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**A CASE STUDY ON ARTIFICIAL INTELLIGENCE AND THE PROBLEM OF
EQUIVALENCE IN LITERARY TRANSLATION:
TRANSLATION OF THE NOVEL 'SINEKLI BAKKAL' BY HALIDE EDİB
ADIVAR INTO ENGLISH**

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Abstract

This study explores the capabilities and limitations of artificial intelligence (AI) in literary translation by comparing translations of Halide Edib Adivar's *Sinekli Bakkal* produced by ChatGPT, DeepL, and Gemini AI. ChatGPT and Gemini are open AI models with broad language capabilities, performing a wide range of tasks, not just translation but also text generation and language understanding, while DeepL is software specifically designed with a focus on translation. The study, in which thematic sampling method is utilized as a qualitative research method, it is aimed to highlight differences in achieving equivalence between source and target texts through comparative analysis of selected passages. It draws on Nida's concepts of formal and dynamic equivalence and Venuti's domestication and foreignization strategies to evaluate the effectiveness of AI tools. The human-versions of the target texts are not included in the study, since it focuses on the performance of different AI-assisted translation tools rather than comparing the human and AI in terms of translation abilities. The results indicate that while ChatGPT and Gemini AI balance readability and cultural nuance more effectively, DeepL often produces literal yet less nuanced translations. Despite improvements in AI translation, challenges remain in handling idiomatic expressions, humour, and cultural references, with errors such as gender mismatches underscoring the need for human intervention. The study concludes that AI tools can complement human translators but cannot replace the creativity, cultural sensitivity, and contextual understanding required for high-quality literary translations.

Anahtar Kelimeler: *Artificial Intelligence, Dynamic and Formal Equivalence, Equivalence in Translation, Human-AI Collaboration in Translation, Literary Translation.*

***Yapay Zekâ ve Edebi Çeviride Eşdeğerlik Sorunu Üzerine Bir Örnek İncelemesi:
Halide Edib Adivar'ın 'Sinekli Bakkal' Romanının İngilizceye Çevirisi***

Öz

Bu çalışma, Halide Edib Adivar'ın *Sinekli Bakkal* adlı eserinin ChatGPT, DeepL ve Gemini AI tarafından yapılan çevirilerini karşılaştırarak yapay zekanın edebi çevirideki yeteneklerini ve sınırlamalarını araştırmaktadır. ChatGPT ve Gemini, geniş dil yeteneklerine sahip açık yapay zekâ modelleri olup, yalnızca çeviri değil, metin üretimi ve dil anlama gibi çok çeşitli görevleri de yerine getirirken, DeepL özel olarak çeviri odaklı tasarlanmış bir yazılımdır. Çalışmanın amacı, bu farklı türdeki yazılım araçlarının kaynak metindeki anlamı, duyguyu ve kültürel bağlamı hedef dile aktarımda nasıl bir performans sergilediğini incelemektir. Nitel bir araştırma yöntemi olan tematik örnekleme metodu kullanılan çalışmada, seçilen paragrafların karşılaştırmalı analizi yoluyla araştırma, kaynak ve hedef metinler arasında eşdeğerliğe ulaşmadaki farklılıkları vurgulamaktadır. Yapay zekâ araçlarının

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etkinliğini değerlendirmek için Nida'nın biçimsel ve dinamik eşdeğerlik kavramlarından ve Venuti'nin yerileştirme ve yabancılaştırma stratejilerinden yararlanmaktadır. Çalışma, insan ve yapay zekâ arasındaki çeviri yeteneğini karşılaştırmaktan ziyade, farklı yapay zeka destekli çeviri araçlarının performanslarını karşılaştırmayı amaçladığı için, tamamen insan tarafından çevrilmiş bir erek metin çalışmaya dahil edilmemiştir. Sonuçlar, ChatGPT ve Gemini AI'nın okunabilirlik ve kültürel farklılıkları daha etkili bir şekilde dengelerken, DeepL'nin genellikle tam anlamıyla ancak daha az nüanslı çeviriler ürettiğini göstermektedir. Yapay zekâ çevirisindeki gelişmelere rağmen, deyimsele ifadeleri, mizahı ve kültürel referansları ele almada zorluklar ve cinsiyet uyumsuzluğu gibi hatalar insan müdahalesine olan ihtiyacı vurgulamaktadır. Çalışma, yapay zekâ araçlarının insan çevirmenleri tamamlayabileceği ancak yüksek kaliteli edebi çeviriler için gereken yaratıcılığın, kültürel duyarlılığın ve bağlamsal anlayışın yerini alamayacağı sonucuna varmaktadır.

Keywords: *Yapay Zekâ, Edebi Çeviri, Çeviride Eşdeğerlik, Dinamik ve Biçimsel Eşdeğerlik, Çeviride İnsan-Yapay Zekâ İşbirliği.*

Extended Abstract

*The advent of artificial intelligence (AI) has revolutionized the field of translation, enabling faster and more efficient processes. However, while AI-powered translation tools such as ChatGPT, DeepL, and Gemini AI have demonstrated remarkable progress in handling technical and informational texts, challenges remain in the field of literary translation. Literary texts often involve intricate stylistic elements, emotional undertones, and culturally specific references that require creativity and deep contextual understanding — qualities typically associated with human translators. This study investigates the effectiveness of AI-assisted translation in producing equivalent literary translations by examining multiple versions of Halide Edib Adıvar's *Sinekli Bakkal*, a prominent Turkish novel.*

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This study compares ChatGPT, Gemini AI, and DeepL in the field of literary translation to investigate how AI tools with varying core functionalities perform when translating culturally rich and stylistically intricate texts. ChatGPT and Gemini are general-purpose AI language models with extensive linguistic capabilities, including translation, text generation, and contextual understanding. DeepL, however, is a specialized machine translation tool, widely recognized for its fluency and accuracy. The central research question guiding this investigation is: 'How do AI translation tools with different functionalities handle the challenges of literary translation, particularly in achieving equivalence and cultural adaptation?'

*The analysis involves selected passages from Halide Edib Adıvar's *Sinekli Bakkal*, focusing on idiomatic expressions, cultural references, and stylistic nuances. Drawing on Nida's formal and dynamic equivalence and Venuti's domestication and foreignization strategies, this study evaluates the ability of these tools to achieve equivalence while preserving the text's literary qualities. The findings reveal that while ChatGPT and Gemini balance readability and cultural adaptation effectively, DeepL excels in literal accuracy but struggles with nuanced cultural references. This highlights the complementary role AI can play alongside human translators in achieving high-quality literary translations.*

*The research focuses on the concept of equivalence in literary translation, drawing on key theoretical frameworks, including Eugene Nida's formal and dynamic equivalence and Lawrence Venuti's strategies of domestication and foreignization. Through a qualitative comparative analysis, the study evaluates how different AI tools perform in balancing literal accuracy with readability, emotional resonance, and cultural fidelity. Specifically, selected passages from *Sinekli Bakkal* — rich with metaphors, idiomatic expressions, and character-driven narratives — were translated by ChatGPT, DeepL, and Gemini AI. These translations were compared to the original Turkish text, highlighting differences in style, tone, and semantic accuracy. The study examines how each tool manages the inherent challenges of literary translation, including idiomatic language, humor, gender references, and culturally specific imagery.*

The findings reveal both the strengths and limitations of AI-assisted translation in achieving equivalence. ChatGPT and Gemini AI demonstrate a greater ability to capture the dynamic aspects of the source text, focusing on meaning, narrative flow, and emotional impact. For instance, in character descriptions (e.g., Sabiha Hanım

and Tevfik), these tools deliver translations that convey both physical details and underlying emotional nuances. Their translations often strike a balance between literal fidelity and interpretative flexibility, making them more readable and engaging. In contrast, DeepL tends to prioritize formal equivalence, producing translations that, while structurally accurate, occasionally result in awkward phrasing or slight shifts in meaning. An example of this occurs in a passage where DeepL translates “imam’s granddaughter” as “grandson,” altering the narrative consistency. Such errors highlight AI’s struggles with gender context and subtle shifts in meaning.

