features and a close analysis of ST's contexts, register and pragmatic implicatures (Calvo & de la Cova, 2023).

These criteria enhance the methods' objectivity and allow for replicability. The study did not incorporate error analysis since AI-powered translators are designed to attend to translation quality rather than accuracy (See Sections 2.1). The use of rating scales was avoided because it is not possible to quantify stylistic features and since they may involve biased personal opinions.

4. Analysis and Results

4.1 ST-TT1 Comparative Stylistic Analysis

The ST is a poem written in the style of Victorian poetry composed by British travellers who projected a romanticized perspective about the East (Al-Hajri, 2006), using traditional poetic forms close to odes and sonnets with simple meter and rhythmic patterns. The poem is based on a narrative structure which develops the story of Prophet Mohammed's purification by splitting His chest at the hands of two angels to prepare Him as a future messenger of Allah. The distinctive stylistic features that recur as stylistic patterns in the poem include rhyme, meter (evident in its frequent rhythmic patterns), figures of speech, as well as simple diction shown in the use of plain, unembellished vocabulary to create an intimate emotional atmosphere.

TT1 is a creative translation which maintains most ST's stylistic features such as meter, rhyme, figurative language, tone, imagery and narrative structure, while recreating a few stylistic features such as ST's register and elaborate syntactic structure. TT1 reproduces the ST's syntactic and lexical mechanisms using reduction, reordering, transposition and equivalence. The translator did not use adaptation since Arabic readers are familiar with the cultural references embedded in their history and culture.

Al-Hajri's avoidance of adaptation recreated the original poem in a faithful stylistic translation which preserved the conceptual and stylistic components of the ST and reconstructed its structural components on the lexical and syntactic levels. Thus, he preserved the text's musicality, emotional appeal and poetic impact. Table 1 provides an elaborate decomposition of translation strategies used in TT1:

Table 1: HT's stylistic recreation strategies

ST	TT1	Translation Strategies
An Arab nurse, that held in arms a sleeping Arab Child, Had wondered from the parents' tents some way into the wild	من الخيمة الغراء حاءت به طفلاً إلى الفقر تر عاه مربيةٌ فضلى [From the elevated tent, she came with a child a dignified nurse walking into the wild]	Reordering Reduction Register shifts Transposition Amplification
She knew that all was friendly round, she had no cause to fear, Although the rocks strange figures made, and night was threatening near	جسور حمتها الغرب ما خاف قلبها غريبًا حوتة البيد من صخر ها ليلًا [Brave and protected by the Arabs, her heart was not afraid, Of strange rocks in the deserts in the middle of the night]	Transposition Reordering Reduction Register shifts

<p>Yet something kin to dread she felt, when sudden met her sight, Two forms of noble maintenance and beautifully bright.</p>	<p>إلى أن رأت من جاء للطفل فجأةً ملاكين، فارتاعت، يصونانه ببلا [Until she saw who suddenly towards the child came, Two angels that attended to the infant with noble claim]</p>	<p>Reordering Equivalence Register shifts Reduction</p>
<p>Their robes were dipt in sunset hues, their faces shone on high As Sirius or Canopus shine in purest summer sky</p>	<p>ثيابهما بيضاء كالشمس أشرقت ووجههما الشّعري، سهيلٌ إلا هلاً [Their clothes as white as the rising sun, Their faces as Sirius or Canopus that shine]</p>	<p>Metaphor conceptual remapping (orientational metaphor to simile) Metaphor conceptual remapping (simile to metaphor) Transposition Reduction Reordering</p>
<p>Straight up to her without a word they walked, yet in their gaze Was greeting, that with subtle charm might temper her amaze</p>	<p>صوتين قد جاءا إليها وإن رأت بعينهما سحرًا يقول لها أهلاً [Silently they approached her, and she saw in their eyes, a welcoming charm]</p>	<p>Reordering Reduction Transposition</p>
<p>One, with a mother's gentleness, then took the slumbering child That breathed as in a happy dream, and delicately smiled</p>	<p>كما تحمل الأم الرؤوم رضيعها حواه ملاك فاحتوى رقة جنلى [Like a tender mother that carries her infant child, One angel embraced it with gentle delight]</p>	<p>Metaphor conceptual remapping (from orientational metaphor to a simile) Register shifts Transposition Reduction</p>
<p>Passed a gold knife across his breast, that opened without pain Took out its little beating Heart, all pure but one black stain</p>	<p>وشق بسكين من الشير صدره ولا ألم، لكنه قلبه جلـى [Cutting through its chest with a golden knife, Without pain although it purified the infant's heart]</p>	<p>Transposition Register shifts Reduction Reordering</p>

Table 1 shows that the most recurring strategies used in recreating TT1 stylistically included reduction, reordering, register shifts, transposition and metaphor conceptual remapping. The strategy that was used least is amplification. All these strategies are techniques used in producing stylistic translations (AlManna, 2020; Omar, 2021). These techniques create syntactic shifts in the structure of lexical units without changing the ST's conceptual value.

For instance, the use of reduction in translating the following phrases did not leave an impact on the text's conceptual content '*she knew all was friendly around*', '*that held in arms a sleeping Arab Child had wondered*', '*Straight up to her without a word they walked*'. Rather, it reduced the elaborate syntactic structure for a smooth

recreation of the ST's rhythm and rhyme. Similarly, applying reordering to change the conventional 'subject-verb-object' sentence structure into prepositional phrases, nominal clauses or adverbial phrases allowed the translator to emphasize the agents' mobility and status and created syntactic fluidity. The same applies to cases of transposition as in translating '*mother's gentleness*', '*gold knife*', and '*without a word*', to change a noun into an adjective, an adjective into a prepositional phrase and a prepositional phrase into a noun, respectively.

It is expected that the translator's techniques of metaphor conceptual remapping which changed orientational metaphors into similes and vice versa may leave an impact on the ST's conceptual content and ideologies. Nonetheless, these shifts in the types of metaphors are not deemed detrimental as they leave the metaphors' source domains and target domains intact, except for shifts in words' register. Structural remapping of metaphor types during translation leaves little impact on their cognitive value and normally goes unnoticed by the readers if it retains the metaphor's conceptual domains: source domain and target domain (Omar, 2012; 2020; 2021; 2022).

The changes from simple diction to classical poetic diction by introducing register shifts in translating words such as "the wild, gentleness, delicately, gold, etc." are reflective of the translator's attempt to recreate the atmosphere in a way that responds to Arab readers' expectations about a cultural milestone in their heritage using a language that rises to the occasion.

4.2 ST-TT2 Empirical Comparative Analysis

TT2 was produced empirically based on AI-human collaboration using the prompt engineering technique. The researchers used OpenAI translator, ChatGPT, as a generative language model known for its ability to implement diverse language tasks including content creation, translation, paraphrasing, summarization and expansion, creative adaptation and recreation, etc. ChatGPT's generative features are expected to observe the ST's contextual and stylistic features.

Controlled human prompt engineering was implemented to achieve gradual improvement in ChatGPT's output quality. The human translator used six prompts to produce a translation that emulates the professional translation, focusing on different stylistic aspects that relate to lexical naturalness, syntactic fluidity, contextual sensitivity and stylistic creativity. Table 2 provides a summary of AI's responses aligned to a list of the human prompts:

Table 2: Alignment of human prompts and AI meta-commentaries

HT Prompt	AI Meta-commentaries
1. Translate the following poem stylistically into standard Arabic.	Let me know if you would like this translated into classical Arabic style, colloquial (dialect), or verse-form poetry with rhyme and meter.
2. Improve word combinations and use a higher word register.	Below is an elevated, stylistically refined translation into high-register Classical Arabic, using more eloquent diction and harmonious phrasing, while preserving the poetic tone and emotional depth. Examples and justifications... If you'd like this rendered in classical poetic meter and rhyme as a full <i>qasida</i> , I can do that.
3. Improve the translation's syntactic fluidity, using the strategies: reduction, reordering and transposition.	Below is a refined version of the translation, applying translation strategies. Translation strategies with examples... Would you like this developed into a metered and rhymed Arabic poem, or annotated to show how each line maps to the original text?
4. The elaborate syntactic narrative makes the Arabic structure closer to fiction than poetry. remove redundant words to improve target text's style.	While the previous version aims for eloquence and lyrical flow, its narrative structure, with elaborative clauses, brings it closer to fiction. To align with poetry, we now need to: Condense each line by removing redundant or explanatory phrases. Favor parallelism and image-focused phrasing over causal or narrative transitions. Maintain a poetic cadence, though still in free or near-free verse. Would you like a fully metered and rhymed classical version?
5. Use transposition and reordering to recreate rhyme and meter.	Now that we're moving toward classical Arabic poetry, we'll adopt two major strategies: Transposition and reordering: to shift sentence elements for rhythm and end-rhyme. Meter and rhyme: we'll use a classical Arabic poetic due to its expressive tone and consistent rhyme. Would you like a second stanza added, continuing the story (e.g., purification of the heart), or would you like this poem refined further into standard Arabic or another meter?
6. Replace the words that do not fit the context. This poem tells the story of Prophet Mohammed's chest-splitting incident. Replace the word مرضنة (nurse) to fit the context. Also, translating "the two forms" as "شَخْصَان" is not appropriate as they refer to 'angels.' Additionally, the 'mother simile' refers to the angel who takes the child gently to purify its heart.	Let us refine the poem accordingly, in full respect of the <i>Seerah</i> context, as narrated in authentic sources. Key Adjustments based on your notes... Would you like a final stanza added to reflect the return of the child, or a reflective ending on the symbolism of purification? Or shall we render this into a chantable classical <i>qasida</i> form with a longer arc?