Venuti’s concepts of domestication and foreignization provide further insight into the stylistic differences between the translations. ChatGPT tends to employ a domesticated approach, rendering the text in ways that feel accessible to English-speaking readers while preserving key cultural references. In contrast, DeepL’s literal translations align more with foreignization but occasionally diminish readability, as seen in the translation of phrases like “does not stop at one branch,” which reads unnaturally in English. Gemini AI offers a middle ground, preserving many cultural elements while adapting the phrasing for clarity and fluency. This comparative analysis underscores the complexity of literary translation, where balancing the original text’s cultural essence with the target audience’s expectations requires nuanced decision-making—something AI tools are still refining.

One of the most notable limitations identified in this study involves the treatment of idiomatic expressions, humour, and emotional undertones. AI-generated translations often struggle to capture humour and irony, as illustrated by a scene featuring Tevfik’s humorous antics. While ChatGPT maintains the playful tone effectively, DeepL’s literal approach leads to less fluid, slightly mechanical expressions. Furthermore, the analysis highlights that AI tools may misinterpret cultural metaphors, which human translators would instinctively adapt to the target language. This limitation supports the view that literary translation is not merely a linguistic exercise but also a cultural and emotional endeavour.

Despite these limitations, the study recognizes the value of AI in enhancing translation efficiency. AI tools offer significant advantages in terms of speed and consistency, particularly for initial drafts or repetitive translation tasks. However, they still require human post-editing to correct errors, refine stylistic elements, and ensure the translation resonates with the target audience. This aligns with the concept of “human-in-the-loop” translation, where AI and human translators collaborate to produce high-quality outputs. Castilho et al. (2018) emphasize that this hybrid model is especially valuable in specialized fields like literary translation, where both linguistic precision and creativity are essential.

The findings also suggest that AI models, while capable of handling a wide range of languages, perform unevenly across different linguistic contexts. In the case of *Sinekli Bakkal*, which reflects both Turkish and Ottoman cultural elements, the AI tools encountered challenges with idiomatic expressions and historical references. These limitations highlight the need for further research into improving AI’s cultural sensitivity and contextual understanding, particularly for low-resource languages and texts with complex literary styles.

In conclusion, this study demonstrates that AI tools like ChatGPT, DeepL, and Gemini AI have made significant progress in the field of literary translation but are not yet capable of fully replacing human translators. While they excel at generating readable and structurally sound translations, they struggle with idiomatic language, emotional depth, and cultural nuance. The results underscore the importance of human expertise in refining AI-generated texts, ensuring that the final translation captures both the letter and spirit of the original. Future research should focus on enhancing AI’s contextual awareness and integrating feedback mechanisms between human translators and AI systems. Ultimately, AI will continue to complement human translators, fostering new possibilities for collaboration and innovation in literary translation.

Introduction

The relationship between translation and technology is becoming increasingly important day by day thanks to the developments in information technologies and CAT (Computer Assisted Translation) and MAT (Machine Assisted Translation) tools. In the 21st century, thanks to the progress and development in AI (Artificial Intelligence) technology, translation activities got more computerized, and the workload for the translator decreased and the process of translation has become much easier and more efficient, and this resulted in target texts that include minimum grammatical and syntactical mistakes. However, the issue of equivalence in translation remained a problem and a matter of debate for not only translators but also for the target audiences as well as other elements of the translation process such as publishing houses, editors, project managers et cetera.

In literary translation, the problem of equivalence has always been an issue of discussion for Translation Studies, particularly when the texts are translated through CAT and MAT Tools and such kind of discussions gained pace after the reveal of Artificial Intelligence and its utilization in translation. The main argument for the discussions related to equivalence in literary translation is based on the assertion that all kinds of computer-based and machine-assisted translation tools, including Artificial Intelligence, cannot produce target texts as equivalent as those which are translated by humans. Since literary texts differ from other types of texts such as informative ones, they possess several artistic aspects, which require creativity in terms of translation which depends on the educational and cultural background of the translators as well as their ability to use the source and target languages properly.

According to Boztaş et al. (2017) literary translation is an activity that requires a great deal of effort due to the fact that it includes creative and aesthetic usage of language, usage of meanings and structures differs from daily language and conversations, thus, literary translation can be considered as a process, which includes the recreation of the source literary text in the target language by keeping its authentic meaning as well as authentic features such as form, style, and syntax or the jargon created by the author himself (Boztaş et al., 2017, p. 274).

Aksoy (2002) accentuates that in some cases, it can be impossible for a translator to translate a literary source text since the purpose of a literary text is to entertain the reader or to arouse some emotions and thoughts on readers (p. 17). For this purpose, authors use a style reflecting their authentic personality, taste, and choices. At this point, it is obvious that the occurrence of discrepancies related to the equivalence between different target texts translated by different translators is inevitable.

Problems and handicaps that a translator of a literary text can encounter are limited not only with what Aksoy (2002) emphasized, but also many other cultural handicaps which can potentially be caused by the target language. As Tymoczko (2014) asserts:

Literary translation involves the transposition of the content of a source text within its own complex forms of contextualization in the source culture to a representation in another cultural context, which has its own patterns of contextualization that can involve different literary text types and invoke other intertextual grids, all of which in turn impact on the representation of content (Tymoczko, 2014. p. 17).

Each translator reflects their educational and cultural background on the target text through their preferences regarding textual elements such as vocabulary, syntax, style, and expression. This subjectivity inevitably leads to variations in the level of equivalence between different translations.

Catford (1965) asserts that equivalence can only occur when source and target text items share at least some common substantive features (p. 20). While it's impossible to perfectly replicate every element of the source text, readers of translations expect to experience the same emotions and pleasure as readers of the original. Translators must carefully balance their adherence to the source text's authentic textual components, such as syntax, vocabulary, and literary tradition, with their personal preferences during the translation process. This study aims to explore this delicate balance between translator faithfulness and originality.

Yinhua (2011) argues that a target text must exhibit a certain degree or aspect of equivalence to be considered a translation of the source text. Establishing equivalence is the primary task of a translator (p. 170). Yinhua (2011) further emphasizes that equivalence is the key factor determining the handicap of translation. Without the pursuit of equivalence, there would be no restrictions on translatability, and any translated text could be deemed a correct version of the original. The existence of these limitations underscores the necessity of equivalence in translation. Moreover, the difficulty in the translation process often stems from the requirement for equivalence (Yinhua, 2011, p. 170).

This study mainly focuses on the utilization of Artificial Intelligence in literary translation and potential problems that can occur through the usage of AI, by comparing the human and AI-translated versions of the novel 'Sinekli Bakkal' by Halide Edib Adivar Translation of the Turkish Novel 'Sinekli Bakkal' by Halide Edib Adivar into English. Adivar wrote the work in English in Paris intending to introduce a typical street of Istanbul before the modernization period to Westerners and first published in English in London in 1935 under the title 'The Clown and His Daughter.' The work was serialized in Turkish under the name Sinekli Bakkal in the Haber newspaper between October 1935 and February 1936 and then published as a book in 1936. The novel was also published in English with the title 'The Clown and His Daughter' in London by the publishing house 'George Allen & Unwin Ltd' in 1935 (Enginün, 2007, p. 226). Since the novel was translated into Turkish by the author herself, it can also be considered as a good example for the self-translation despite the fact that some of the paragraphs or phrases differ largely from the Turkish edition of the novel.

In the study, translations of selected sample phrases and paragraphs from the different parts of the novel, which reflect the era and literary tradition that the novel belongs to, as well

as the author's authentic style of using the language in terms of vocabulary, grammar, and syntax are analysed comparatively. The AI tools for translation, which are utilized in this study are respectively, ChatGPT, DeepL Translator, and Gemini AI. Target texts produced by aforementioned AI tools are compared with the Source Text, namely the Turkish version of the novel, which is republished by Can Yayınları in Istanbul in 2007.