Table 2 shows that ChatGPT's translation evolves in compliance with the human prompts. AI acted following a consistent pattern: seconding the human prompt and elaborating on it, implementing the task, and providing examples of the

changes introduced to the previous version(s) and rationale in the form of meta-commentary which is an intelligent approach to engage the human translator in further interaction. Interestingly, meta-commentaries are also used to train the AI model and improve its performance accumulatively. AI's commentaries consistently concluded with a question to take the editing process further, if deemed necessary by the human user.

Overall, AI-human interaction discloses several features that draw a distinction between human intelligence and artificial intelligence. One the one hand, the human translation prompts prioritize aspects related to target text's content in terms of using appropriate lexical properties, syntactic structure and conceptual content including contextual nuances and cultural implications, leaving sound stylistic devices for last. On the other hand, AI's responses reveal its tendency to prioritize sound devices such as rhyme, rhythm, and meter, and leave the translation's conceptual, lexical and syntactic properties for human-in-the-loop (HITL) interaction. This is clarified in AI's persistent invitations to render the translation in poetic form using rhyme and meter.

Another remark about AI-human mediated translation is that ChatGPT has a strong tendency for hallucination, evident in its suggestions to add stanzas. AI's propensity for fictional details is influenced by human preferences, competencies and controlled prompting. Table 3 below provides TT1 segments, aligned with their parallel equivalents in TT2 to identify AI limitations in producing a stylistic translation, compared to the translation produced by the professional translator.

Table 3: Parallel alignment of TT1 segments and TT2 equivalents

TT1	TT2
<p>من الخيمة الغراء جاءت به طفلة إلى النفر ترعاه مربية فضلى</p> <p>[From the elevated tent, she came with a child a dignified nurse walking into the wild]</p>	<p>مريض تمشي، وفي كفيها طفل الهدى، بشداه عم ضباء، ضلت بخطها عن خيام قبيلة، وسري بها التيه الخفي إلى الفلاء</p> <p>[A wet nurse walking, carrying in her palms the child of righteousness spreading light with its fragrance, her steps took her astray away from the tribe's tents, and disguised loss misled her to the wild]</p>
<p>جسور حمتها الغرب ما خاف قلبها غريبًا حوتة البيد من صخر ها ليلًا</p> <p>[Brave and protected by the Bedouins, her heart was not afraid, Of strange rocks in the deserts in the middle of the night]</p>	<p>لم تخش شيئاً، فاللallaة سلامها، والصخر مهما زاغ، ما فيه العداء</p> <p>[She was not afraid of anything as the desert is her peace, And the rocks, no matter how misleading, do not show animosity]</p>
<p>إلى أن رأت من جاء للطفل فجأة ملائكة، فارتاعت، يصونه نيلًا</p> <p>[Until she saw who suddenly towards the child came, two angels that attended to the infant with noble claim]</p>	<p>حتى بدت في الأفق هيبة ملائكة، من نور رب، لا يطال ولا يراء</p> <p>[Until in the horizon, the dignity of two angels appeared, From the light of a lord that cannot be reached or seen]</p>
<p>ثيابهما بيضاء كالشمس أشرقت ووجاههما الشعري، سهيل إلا هلا</p>	<p><i>Lost in translation</i></p>

<p>[Their clothes as white as the rising sun, Their faces as Sirius or Canopus that shine]</p>	
<p>صموتين قد جاءا إليها وان رأت بعينيهما سحرٌ يقول لها أهلاً [Silently they approached her, and she saw in their eyes, a welcoming charm]</p>	<p>قد أقبلَا في الصمت دون إشارة، ل لكنَّ في العينين مامُّ من رجاء [They approached in silence without a signal, But in their eyes the safety of hope]</p>
<p>كما تحمل الأم الرؤوم رضيعها حواه ملأك فاحتوى رقةً جذلَى [Like a tender mother that carries her infant child, one angel embraced it with gentle delight]</p>	<p>فتقدم الملك الحنون، وضمه ضم الرضيع كما تضمه النساء [The tender angel approached and embraced it, It embraced the infant as women do]</p>
<p>وشق بسکین من الثبر صدره ولألم، لكنه قلبَه جلَى [Cutting through its chest with a golden knife, without any pain though it purified the infant's heart]</p>	<p>ومررت سکین الطهارة فوقه، فانشق صدر النور عن سر خفاء وأخرج القلب الصغير، كمنهل، صافٍ، نقِيٍّ... غير نقطةٍ ظلماء [And she passed the purity knife above him, Then the chest of light was split revealing a hidden secret, it extracted the little heart, as a spring, Plain, pure... without a single black spot]</p>

Table 3 shows several limitations in ChatGPT's performance although it was supported with controlled human prompt engineering. These limitations are caused by entrenched shortcomings inherent in AI software's sourcing and processing mechanisms. The following section provides a detailed discussion of ChatGPT's limitations in producing a stylistic translation based on a comparison between its final translation output, on the one hand, and the ST and TT1, on the other hand, in terms of conceptual content, lexical properties, syntactic structure, and stylistic features.

5. Discussion

This section elaborates on the limitations in AI-human interaction in translating fourteen lines of a Victorian poem from English into Arabic. The section highlights AI's shortcomings in producing ST's lexical and conceptual properties, structural aspects and stylistic features.

5.1 Anomalies in Lexical and Conceptual Content

The results show that the translation produced via prompting interaction between Open AI and a human translator produced lexical and conceptual anomalies in TT2's content. These anomalies appeared in the form of four machine translationese types: unidiomatic lexical items, inappropriate word register, redundant lexical patterns, and fictional details. To illustrate, TT2 showed lack of sensitivity for word register and lexical combinations in generating or restructuring lexical patterns based on the human controlled prompts. Table 2 shows that the prompts provided by the human translator following the first version of TT2 focused on improving word register and combinations. Yet, the final version of TT2 showed that the text's lexical content continued to lack the natural lexical properties required for enhanced readability.

Machine translations incidents are caused by AI's algorithmic and sequential bias which is the results of AI's limitations in lexical variation, especially in low resource languages like Arabic, and in its tendency to process ST's data in a linear way. This result confirms the observation made by Vanmassenhove, et al. (2021) on AI's biased translation behaviour. The result also conforms with Siyam et al. (2024) on the negative impact of rule-mapping limitations on AI translators' performance which lead to reduced adaptability and contextual sensitivity. Nonetheless, the result contradicts Siu (2024) on LLMs' ability to improve translation output and provide creative edits in response to human prompt engineering. Table 4 provides examples of lexical and conceptual anomalies in TT2.

Table 4: TT2 lexical and conceptual anomalies

TT1	TT2	Limitation
مربيّة فضلى [A dignified nurse]	مُرْضِعٌ تَمْشِي [A wet nurse walking]	Unidiomatic lexical pattern Inappropriate word register
جاءت به طفلاً [She came with a child]	وَفِي كُفْرِهَا طَفْلٌ الْهَدِي [Carrying in her palms the child of righteousness]	Unidiomatic lexical pattern Redundant lexical items
-	بَشَّادٌ عَمَّ ضَيَّعَ [spreading light with its fragrance]	Fictional detail
من الخيمة الغراء [From the elevated tent]	ضَلَّتْ بَخْطَاهَا عَنْ خِيَامِ قَبْلَةٍ [Her steps took her astray away from the tribe's tents]	Unidiomatic lexical pattern Redundant lexical items
إِلَى الْقَفْرِ [Into the wild]	وَسَرِيَ بِهَا التَّيْهُ الْخَفِيِّ إِلَى الْفَلَاءِ [and disguised loss misled her to the wild]	Unidiomatic lexical pattern Redundant lexical items
جسّور حمّتها الغرب ما خافَ قلبها [[Brave and protected by the Bedouin, her heart was not afraid]]	لَمْ تَخْشَ شَيْئاً، فَالْفَلَاءُ سَلَامَهَا، [She was not afraid of anything as the desert is her peace]	Inappropriate word register Unidiomatic lexical pattern
-	مِنْ نُورِ رَبِّ، لَا يُطَلِّ وَلَا يُرَاءُ [From the light of a lord that cannot be reached or seen]	Fictional detail Loss of ST metaphors
صَمْوَتَنْ قَدْ جَاءَ إِلَيْهَا [Silently they approached her]	قَدْ أَقْبَلَا فِي الصَّمْتِ دُونِ إِشَارَةٍ [[They approached in silence without a signal]]	Unidiomatic lexical pattern Redundant lexical items
حَوَاهِ مَلَكٌ فَاحْتَوَى رِقَّةً جَذِيلَةً كَمَا تَحْمِلُ الْأُمَّ الرُّؤُومَ رَضِيعَهَا [Like a tender mother that carries her infant child, One angel embraced it with gentle delight]	فَقَقَمَ الْمَلَكُ الْحَنُونُ، وَضَمَّهُ ضَمَّ الرَّضِيعَ كَمَا تَضَمَّهُ النِّسَاءُ [The tender angel approached and embraced it, It embraced the infant as women do]	Inappropriate register Unidiomatic lexical pattern Inapt metaphor
وَشَقَّ بَسْكِينَ مِنَ التَّبَرِ صَدْرَهُ [Cutting through its chest with a golden knife]	وَمَرَرَتْ سَكِينَ الطَّهَارَةِ فَوْقَهُ، [And she passed the purity knife above him]	Unidiomatic lexical pattern Fictional detail (she) Redundancy Loss of ST metaphor
-	فَانْشَقَ صَدْرُ النُّورِ عَنْ سُرُّ خَفَاءِ [Then the chest of light was split revealing a hidden secret]	Fictional detail
وَلَا أَلَمْ، لَكِنَّهُ قَلْبَهُ جَلِي [Without any pain though it purified the infant's heart]	وَأَخْرَجَ الْقَلْبَ الصَّغِيرَ، كَمْنَهِلَّ، صَافِّ، نقِّي... غَيْرَ نَقْطَةٍ ظَلَمَاءَ [It extracted the little heart, as a spring, Plain, pure... without a single black spot]	Inapt metaphor Unidiomatic lexical pattern Fictional detail