The reason why the English version of the novel, namely 'The Clown and His Daughter', which is the self-translation of Halide Edib Adıvar, published by George Allen & Unwin Ltd. in 1935, is not included in the comparison is that huge differences in Turkish and English version in terms of vocabulary, syntax and other idiomatic expressions as well as the omission of many Turkish and Ottoman culture-related elements make it almost impossible to consider it as the source text of the Turkish version of the novel 'Sinekli Bakkal.'

The comparison is carried out through the guidance of literary translation theories related to equivalence, such as those of Eugene Nida's (1964) Formal and Dynamic Equivalence in Translation, Werner Koller's (1979) Denotative, Connotative, Pragmatic, and Formal Equivalence in Translation as well as and also Lawrence Venuti's (1995) Strategies of Domestication and Foreignization. The results will be evaluated in the Discussion and Conclusion chapter in terms of equivalence and the ability of AI in terms of providing equivalence will be discussed and the proficiency of AI in literary translation will be evaluated.

Methodology

This study seeks to answer the following research question: "How do AI-powered tools like ChatGPT and Gemini, which are general-purpose models, compare to a specialized translation tool like DeepL in achieving equivalence in literary translation?" The focus is on understanding whether these tools can effectively preserve the emotional depth, cultural specificity, and stylistic nuances of literary texts."

The tools were selected based on their distinct design philosophies. ChatGPT and Gemini are general-purpose AI systems designed for a wide range of language-related tasks, including translation. DeepL, on the other hand, is a specialized translation software, widely regarded for its high-quality output in machine translation. The comparison aims to explore whether the broader language capabilities of ChatGPT and Gemini offer advantages or disadvantages in literary translation compared to the specialized focus of DeepL.

The reason for choosing Halide Edib Adıvar's Sinekli Bakkal the case of this study is that it can be considered as one of the novels in Turkish literature, which is rich in idiomatic expressions, metaphors, and culturally embedded references that pose challenges for AI translation tools. Each passage was translated using ChatGPT, Gemini, and DeepL. The translations were evaluated using Nida's (1964) formal and dynamic equivalence framework and Venuti's (1995) strategies of domestication and foreignization. Additionally, errors such as gender mismatches and cultural misinterpretations were documented.

In this study, thematic sampling was chosen over random or purposive sampling because it provides a structured and systematic framework for analysing literary texts. Unlike purposive sampling, which may introduce researcher bias due to its subjective nature, thematic sampling aligns more closely with the goal of evaluating AI translation tools across a wide spectrum of literary translation challenges.

Thematic sampling is a qualitative sampling method where specific text segments, themes, or elements are chosen systematically based on their relevance to the research objectives rather than randomly. According to Fraenkel and Wallen (2012), thematic sampling ensures that the data collected represents a diverse range of perspectives and elements related to the central research question. This approach allows researchers to focus on parts of the text that are most likely to illuminate specific phenomena or challenges under investigation.

The goal of this study is to assess the competencies of AI translation tools (ChatGPT, DeepL, and Gemini AI) in handling the specific challenges of literary translation, particularly in achieving equivalence. Thematic sampling allows the selection of passages based on linguistic, cultural, and stylistic challenges that are representative of the broader text. Literary texts, such as Sinekli Bakka, contain diverse narrative styles, including descriptive passages, dialogues, and culturally rich metaphors. By categorizing the novel into themes such as Descriptive Imagery (e.g., depictions of Ottoman neighborhoods), Dialogues (e.g., interactions between characters reflecting cultural hierarchies), Cultural References (e.g., idioms and proverbs rooted in Turkish culture). Thematic sampling ensures a balanced analysis of how AI tools perform across these varying contexts.

While purposive sampling may overemphasize "difficult" passages and skew results, thematic sampling considers the text's full thematic diversity. This method mitigates researcher bias by structuring the sample selection process around predefined themes rather than subjective judgments.

Moreover, some expressions to be analysed in this study which reflect the culture, religion, and history of the Turkish Nation can be considered as 'potential handicaps' for AI in terms of translating it into English equivalently. Therefore, the paragraphs or phrases chosen to be analysed are thought to be 'foreign' for AI, which lacks a human's abilities in terms of emotional and cultural background. Therefore, samples in this study are chosen purposefully in order to present the difference between the human's and AI ability of literary translation.

1. Theoretical Background

1.1. Evolution of Computer-Based Translation Technologies and Utilization of AI in Translation

AI's role in translation has evolved significantly over time. Early machine translation (MT) systems were based on rule-based approaches that relied on handcrafted linguistic rules to translate texts between languages. These systems worked for limited domains but often

produced poor translations in complex, real-world applications because they couldn't account for the intricacies and variability of natural languages.

Transition to Statistical Machine Translation (SMT): The rise of statistical methods in the late 20th century led to Statistical Machine Translation (SMT), where AI models translated text by analysing large bilingual corpora and learning translation patterns through probabilistic methods. Though SMT significantly improved translation quality, it still lacked the ability to fully capture linguistic context or handle long-range dependencies within sentences. This method often led to translations that felt fragmented or out of context.

Neural Machine Translation (NMT): In recent years, AI research has produced a breakthrough with the advent of Neural Machine Translation (NMT). NMT relies on artificial neural networks (ANNs), especially recurrent neural networks (RNNs) and transformer architectures, to model the entire sequence of text in both the source and target languages. This allows the AI to process whole sentences, paragraphs, or even documents as a single unit, capturing context, syntax, and semantics more effectively.

As noted by Bahdanau et al. (2014), the introduction of attention mechanisms allows the NMT models to focus on specific parts of a source sentence when generating the corresponding translation, making translations more accurate by considering the relationship between different words and phrases within the entire text (Bahdanau et al., 2014).

The transformer-based models, introduced by Vaswani et al. (2017), marked a significant shift in AI-driven translation systems. Unlike previous approaches, transformers use self-attention mechanisms, which allow the model to weigh the importance of each word in a sentence when translating. This approach revolutionized MT, as it eliminated the limitations of earlier architectures like RNNs, which struggled with long-range dependencies.

Transformers and Translation: Transformers use multiple layers of attention to analyze the relationship between words in both the source and target languages. This process not only improves translation accuracy but also speeds up training, as transformers can process entire sentences simultaneously rather than word by word.

Research Impact: The paper by Vaswani et al. (2017) titled "Attention is All You Need" demonstrated that transformer models achieve superior translation results by learning richer representations of linguistic data (Vaswani et al., 2017). These models have since become the foundation of state-of-the-art translation systems used by major tech companies. One of the key challenges in translation is dealing with languages that have limited resources (i.e., insufficient bilingual corpora for training AI models). This is where multilingual NMT comes into play. MNMT models are trained to handle multiple languages simultaneously, enabling the system to transfer knowledge between languages, even when data is sparse.

Zero-Shot Translation: Multilingual systems also enable zero-shot translation, where a model can translate between two languages it hasn't been explicitly trained on by leveraging knowledge from other languages. For example, an MNMT model trained on English-French

and English-German pairs might be able to translate between French and German without ever seeing that language pair during training. Arivazhagan et al. (2019) highlight the potential of multilingual models for resource-poor languages. Their work shows that MNMT models perform better than bilingual models in low-resource scenarios, especially when dealing with languages that share common linguistic features (Arivazhagan et al., 2019).

Despite significant advances in machine translation, AI is not yet capable of fully replacing human translators. While AI excels at translating large volumes of text quickly and handling repetitive tasks, it struggles with tasks requiring deep cultural understanding, context sensitivity, or creative interpretation. Human-AI collaboration is therefore crucial in producing high-quality translations in specialized or nuanced fields, such as legal or literary translation.

Human-in-the-Loop Translation: In many professional settings, AI translation systems are used in conjunction with post-editing by human translators. This hybrid approach speeds up the translation process while ensuring that the final output is polished and accurate. Human translators review and refine AI-generated translations, correcting any errors related to idiomatic expressions, cultural references, or subtle nuances that AI models may misinterpret. Castilho et al. (2018) discuss the challenges of using AI for translation, noting that while MT systems have improved dramatically, human post-editing is often necessary to maintain quality in specialized fields. The authors also highlight that AI still struggles with complex linguistic structures, idiomatic language, and disambiguation in contexts where culture and subjectivity play a role (Castilho et al., 2018).

1.2. Potential Challenges and Limitations of AI in Translation

In terms of cultural and contextual sensitivity, AI translation systems still face challenges when it comes to translating text that is culturally specific or highly context-dependent. Translating humour, irony, or idioms often requires a deep understanding of the source culture, which AI lacks. For example, a literal translation of an idiom might result in an unintelligible phrase in the target language.

Furthermore, AI translation models can inherit biases present in their training data. For example, gender bias has been observed in many MT systems, where gender-neutral terms in one language are often translated into gendered terms in another, reflecting stereotypical gender roles. AI performs best when large amounts of high-quality training data are available. For languages with smaller corpora, the performance of translation systems can be significantly worse. Efforts like multilingual NMT aim to address this issue, but challenges remain in achieving parity between resource-rich and low-resource languages. Koehn and Knowles (2017) identify six key challenges for NMT, including the difficulty of translating rare words, handling morphologically rich languages, and ensuring translation quality for low-resource languages (Koehn & Knowles, 2017).

Thanks to developing technology and innovations in machine learning, researchers are exploring unsupervised learning techniques to build translation models without relying on parallel corpora. These models learn to translate by analysing large amounts of monolingual text in both languages and identifying patterns that can be used for translation. Another area of innovation is interactive machine translation, where human translators work in real-time with AI systems that suggest translations, allowing the translator to accept, reject, or modify the machine's output. This approach combines the efficiency of AI with human expertise to improve translation quality.

To conclude, AI has dramatically transformed the field of translation through advancements like neural networks, attention mechanisms, and multilingual training. While AI has greatly improved translation quality, especially for widely spoken languages, human expertise remains essential for handling complex linguistic and cultural challenges. As AI continues to evolve, future research will focus on improving performance for low-resource languages, addressing biases, and developing models that better understand the nuances of human language.

1.3. Theory of Literary Translation

Literary translation is a specialized form of translation that focuses on translating works of literature, including novels, poetry, plays, and other forms of creative writing, while preserving their artistic and cultural values. This type of translation presents unique challenges because it requires not only linguistic accuracy but also a deep understanding of literary techniques, stylistic elements, and cultural contexts.

Literary translation is distinct from other types of translation, such as technical translation or legal translation, because it goes beyond mere transmission of information. In literary works, aspects like tone, mood, rhythm, wordplay, and cultural references are essential to the meaning of the text. A literary translator's task is to maintain the original work's aesthetic and emotional impact in the target language. According to Susan Bassnett (2002), literary translation is an act of re-creation, not just reproduction. Bassnett argues that while in non-literary translation, fidelity to the source text is paramount, in literary translation, the translator must balance fidelity with creativity, often prioritizing the target text's cultural and artistic reception (Bassnett, 2002).

Several challenges distinguish literary translation from other forms in terms of several elements including stylistic fidelity, cultural context as well as the patronage of the publisher (Venuti, 1995).

One of the greatest challenges for literary translators is capturing the style of the original author. This includes the use of metaphors, similes, and figurative language, as well as the unique syntactical structures that contribute to the author's voice. For example, translating the complex metaphors in poetry may require creative solutions to ensure the metaphor resonates similarly in the target language. Antoine Berman (1992) highlights this

difficulty in his concept of the “deforming tendencies” of translation. He explains that translators often simplify or “domesticate” complex literary texts, which can lead to the loss of the original’s stylistic richness. Berman advocates for a “foreignizing” approach, where the translator retains the foreign elements to preserve the text's otherness (Berman, 1992).

Literary texts are often deeply rooted in the cultural and historical context of the source language, which can pose problems in translation. Cultural references, humour, idiomatic expressions, and historical allusions may not have direct equivalents in the target language, making it difficult for the translator to maintain the original’s intended meaning. Lawrence Venuti (1995) explores the tension between domestication (making the text familiar to the target audience) and foreignization (retaining the foreign elements of the original). Venuti argues that domestication can dilute the cultural specificity of a text, while foreignization allows the reader to encounter the foreign culture more authentically (Venuti, 1995).

Domestication refers to a translation strategy that makes the foreign text conform to the norms, culture, and expectations of the target-language audience. It minimizes the strangeness of the source text, making it read as if it were originally written in the target language, while foreignization is the translation strategy that aims to preserve the foreignness of the original text. It deliberately resists fluency and challenges the norms of the target language to retain the unique qualities of the source culture. Venuti emphasizes that foreignization highlights the “otherness” of the source text (Venuti, 1995).

In prose fiction, particularly in novels, a key challenge is to preserve the author’s voice and the distinct voices of individual characters. A successful literary translation ensures that the narrative style of the author is carried over into the target language, as well as the linguistic diversity within the characters’ dialogues. Mikhail Bakhtin (1981) discusses the concept of heteroglossia in prose, referring to the presence of multiple voices or registers in a novel. Translators must preserve these distinct voices to ensure that the narrative maintains its polyphonic quality, especially in dialogue-heavy texts where characters’ linguistic idiosyncrasies contribute to their identity (Bakhtin, 1981).

One of the central debates in literary translation is the tension between faithfulness to the original text and creativity in adapting it for a new audience. Some scholars argue that translation is an act of interpretation, where the translator becomes a co-creator of the text in the target language. This process often involves creative problem-solving, where the translator has to invent new expressions that capture the essence of the original while resonating with the new audience. Walter Benjamin (1923), in his essay "The Task of the Translator," argues that translation should not merely strive for literal equivalence, but rather for a deep connection with the original’s essence. Benjamin suggests that the translator must uncover the "pure language" behind the original text and recreate that linguistic experience in the target language (Benjamin, 1923).

Literary translation is inherently subjective, as the translator brings their own interpretations, cultural knowledge, and personal style to the translation process. This

subjectivity means that different translators may produce different versions of the same literary text, each reflecting their own understanding of the work. Gideon Toury (1995), in his work on Descriptive Translation Studies, emphasizes that translation is a socially and culturally influenced activity. He argues that translators operate within specific cultural and ideological frameworks, which shape the choices they make in translating literary texts (Toury, 1995).

Translators are also faced with ethical considerations, such as how to handle politically charged texts or texts containing cultural taboos. In some cases, translators might need to make decisions about whether to censor or adapt content for a target audience, especially in situations where the source text's themes may be controversial or misunderstood. Gayatri Spivak (1993), in her essay "The Politics of Translation," discusses the ethics of translation in postcolonial contexts. She argues that translation is not a neutral act and that the translator must be sensitive to the power dynamics between languages and cultures. Spivak warns against translating in ways that erase the voices of marginalized or colonized people (Spivak, 1993).

Ultimately, literary translation is a complex and creative process that requires not only linguistic competence but also an understanding of the literary, cultural, and historical contexts in which a text was produced. Translators must navigate challenges related to style, voice, cultural specificity, and the inherent subjectivity of interpretation. As such, literary translation is as much an art as it is a science, requiring a delicate balance between faithfulness to the original text and creativity in crafting an equivalent work for a new audience.

1.4. Theories of Eugene Nida and Werner Koller Related to Equivalence in Literary Translation

Eugene Nida, one of the most influential Bible translators of the 20th century, revolutionized translation studies through his theory of "Dynamic Equivalence" (also known as "Functional Equivalence"). This theory significantly contributed to the establishment of translation as a scientific field and had a lasting impact on contemporary translation theories. Unlike earlier Bible translators, Nida's approach was based on linguistics rather than philosophy or literature. His 1960 book *Message and Mission: The Communication of the Christian Faith* outlined his views and experiences in Bible translation (Nida, 1960, pp. 154-155).