The examples in table 4 show cases of redundancy and hallucination in TT2 content. Lexical redundancy was observed in several versions of TT2, as evident in the human translator's prompts. For instance, prompt 2 in table 2 requested the AI software to apply the reduction strategy. Clearly ChatGPT is not trained to simulate the human brain in applying translation strategies. Therefore, although prompt 4 provided a direct prompt to AI software to eliminate redundant lexical patterns, the final version of TT2 continued to show examples of redundant lexical items that serve no semantic or stylistic function, as evident in Table 4. Not only did AI fail to remove lexical redundancy from the translation. It was also involved in providing fictional details that were not mentioned in the original text.

Remarkably, hallucination examples in TT2 were not the result of lacking paratextual components related to ST's historical and cultural background. This was evident in prompt 6 which provided adequate cultural context to the AI software to improve the choice of word register and lexical patterns. Examples provided in Table 4 show that AI's tendency for hallucination increased, rather than declined, after providing context. The final version of TT2 shows that the AI software overrepresented the HT input and provided fictional details which did not exist in the ST. This result confirms the results of Siu (2024) on AI's tendency for providing fictitious details in low-resource languages. However, it contradicts the author's observation that hallucination is the result of a lack of context.

The results also show loss and unsuccessful shifts in the ST's conceptual content evident in the deletion or inapt reconceptualization of different figures of speech. For instance, the final version of TT2 shows the deletion of the metaphor that created figurative associations between the two angels, on the one hand, and the sun and stars, on the other hand. The reconceptualization of the metaphor's source domain in the angel's image from '*a tender mother*' into '*women*' is also inapt, as it undermines the conceptual unity between the text's content and style. The same applies to AI's creation of an inapt metaphor in the last two lines because of its tendency for conceptual hallucination. Similarly, creating a figurative association between '*the child's heart*' and '*a spring of water*' interrupts the poem's natural conceptual flow.

The aberrations in TT2's lexical and conceptual content lead to an unsolicited impact on TT's readers as it violates content-style unity and creates a combination of responses that are detrimental to the ST's skopos such as chuckling, confusion, and cognitive dissonance. According to Omar (2012), cognitive dissonance is the result of inappropriate loss or shifts in reconfiguring conceptual metaphors and this response occurs when the TT metaphor violates expected conceptual and cultural patterns. This result is in line with Parks' (2014) observation on the need to show sensitivity to ST's genre, function and socio-cultural patterns to maintain unity between content and style and avoid disagreeable readers' responses.

5.2 Syntactic and Stylistic Aberrations

According to Guerberof-Arenas and Toral (2022), syntax is an indispensable factor in creative literary translation. The results show that TT2 lacks natural Arabic syntactic structures used in producing and recreating poetry. Despite the human

translator's prompts to apply translation strategies that reconstruct TT2's syntactic components such as reordering, reduction and transposition, the last version of TT2 highlights ChatGPT's failure in using translation strategies effectively. This shortcoming is related to AI's inability to make conscious decisions while solving translation problems.

While TT1 showed successful attempts at using translation strategies that manipulate syntactic structures to produce rhythmical impact and reduce redundant verbal sentences, TT2 was marked by the domination of verbal line structures, compared to nominal, prepositional and adverbial structures in TT1. This result is in harmony with Constantine (2019) and Boase-Beier (2020) on AI's shortcomings in human-like conscious reasoning. The result also agrees with Yao et al. (2025) on the importance of decision-making on the extralinguistic level in translating literary texts, a proficiency that is typical of human reasoning.

As for recreating stylistic features, the results in tables 3 and 4, combined with the discussion in sections 5.1 and 5.2, show that TT2 failed in recreating the ST's stylistic features. Table 2 in section 4.2 above shows that ChatGPT gives priority to sound devices in producing a stylistic translation. This was clear in AI's recurring meta-commentaries to provide a rhymed and metered translation of the ST. Table 4 shows that AI's interactive translation produced a rhymed translation of the original at the expense of more functional stylistic features such as register, conceptual content, and syntactic fluidity.

Examples of AI's lack of proficiency in recreating literary style include the use of conceptually and culturally inappropriate register, word combination anomalies, inapt loss, and shifts in translating or reconfiguring metaphors. According to Omar (2012; 2020; 2021; 2022), translators' sensitivity to cognitive metaphoric content is functional in producing a relevant stylistic translation which reflects loyalty to ST's conceptual content and produces a favourable stylistic impact (Baker, 2001). This result confirms the observation by Jiang and Lu (2020) that AI-powered translation instruments separate syntactic analysis from semantic and contextual components.