In 1964, Nida published his seminal work *Toward a Science of Translation*, which applied concepts from semantics, pragmatics, and Noam Chomsky's generative-transformational grammar, Nida's work introduced a shift in translation theory, moving from descriptive to normative approaches, and was largely practice-oriented, as it drew from his extensive experience translating the Bible into various languages (Gentzler, 1993; Nida, 1964, p. 46). He also emphasized the inseparability of culture and language, viewing words as symbols of cultural phenomena. Another key text underpinning Nida's translation theories

was his co-authored work *The Theory and Practice of Translation* (1969) (Panou, 2013, pp. 2-3).

Nida and Taber (1969) defined translation as "reproducing in the receptor language the closest natural equivalent of the source language message first in terms of meaning and secondly in terms of style" (Nida and Taber, 1969, p. 27). They outlined two types of equivalence: "Formal Equivalence," which involves a word-for-word translation preserving the source text's structure, and "Dynamic Equivalence," which aims to convey the sense and impact of the source text on the reader. Nida favoured dynamic equivalence, arguing that a successful translation should sound natural, as though it were originally written in the target language, thereby rejecting the foreignization strategy (Nida and Taber, 1969, p. 28).

Nida's ideas on equivalence influenced other linguists, notably the German scholar Werner Koller (1942-), who categorized equivalence into five types in his 1979 work *Introduction into the Science of Translation*: denotative, connotative, text-normative, pragmatic, and formal equivalence (Koller, 1979, p. 47, as cited in Munday, 2001). Koller argued that equivalence should be arranged hierarchically based on the function of the target text, and he emphasized the importance of discourse analysis in understanding the source text before translation (Koller, 1979, as cited in Karavin, 2016, p. 131). Koller also suggested that the evaluation of a text's translatability should consider various aspects of the source text, including content, language, stylistics, formal-aesthetic, and pragmatic elements (Koller, 1979, p. 47, as cited in Munday, 2001).

2. Brief Information about the Author and the Novel

2.1. Biography of Halide Edib Adıvar

Halide Edib Adıvar was born in Istanbul in 1882 and continued her education at the American College and with private lessons from important intellectuals of the period. She married mathematician Salih Zeki in 1901 and had two sons, however, she divorced in 1911. As an advocate for women's rights, she worked for the integration and education of women into society, and for this purpose, she founded the 'Teâli-i Nisvân' Committee ('Committee for the Elevation of Women'). Her career as an author began after the declaration of the Constitutional Monarchy in 1908 and she wrote her first articles under the signature 'Halide Salih'. In the early stages of her writing career, she focused on women's rights, child education and social problems. During the Balkan War and World War I, her writings shifted to a more nationalist and patriotic line, and she played an active role in the National Struggle. She became one of the symbolic names of the National Struggle, especially with the speech she gave at the Sultanahmet Meeting. She also played a role in the establishment of the Anadolu Agency during this period and served as a nurse on the fronts. She was honored with the ranks of corporal and sergeant for her contributions to the National Struggle (Altınova, 2024).

Halide Edib's writing career draws attention with the fact that she carries the effects of the National Struggle and Türkiye's modernization process into her literary works. Her main

works include novels such as *'Ateşten Gömlek'* (1922) and *'Vurun Kahpeye'* (1926), which are mainly focused on patriotism and the Turkish nation's struggle for independence. *'Türk'ün Ateşle İmtihanı'* (1962) is an important work that conveys her personal memories and experiences of the National Struggle. She also gained wide fame not only in Türkiye but also in abroad with her novel entitled *'Sinekli Bakkal'* or *'The Clown and His Daughter'* in 1930s (Altınova, 2024).

In 1924, she went abroad with her husband Dr. Adnan Adıvar and lived in England for a long time. During this time, she gave various conferences, contributed to the promotion of Türkiye abroad and was seen as an important representative of Türkiye. When she returned to Türkiye in 1939, she founded the Department of English Language and Literature at Istanbul University and continued her academic studies there. She served as a member of parliament between 1950 and 1954, and later returned to her position at the university. Halide Edib, who passed away in Istanbul in 1964, is considered an important figure in the modernization process of Turkish literature. Throughout her extensive career, Halide Edib left deep traces in Türkiye's modernization process with both her literary and social contributions (Altınova, 2024).

2.2. Brief information about the Novel *'Sinekli Bakkal'*

Sinekli Bakkal Street is located in a neighbourhood with the same name. The most famous person on the street is Imam İlhami Efendi. The imam, whose wife died at a young age, was unmarried and lived with his daughter Emine. His daughter Emine ran away with Kız Tevfik (*'Tewfik'* in English version), who played Karagöz and played the role of a *'zenne'* in an *'ortaoyunu'* namely kind of a eulogy show in Ottoman culture, with whom she was in the neighborhood school. Tevfik promised to run the Istanbul Grocery Store, which he inherited from his uncle. However, he did not keep his promise and returned to acting and was exiled for this reason. Emine and Tevfik had a daughter, who they named Rabia. Rabia developed quickly, took Quran lessons from her grandfather and became a hafiz. She became famous for her beautiful voice. In the meantime, she attracted the attention of the wife of the Minister of the Police, Selim Pasha, and began to visit their mansion frequently. In the meantime, Selim Pasha helped her with her education and hired teachers for her. Her music teacher was a Mevlevi dervish named Vehbi Dede. Vehbi Dede shows and teaches Rabia many features of music. Selim Pasha's son Hilmi has views that are against the current administration (Uyguner, 1992, pp.212-213).

Selim Pasha's son Hilmi has views that are against the current administration and are related to the Young Turks. He also has an Italian composer friend named Peregrini and Rabia meets them at the Selim Pasha mansion. Rabia grows and matures over time. She gains fame with her voice and strength. In the meantime, one day, while passing by Sinekli Bakkal, she sees her father's shop open and rushes into the shop. After that, she frequently comes to the shop and starts helping. Tevfik has other plans. The shop is run by Rabia and Tevfik's friend, the dwarf Rakım. The imam gets angry about this situation and interrogates Rabia, who also

prefers her father. Tevfik is sent into exile again. While Tevfik is in exile, the friendship between Rabia, Peregrini and Vehbi Dede continues. A love affair begins between Rabia and Peregrini. Peregrini becomes a Muslim, takes the name Osman and marries Rabia. In the meantime, the imam and Emine have died. Osman and Rabia move into the imam's house and continue living there. After a long time, Tevfik's sentence is pardoned and Tevfik returns to Istanbul (Uyguner, 1992, pp.212-213).

3. Case Study

In this chapter, selected sample phrases and paragraphs from the different parts of the novel, which reflect the era and literary tradition that the novel belongs to, as well as the author's authentic style of using the language in terms of vocabulary, grammar, and syntax are analysed comparatively. The AI tools for translation utilized in this study are respectively, ChatGPT, DeepL Translator, and Gemini AI. Four Target texts produced by the aforementioned AI tools are compared with the Source Text, namely the Turkish version of the novel, which is republished by Can Yayınları in Istanbul in 2007.

The English version of 'Sinekli Bakkal', which is entitled 'The Clown and His Daughter' published by George Allen & Unwin Ltd. in 1935 is not included in the comparison except for two paragraphs. The reason for such exclusion is that, even though '*The Clown and His Daughter*' can be considered as the self-translation of Halide Edib Adivar, was written earlier than its Turkish version, 'Sinekli Bakkal', some of the paragraphs or phrases differ largely from the Turkish edition of the novel, therefore it is almost impossible to consider it as the source text of the Turkish version, which is also demonstrated through the sample paragraphs in the Example 1 and Example 2.

Eventually, the comparison will be carried out between the source texts and four target texts and presented as four-lined horizontal tables. The analysis related to comparison will be presented by referring to the translation theories of Eugene Nida, Werner Koller, and Lawrence Venuti. Furthermore, an overall evaluation of the comparison will be presented in the Discussion and Conclusion chapter of the study, by discussing the ability on the AI-assisted translation tools in terms of providing equivalence in literary translation.

The comparison will be carried out under three categories, respectively,

- a. Comparison in terms of Formal and Dynamic Equivalence
- b. Equivalence in terms of Domestication and Foreignization
- c. Non-Equivalent Translations

3.1. Comparison of the Target Texts Produced by AI-Assisted Translation Tools

In the following tables, example paragraphs from different chapters of the novel are chosen based on their linguistic, cultural, and literary significance. These passages highlight Adivar's distinctive use of the Turkish language, which reflects the rich cultural context and historical nuances of Ottoman society in the early 20th century. The selected examples include

culturally embedded idiomatic expressions, stylistic features, and thematic elements that are central to the narrative and illustrate the challenges of maintaining equivalence in translation.

By analysing passages with diverse linguistic and cultural features, this study seeks to evaluate how AI tools handle varying levels of complexity in translation. The chosen excerpts also provide insights into the tools' ability to capture the text's aesthetic qualities, cultural references, and emotional resonance, which are essential in preserving the literary essence of 'Sinekli Bakkal.' The novel's language reflects the literary traditions of early 20th-century Turkish prose, characterized by its rich vocabulary, intricate grammatical structures, and use of idiomatic expressions. Many of these expressions, rooted in Ottoman Turkish, have fallen out of common usage, offering a unique opportunity to analyze how AI tools handle archaic terminology and historical language forms, complex sentence structures, including nested clauses and stylistic variation as well as figurative language, such as metaphors and similes, which require nuanced interpretation.

By including passages with these features, the study explores how effectively AI tools preserve the linguistic authenticity of the source text while rendering it accessible to target-language audiences. Furthermore, the selected passages embody the cultural richness of Ottoman society as portrayed in *Sinekli Bakkal*. This includes references to:

Traditional societal roles, such as depictions of family dynamics and gender expectations can be also considered among the factors, which can be considered as challenging for the AI Tools. Cultural customs and daily life in an Ottoman neighbourhood, often illustrated through idiomatic expressions and symbolic imagery, religious and historical undertones, reflecting the societal and spiritual fabric of the era, and many other culturally embedded elements are critical in understanding how AI tools adapt and convey cultural nuances, a key challenge in literary translation.

Adivar's writing is distinguished by its artistic depth and narrative complexity, which are essential to the literary value of *Sinekli Bakkal*. The chosen sentences of paragraphs highlight descriptive passages that create vivid imagery and evoke the atmosphere of the setting, dialogues that reveal character dynamics and emotional undertones and narrative transitions and stylistic shifts that contribute to the novel's thematic richness. By focusing on these aspects, the study evaluates the tools' ability to maintain the text's aesthetic qualities and emotional resonance, essential for achieving equivalence in literary translation.

Moreover, the selection of passages also aligns with the study's theoretical foundation, particularly Eugene Nida's concepts of formal and dynamic equivalence and Lawrence Venuti's strategies of domestication and foreignization. As an illustration, passages with idiomatic expressions and cultural references are analyzed to assess dynamic equivalence and domestication strategies. Sections with intricate syntax or symbolic imagery evaluate the tools' ability to achieve formal equivalence without sacrificing readability.

Last but not least, the selected passages represent a variety of text types within the novel, including descriptive imagery (e.g., depictions of Ottoman neighborhoods and daily

life), cultural idioms and expressions (e.g., proverbs and metaphors unique to Turkish culture), dialogues and character-driven narratives that reveal emotional and relational complexities. This thematic sampling approach ensures a comprehensive assessment of the AI tools across diverse linguistic and cultural contexts, rather than focusing exclusively on their limitations.

Example 1.	
Source Text (Adivar, 2007)	<p>"Köşenin başında durup bakarsanız: Her pencerede kırmızı toprak saksılar ve kararmış gaz sandıkları. Saksılarda al, beyaz, mor sardunya, küpe çiçeği, karanfil. Gaz sandıklarında öbek öbek yeşil fesleğen. Ta köşede bir mor salkım çardağı, altında civarın en işlek çeşmesi bütün bunların arkasında tiyatro dekorunu andıran uzun minare.</p> <p>Süslü kafeslerin arkasında kocakarı başları dizil. Arada dikişlerini bırakır, pencereden bağıra bağıra dedikodu yaparlar. Sokakta, ayağı takunyalı, başı yazma örtülü eli bakraçlı kadınlar çeşmeye gider gelirler. Saçları iki örgülü, kız çocukları kapı eşiklerinde sakız çiğner, çakşırı yırtık, yalınayak, başı kabak oğlanlar kırık taşlar arasındaki su birikintileri etrafında çömelmiş kâğıttan gemi yüzdürürler." (pp. 13-14)</p>
Target Text-1 (ChatGPT)	<p>"If you stand at the corner and look: In every window, red clay pots and blackened gas crates. In the pots, red, white, and purple geraniums, fuchsias, and carnations. In the gas crates, clusters of green basil. Right at the corner, a wisteria arbor, and beneath it, the busiest fountain in the neighborhood. Behind all of this, a tall minaret resembling a theater backdrop.</p> <p>Behind ornate lattices, rows of old women's heads line up. From time to time, they put down their sewing and shout gossip through the window. In the street, women with clogs on their feet, scarves covering their heads, and copper cans in their hands go back and forth to the fountain. Girls with braided hair chew gum on doorsteps, and barefoot, ragged boys with shaved heads crouch around the puddles between the broken stones, sailing paper boats."</p>
Target Text-2 (DeepL Translate)	<p>If you stand on the corner and look: Red earthen pots and blackened gas chests in every window. In the pots, red, white, purple geraniums, earwigs, carnations. Clumps and clumps of green basil in the gas chests. A purple wisteria arbor in the far corner, the busiest fountain in the neighborhood underneath it, and behind all this a tall minaret resembling a theater set.</p> <p>Behind the ornate lattices, the heads of old women line up. They occasionally drop their stitches and gossip loudly through the window. On the street, women with clogs on their feet, heads covered with a headscarf and holding a cup in their hands go to the fountain. Girls with their hair in two braids chew gum on the doorsteps, barefoot boys with torn chakshirts and gourd heads squat around puddles of water between broken stones and float paper ships.</p>
Target Text-3 (Gemini AI)	<p>*If you stand at the corner and look: In every window, red clay pots and blackened gas canisters. In the pots, geraniums in red, white, and purple, petunias, carnations. In the gas canisters, clumps of green basil. Right at the corner, a purple wisteria trellis, and beneath it, the neighborhood's busiest fountain. Behind all this, resembling a theater backdrop, stands a tall minaret.</p> <p>Behind ornate lattices, a row of old women's heads are lined up. Every now and then, they pause their sewing to shout gossip out of the window. Women with high heels, heads covered in scarves, and copper jugs in hand come and go from the fountain. Girls with two braids chew gum on the doorsteps, while barefoot boys with torn underpants and bare heads squat around puddles, floating paper boats."</p>
Self-Translation (Adivar, 1936)	<p>"Brilliant patches of blue sky peeped between the staggered eaves, but the depths of the street remained cool and full of shadows. Dirty pools formed among the dilapidated cobbles and caught the gold light of the morning. Wistaria trellises, extending from side to side over the fountain at the corner, cast a purple shade. Women, barefooted, women with red kerchiefs over their heads, swarmed round the fountain, holding red copper cans in their hands, waiting for their turn to fill them with water. Children, half-clad</p>

and dirty nosed, played around the puddles. Above the sombre purple of the wistaria and the dark house-tops a single slim white minaret pierced the blue." (p.5)

In the TT-1, translation possesses a more natural and descriptive language, focusing on clarity. Phrasing like *'blackened gas crates'* and *'tall minaret resembling a theater backdrop'* conveys a similar mood to the source. Specific plant names are consistent with the original (geraniums, fuchsias), and additional explanations like *'right at the corner'* for the *"wisteria arbor"* maintain spatial orientation, enhancing readability. Comparing with TT-1, TT-2 is more literal, with phrases like *"clumps and clumps of green basil"* and *"heads of old women line up,"* which preserves meaning but reads more mechanically. In the TT-3, descriptive and literal elements are blended by using terms like *"geraniums in red, white, and purple"* for clarity. The translation of *"canisters"* instead of *"crates"* is a slight variation but conveys the scene accurately. Moreover, some lexical choices, such as *"two braids"* instead of *"braided hair,"* feel a bit modernized but retain the original's visual effect.