Although ChatGPT's meta-commentaries show AI's inclination to produce a rhythmical translation of the ST, the final version of TT2 (Table 3, Section 4.2) shows clear deviations in producing rhythmical texture. The lack of a rhythmical tempo in TT2 is caused by the recurrent use of verbal sentences in most lines and AI's inability to use translation strategies that create syntactic fluidity and rhythmic variations. Overall, the results show that the only stylistic feature that was produced by AI was rhymed poetic lines, which lacked lexical regularity, conceptual appropriateness, syntactic fluidity, and stylistic creativity.

The discussion highlights several shortcomings that can be addressed in translation pedagogic practices and scholarly contributions, especially with the growing need to respond to the transformative developments in the translation landscape. Translation educators need to integrate translation technologies into the educational process, inside and outside the translation process, particularly in

specialized domains that require attention to stylistic features. Similarly, translation scholars interested in investigating translation technology are invited to shift their focus from conventional methodologies like error analysis to more empirical approaches like human-in-the-loop translation since the latter are more responsive to the design and affordances of AI-driven translation software.

6. Conclusion

The study showed that AI-human cooperation via prompt engineering fell short of producing a successful literary translation because of AI's inherent limitations in sourcing and processing content. This implies that human intervention in the form of postediting continues to outperform human intervention in the form of prompt-induced recreation. There were several limitations that undermined AI-human mediation in recreating the text's stylistic features. The limitations occurred on the level of the target text's lexical properties, conceptual content, syntactic forms, and eventually stylistic features.

The study has highlighted the negative impact of AI's bias on translation readability as it produced cases of machine translationese, redundant lexical items, fictional details and ineffective rendering of ST tropes. As for recreating stylistic features, the study highlighted AI's emphasis on one sound device (rhyme) at the expense of more functional stylistic features like register, metaphoric content, structure, and rhythm. Despite LLMs adaptability acquired from human interaction mechanisms, they continue to be challenged by their limitations in sourcing and processing content. AI tools shortcomings include their inability to apply translation strategies effectively based on conscious reasoning and their lack of EQ intelligence (Škobo & Petričević, 2023), which activates higher-order skills such as empathy and sensitivity in dealing with stylistically induced nuances.

7. Conflict of Interest

The authors have no conflict of interest to declare.

8. Acknowledgments

The authors employed ChatGPT in a limited scale to experiment with the ST translation in producing TT2 for the purpose of evaluating the effectiveness of AI-human interaction in attending to the quality and stylistic features of the ST. The authors dis not use AI in writing the manuscript. All conceptual content remains solely the authors own. AI-powered tools did not influence in any way the writing of the manuscript.

9. References

Al-Hajri, H. S. (2006). *British travel-writing on Oman: Orientalism reappraised*. Peter Lang.

Al-Hajri, H. (2016). *Land of the Sun: English poems on Arabs and Arabia* (Vol. 1). Arab Diffusion.

AlManna, A. (2020). *Translation strategies: A practical guide for translators*. Routledge. <https://doi.org/10.4324/9780429289785>

Al-Munayyi, A., & Al-Shahrani, G. (2025). Evaluating the linguistic accuracy of AI tools in decoding idiomatic expressions. *Annals of the Faculty of Arts, Ain Shams University*, 53(3), 212-229. <https://doi.org/10.21608/aafu.2025.354962.1810>

Altakhineh, A. R. M., Alghathian, G. A., & Jarrah, M. M. (2025). A comparative study of accuracy in human vs. AI translation of legal documents into Arabic. *International Journal of Language & Law (JLL)*, 14, 63–80. <https://doi.org/10.14762/jll.2025.063>

Ampo, W. M. G., Ayuban, A. R., Avellaneda, S. L. A., & Go, D. T. (2025). Exploring teachers' lived experiences in integrating ChatGPT in classroom practices. *International Journal of Education and Emerging Practices*, 1(1), 17–28. <https://doi.org/10.63236/injeep.1.1.2>

Baker, M. (2000). Towards a methodology for investigating the style of a literary translator. *Target: International Journal of Translation Studies*, 12(2), 241–266. <https://doi.org/10.1075/target.12.2.04bak>

Baker, M. (Ed.) (2001): Routledge encyclopedia of translation studies. Routledge.

Baker, M. (2019). Corpus linguistics and translation studies: Implications and applications. In K. H. Kim & Y. Zhu (Eds.), *Researching translation in the age of technology and global conflict: Selected works of Mona Baker* (pp. 17–33). Routledge. <https://doi.org/10.4324/9780429024221>

Boase-Beier, J. (2010). *Stylistic approaches to translation* (3rd ed.). St. Jerome Publishing.

Boase-Beier, J. (2020). *Translation and style* (2nd ed.). Routledge. <https://doi.org/10.4324/9780429327322>

Calvo, E., & de la Cova, E. (Eds.). (2023). A qualitative approach to translation studies: Spotlighting translation problems. Routledge. <https://doi.org/10.4324/9781003253594>

Constantine, P. (2019). Google Translate gets Voltaire: Literary translation and the age of artificial intelligence. *Contemporary French and Francophone Studies*, 23(4), 471–479. <https://doi.org/10.1080/17409292.2019.1694798>

EL-Karnichi, F. (2024). Examining the future of translator education: An in-depth review of educational approaches in the Arab context. *Arab World English Journal for Translation & Literary Studies*, 8(2), 94–114. <https://dx.doi.org/10.24093/awejtls/vol8no2>

Esselink, B. (2020). Multinational language service provider as user. In M. O'Hagan (Ed.), *The Routledge handbook of translation and technology* (pp. 109–126). Routledge. <https://doi.org/10.4324/9781315311258-9>

Folaron, D. (2020). Technology, technical translation and localization. In M. O'Hagan (Ed.), *The Routledge handbook of translation and technology* (pp. 203–219). Routledge. <https://doi.org/10.4324/9781315311258-15>

Fomicheva, M., & Specia, L. (2019). Taking MT evaluation metrics to extremes: Beyond correlation with human judgments. *Computational Linguistics*, 45(3), 515–558. https://doi.org/10.1162/coli_a_00356

Ghazala, H. (2013). *A textbook of literary translation*. Konooz Al-Marifa.

Guerberof-Arenas, A., & Toral, A. (2022). Creativity in translation: Machine translation as a constraint for literary texts. *Translation Spaces*, 11(1), 184–212. <https://doi.org/10.1075/ts.21025.gue>

Huang, L. (2015). *Style in translation: A corpus-based perspective*. Springer. <https://doi.org/10.1007/978-3-662-45566-1>

Jiang, K., & Lu, X. (2020). Integrating machine translation with human translation in the age of artificial intelligence: Challenges and opportunities. In K. Arai & S. Kapoor (Eds.), *Proceedings of the international conference on big data analytics for cyber-physical system in smart city* (pp. 1397–1405). Springer. https://doi.org/10.1007/978-981-33-4572-0_202

Jiménez-Crespo, M. A. (2025). Human-centeredness in translation: Advancing translation studies in a human-centered AI era. *InContext: Studies in Translation and Interculturalism*, 5(1). <https://doi.org/10.54754/incontext.v5i1.132>

Masnun, A. (2025). Integrating artificial intelligence in Arabic writing proficiency: A case study in Islamic boarding schools. *Indonesian Journal of Applied Linguistics*, 15(1), 1–15. <https://ejournal.upi.edu/index.php/IJAL/article/view/75378>

Milnes, R. M. (1876). *The poetical works of Richard Monckton Milnes, Lord Houghton* (Vol. 1, p. 182). J. Murray.

Molina, L., & Hurtado Albir, A. (2002). Translation techniques revisited: A dynamic and functionalist approach. *Meta: Journal des traducteurs*, 47(4), 498–512. <https://doi.org/10.7202/008033ar>

Moorkens, J., Way, A., & Lankford, S. (2025). *Automating translation*. Routledge. <https://doi.org/10.4324/9781003381280>

O'Brien, S. (2012). Translation as human–computer interaction. *Translation Spaces*, 1(1), 101–122. <https://doi.org/10.1075/ts.1.05obr>

O'Brien, S. (2024). Human-centered augmented translation: Against antagonistic dualisms. *Perspectives: Studies in Translatology*, 32(3), 391–406. <https://doi.org/10.1080/0907676X.2023.2247423>

O'Hagan, M. (Ed.). (2020). *The Routledge handbook of translation and technology*. Routledge. <https://doi.org/10.4324/9781315668925>

Omar, L. I. (2012). *A cognitive approach to the translation of creative metaphor in Othello and Macbeth from English into Arabic* [Unpublished doctoral dissertation]. Durham University. Durham E-Theses Online

Omar, L. I. (2020). The stylistic amplification of conceptual metaphors in translating Shakespeare into Arabic by Mohamed Enani. *Arab World English Journal for Translation & Literary Studies*, 4(4), 58–71. <https://doi.org/10.24093/awejls/vol4no4.5>

Omar, L. I. (2021). Kamil Kilani's adaptation of Shakespeare in Arabic children's literature: Acculturation versus enculturation. *Theory and Practice in Language Studies*, 11(12), 1636–1646. <https://doi.org/10.17507/tpls.1112.16>

Omar, L. I. (2022). Translating Macbeth's colour metaphors into Arabic: A revised CMT approach to Shakespeare's creative metaphors. *Theory and Practice in Language Studies*, 12(10), 1995–2004. <https://doi.org/10.17507/tpls.1210.06>

Omar, L. I., & Salih, A. A. (2024). Systematic review of English/Arabic machine translation postediting: Implications for AI application in translation research and pedagogy. *Informatics*, 11(2), Article 23. <https://doi.org/10.3390/informatics11020023>