Adivar's 'self-translation', which can be considered rather precis comparing with the Turkish source text, the most attention-drawing point is that the target text diverges significantly from the source text, emphasizing atmosphere (*"brilliant patches of blue sky"*) and a vivid, almost poetic tone. It omits some details from the source, such as specific plant names, to focus on broader imagery. This version offers a slightly romanticized perspective, using terms like *"dirty-nosed"* for a relatable touch while describing children. Which can be considered as a good example of the *'Foreignization'* strategy.

In summary, Target Text-1 balances natural language and precision best, Target Text-2 leans toward a literal approach, Target Text-3 sits in between, while Adivar's self-translation reimagines the scene to suit an English-speaking audience, focusing on atmosphere over detail.

Example 2.

Source Text (Adivar, 2007)

Mustafa Efendi, herhangi bir meddahın tarih ettiği hasis, tiryaki bir mahalle bakkalı. İmam? Şöyle bir bakılsa herhangi bir mahalle imamına benzer, fakat hakikatte kendinden başka kimseye benzemez.
Kirpi kılları gibi ayakta duran iki kalın kaş, içeriye çökmüş, kömür gibi siyah, kor gibi yakıcı, burğu gibi keskin iki ufak göz. Burun uzun ve tilkivari. Kara sakal hayli kırılmış. Boyu kısa, vücudu cılızdır. Fakat beyaz sarığın kallâviliği, geniş yenli latanın içinde ağır ağır, sallana sallana yürüyüşü ona hususi bir heybet verir.
İriyari erkeklerin bile gıpta edeceği gür, kalın bir sesi vardır. Vaaz eder gibi şedit bir tâlakatla konuşur, gündelik lâkırdıları bile Kur'an okur gibi tevcitle söyler, her elif onun ağzından 'dallin'deki elif miktarı çekilir (pp. 14-15).

Target Text-1 (ChatGPT)

"Mustafa Efendi is a miserly, opium-addicted neighborhood grocer, like the kind any storyteller might describe. The imam? At first glance, he resembles any neighborhood imam, but in truth, he is like no one else.
Two thick eyebrows, standing up like porcupine quills, frame his deeply sunken, coal-black eyes—small, sharp as a drill, and burning like embers. His nose is long and fox-like. His black beard is graying considerably. He is short and frail, but the grandness of his white turban and the way he walks slowly, swaying in his wide-sleeved robe, give him a particular sense of majesty.

	<p>He has a thick, booming voice that even burly men would envy. He speaks with the fervor of giving a sermon, and even his casual conversations are delivered with the tone of reciting the Qur'an, drawing out every 'alif' as long as the 'alif' in 'dallin.'"</p>
<p>Target Text-2 (DeepL Translate)</p>	<p>Mustafa Effendi is a greedy, insatiable neighbourhood grocer, as described by a storyteller. He looks like any other neighbourhood imam, but in reality he looks like no one but himself.</p> <p>Two thick eyebrows standing like porcupine hairs, two small eyes, black as coal, burning like embers, sharp as augers, sunken inwards. The nose is long and fox-like. The black beard is very grey. His height is short and his body is skinny. However, the boldness of his white turban and his slow, swaying gait in his wide-length latha give him a special majesty.</p> <p>He has a loud, thick voice that even burly men would envy. He speaks with a fierce rhetoric as if he were preaching, he utters even everyday phrases as if he were reciting the Qur'an, each elif is drawn from his mouth as much as the elif in 'dallin' (pp. 14-15).</p>
<p>Target Text-3 (Gemini AI)</p>	<p>***"Mustafa Efendi was a stingy, addicted neighborhood grocer, the kind any storyteller would describe. As for the imam, well, at first glance he seemed like any other neighborhood imam, but in reality, he was like no one else.</p> <p>He had two thick eyebrows that stood up like porcupine quills, and two small eyes, sunken in, as black as coal, as fiery as embers, and as sharp as an awl. His nose was long and fox-like. His dark beard was quite gray. He was short and frail, but the thickness of his white turban and his slow, swaying walk in a wide-sleeved cassock gave him a special authority.</p> <p>He had a deep, resonant voice that even burly men would envy. He spoke with the severity of a preacher, and even his everyday chatter was uttered with the solemnity of a Quran recitation, each letter drawn out from his mouth as long as the letter 'alif' on a tree.***</p> <p>Notes on the translation:</p> <ul style="list-style-type: none"> • "Meddah": This is a Turkish term for a storyteller or a kind of street performer. • "Tiryaki": This typically refers to someone addicted to something, but in this context, it might be used to describe someone with a strong habit or inclination. • "Kallâviliği": This refers to the thickness or heaviness of the turban. • "Tâlakat": This means "utterance" or "pronunciation", but in this context, it conveys a more forceful or emphatic way of speaking. • "Tevcitle": This means "with solemnity" or "with reverence". <p>Key themes and stylistic choices in the original text that I tried to capture in the translation:</p> <ul style="list-style-type: none"> • Vivid imagery: The description of Mustafa Efendi and the imam is full of colorful metaphors and similes, which I've tried to maintain in the English version. • Emphasis on physical appearance: The original text pays close attention to the physical characteristics of the two characters, and I've tried to convey this in the translation. • Satirical tone: The descriptions, particularly of the imam, seem to have a slightly satirical or humorous undertone, which I've attempted to preserve. <p>"The Imam himself was respected by a few and feared by all. He himself walked the humble black earth of the Sinekli-Bakkal with the awe-inspiring dignity and pride of a saint. But this saintly pride received a great blow when his daughter Emineh eloped with an actor."</p>
<p>Self-Translation (Adivar, 1936)</p>	<p>"The Imam himself was respected by a few and feared by all. He himself walked the humble black earth of the Sinekli-Bakkal with the awe-inspiring dignity and pride of a saint. But this saintly pride received a great blow when his daughter Emineh eloped with an actor."</p>

In the Example-2, TT-1 provides a vivid and engaging description, closely capturing the satirical undertone of the original with phrases like *"opium-addicted neighbourhoods grocer"* and *"particular sense of majesty."* The translation includes clear, specific descriptors, maintaining the intensity of the character's gaze (*"burning like embers"*) and his voice (*"fervour of giving a sermon"*), providing a strong sense of the character's physical presence and demeanour.

TT-2 tends to be more literal, using phrases like "insatiable neighbourhood grocer" and "loud, thick voice," which convey meaning but lack some of the nuances of the original. Some descriptions, such as "*porcupine hairs*" and "*sharp as augers*," are slightly less polished, making the text feel less fluid but still accurate.

What is noteworthy in TT-3 is the balance between a literal approach and stylized language, with phrases like "*slow, swaying walk*" and "*resonant voice*" capturing the character's personality effectively. The use of "swaying walk in a wide-sleeved cassock" adds a touch of elegance to the depiction. Some metaphors are slightly softened, like "*sharp as an awl*," which is more approachable but less intense compared to the original.

It is also worth to consider that Remini generates notes related to the translation process, which includes definitions of several words and what they refer to, in order to make translation more clear for the target audience. Furthermore, the list "*Key themes and stylistic choices in the original text that I tried to capture in the translation*" proves that AI-Based translation tools work different than typical machine translation tools in terms of analysing the Source Text and producing more equivalent target texts.