Parks, T. (2014). *Translating style: A literary approach to translation – A translation approach to literature* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315759791>

Popović, M. (2018). Error classification and analysis for machine translation quality assessment. In A. Way & S. Bandyopadhyay (Eds.), *Machine translation: Technologies and applications* (pp. 129–158). Springer. https://doi.org/10.1007/978-3-319-91241-7_7

Pym, A. (2014). Translation skill-sets in a machine-translation age. *Meta: Journal des traducteurs*, 58(3), 487–503. <https://doi.org/10.7202/1025047ar>

Qi, L. (2024). Bridging languages: The potential and limitations of AI in literary translation—A case study of the English translation of A Pair of Peacocks Southeast Fly. *Advances in Humanities Research*, 8(2024091). <https://doi.org/10.54254/2753-7080/8/2024091>

Ren, X., & Zheng, W. (2024). "I don't want to learn translation": Exploring the systemic roots of burnout among translation master's students. *Translation and Interpreting Studies*, 19(1), 45–67. <https://doi.org/10.1075/tis.00000.ren>

Shahmerdanova, R. (2023). Artificial intelligence in translation: Challenges and opportunities. *Cascades Journal*, 3(1), 1–12. <https://cascadesjournal.com/index.php/cascades/article/view/31>

Shneiderman, B. (2020). Human-centered artificial intelligence: Three fresh ideas. *AIS Transactions on Human-Computer Interaction*, 12(3), 109–124. <https://doi.org/10.17705/1thci.00131>

Siu, S. C. (2024). Revolutionising translation with AI: Unravelling neural machine translation and generative pre-trained large language models. In Y. Peng, H. Huang, & D. Li (Eds.), *New advances in translation technology* (pp. 29–54). Springer. https://doi.org/10.1007/978-981-97-2958-6_3

Siyam, F. F., Hidayat, R., Rochmat, C. S., Maulaya, R. D., Avilya, A., & Maulidi, M. B. (2024). Accuracy analysis of artificial intelligence in Arabic language translation and grammatical rule mapping. *Jurnal Al Bayan: Jurnal Jurusan Pendidikan Bahasa Arab*, 16(2), 558–576. <https://doi.org/10.24042/albayan.v16i2.24588>

Škobo, M. Z., & Petričević, V. D. (2023). Navigating the challenges and opportunities of literary translation in the age of AI: Striking a balance between human expertise and machine power. *Društvene i humanističke studije*, 8(2), 317–336. <https://doi.org/10.51558/2490-3647.2023.8.2.317>

Soysal, F. (2023). Enhancing translation studies with artificial intelligence (AI): Challenges, opportunities, and proposals. *Karamanoğlu Mehmetbey Üniversitesi Uluslararası Filoloji ve Çeviribilim Dergisi*, 5(2), 177–191. <https://doi.org/10.55036/ufced.1402649>

Vanmassenhove, E., Shterionov, D., & Gwilliam, M. (2021). Machine translationese: Effects of algorithmic bias on linguistic complexity in machine translation. In P. Merlo, J. Tiedemann, & R. Tsarfaty (Eds.), *Proceedings of the 16th conference of the European Chapter of the Association for Computational Linguistics: Main Volume* (pp. 2203–2213). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2021.eacl-main.188>

Vermeer, H. J. (1989/2004). Skopos and commission in translational action. In L. Venuti (Ed.), *The translation studies reader* (pp. 227–238). Routledge.

Vinay, J.-P., & Darbelnet, J. (1995). Comparative stylistics of French and English: A methodology for translation (J. C. Sager & M.-J. Hamel, Trans.). John Benjamins. <https://doi.org/10.1075/btl.11>

Wang, F. (2020). Analysis on translation bias in the translation process based on cognitive psychology. *Revista Argentina de Clínica Psicológica*, 29(2), 1413–1424. <https://doi.org/10.24205/03276716.2020.383>

Yao, J., Kasuma, S. A. A., & Moindjje, M. A. (2025). Exploring the relationship between translators' styles and translation competence: A case study of English translations of The True Story of Ah Q. *International Journal of English Linguistics*, 15(1), 17–35. <https://doi.org/10.5539/ijel.v15n1p17>

Youdale, R. (2020). *Using computers in the translation of literary style: Challenges and opportunities*. Routledge. <https://doi.org/10.4324/9780429030345>

Youssef, E., Medhat, M., Abdellatif, S., & Al Malek, M. (2024). Examining the effect of ChatGPT usage on students' academic learning and achievement: A survey-based study in Ajman, UAE. *Computers and Education: Artificial Intelligence*, 7, 100316. <https://doi.org/10.1016/j.caeari.2024.100316>

Zanettin, F. (2022). Translation and methodology in the age of AI. In C. Rundle & F. Zanettin (Eds.), *The Routledge handbook of translation and methodology* (pp. 387–400). Routledge. <https://doi.org/10.4324/9781003096078>