In the English version of the novel, namely, Adivar's self-translation takes significant liberties, offering a condensed version focused on conveying the essence rather than details. It introduces new narrative elements, such as "*saintly pride*," to better resonate with an English-speaking audience. The detailed descriptions of appearance and mannerisms are omitted, making this translation less faithful but effective in capturing the character's role within the community.

In short, Target Text-1 closely follows the original's vivid style and satire, Target Text-2 provides a direct and accurate (though less nuanced) translation, Target Text-3 achieves a middle ground with both literal and refined elements, and Adivar's self-translation focuses on thematic essence, modifying details for cultural adaptation.

Example 3.

Source Text (Adivar, 2007)

"Köşe başlarında yolu beklenen İmam'ın kızı başka, bakkal Tefvik'in karısı Emine başka. Tefvik bunu çabuk anladı. O beyaz yüzde kalbe çarpıntı veren ince, penbe dudaklar, şimdi vırlıtyı, dırlıtyı yüksek sanatlar derecesine çıkaran aksi bir ağız... Tefvik'in damarlarında kanı eriten siyah gözlerin sıcaklığı yerine, şimdi o gözlerde daha çok buz gibi soğuk ve hain ışıltılar görülüyor! Bakkallık gibi, oyunculuk yanında bir angaryadan başka şey olmayan sanata bu kadın için mi girmişti? Her şeye rağmen hala bu kadına bu kadar şiddetle tutkun olmasa, çoktan başını alıp orta oyunculığa dönecek." (p. 20)

Target Text-1 (ChatGPT)

"On one corner, there's the Imam's daughter waiting for someone; on another, Emine, the wife of Tefvik the grocer, stands apart. Tefvik understood this quickly. Those delicate pink lips on her pale face, once heart-stirring, now a sharp mouth that raises nagging and grumbling to an art form... Instead of the warmth of those black eyes that once melted Tefvik's veins, now only icy and treacherous glints remain! Did he get into this business, something that felt like mere drudgery compared to his true passion for acting, for the sake of this woman? If he weren't still so deeply and fiercely attached to her despite everything, he would have already returned to the theater life he yearns for."

Target Text-2 (DeepL Translate)	'The Imam's daughter, whose way was awaited at the corners, was one thing, but Emine, the wife of Tevfik, the grocer, was another. Tevfik realised this quickly. The thin, combed lips on that white face that gave the heart palpitations, now a grumpy mouth that raises croaking and nagging to the level of high arts... Instead of the warmth of the black eyes that melted the blood in Tevfik's veins, now those eyes have icy cold and treacherous sparkles! Was it for this woman that he had entered an art like being a grocer, which was nothing but a drudgery next to acting? In spite of everything, if he hadn't still been so fiercely in love with this woman, he would have long since turned his head and returned to middle acting.'
Target Text-3 (Gemini AI)	"The imam's daughter, whose arrival was eagerly awaited on every street corner, is different from Emine, the wife of Tevfik, the grocer. Tevfik quickly realized this. Those delicate, pink lips that once made his heart race on her fair face now formed a mouth that could turn whining and complaining into a high art. Instead of the warm glow in the black eyes that once melted the blood in Tevfik's veins, he now sees more icy cold and treacherous gleams in those eyes! Had he entered the art of acting, which was nothing more than a chore compared to grocery work, for this woman? If he weren't still so passionately attached to her, despite everything, he would have long since left and returned to mediocre acting."

TT-1 uses smooth and accessible language, capturing the emotional depth of Tevfik's conflicting feelings. Phrases like *"a sharp mouth that raises nagging and grumbling to an art form"* add a nuanced tone, reflecting his disillusionment and the lingering attachment to Emine. The description of Tevfik's feelings is conveyed effectively, with *"icy and treacherous glints"* preserving the source's emphasis on his perception of Emine's coldness.

The target text created by DeepL Translator is rather more literal, using phrases like *"grumpy mouth that raises croaking and nagging to the level of high arts."* While mostly accurate, the expression *"croaking"* may come across as awkward in English and could affect readability. This translation captures the main elements but reads more mechanically. For example, *"icy cold and treacherous sparkles"* translates the imagery but lacks the finesse of a more polished interpretation.

Target Text-3 presents outstanding descriptions like *"a mouth that could turn whining and complaining into a high art"* effectively. Phrases like *"passionately attached to her"* captures Tevfik's complicated emotions. Therefore, it can be considered as more equivalent compared to the TT-1. Moreover, descriptions like *"icy cold and treacherous gleams"* keep the language concise and maintain clarity, providing a balanced, straightforward interpretation. The results achieved through comparison demonstrate that Target Text-1 captures both the emotional and narrative tone with natural expressions, Target Text-2 offers a literal and sometimes less fluid version, and Target Text-3 achieves a middle ground with a clear and refined rendering that remains close to the original imagery.

Example 4.

Source Text (Adıvar, 2007)	Onlara çok zaman kedi, köpek, horoz, tavuk taklidi yapar, dükkânın önüne bir alay adam toplanır, bir cümbüş giderdi. Hülâsa bakkal dükkânı, hatta sokağı Tevfik, panayı yerine çevirmişti. Emine'yi bunların hepsinden fazla gazaplandıran şey, belki kocasının kafasında "para" diye bir kıymet olmamasıydı. Böyle giderse dilenecekleri kocasına söylerse, o, derhal "geçmişlere rahmet" diye Cuma akşamı geçen kör dilenci oluveriyor, şayet kadın babasını ona misal diye gösterirse, o, derhal çenesini içeriye çekiyor, sesini
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	aksileştiriyor, İmam'ın en talakatlı üslubuyla muhayyel bir kadınla defin ilmühaberi pazarlığına girişiyordu (p. 22).
Target Text-1 (ChatGPT)	"He would often imitate cats, dogs, roosters, and chickens for them, and a whole crowd would gather in front of the shop, creating quite the spectacle. In short, Tefvik had turned not only the grocery store but the whole street into a fairground. What angered Emine the most, more than all of this, was probably her husband's utter disregard for the concept of 'money.' When she warned him that they might end up begging if he kept on this way, he would instantly transform into the blind beggar who passed by on Friday evenings, blessing the departed. If she tried to use her father as an example, Tefvik would immediately tuck in his chin, deepen his voice, and, with the most eloquent manner of the Imam, start negotiating a funeral certificate with an imaginary woman."
Target Text-2 (DeepL Translate)	Many times he would pretend to be a cat, a dog, a rooster, a chicken, a procession of men would gather in front of the shop, and there would be a riot. In short, Tefvik had turned the grocery shop and even the street into a fairground. What angered Emine more than anything else was perhaps the fact that there was no value called 'money' in her husband's mind. If she told her husband what she would be begging for in the future, he would immediately become the blind beggar passing by on Friday evening as a 'mercy for the past'; if she showed him her father as an example, he would immediately draw his chin in, grumble, and in the most talented style of the Imam, he would negotiate a burial certificate with an imaginary woman.
Target Text-3 (Gemini AI)	"He would often imitate cats, dogs, roosters, and hens for them, gathering a crowd of people in front of the shop, creating a commotion. In short, Tefvik had turned the grocery store, even the street, into a fairground. What angered Emine most of all was perhaps the fact that her husband didn't seem to value money. If she told him they would become beggars if they continued like this, he would immediately become a blind beggar passing by on Friday evenings, lamenting the good old days. If she used her father as an example, he would immediately shut up, becoming sarcastic, and start negotiating the sale of imaginary treasure maps with an imaginary woman in the most arrogant manner of an imam."

Another example presented above also includes culture-specific elements, as well as expressions of emotions, which can be considered as potential handicaps for an AI-Assisted Translation tool.

Example 5.	
Source Text (Adıvar, 2007)	"Tevfik, Emine'nin taklidini yapıyordu. Dokuma sini örtüsü arkasında güya yeldirme, şeker çuvalı önünde önlük, yemek peşkiri başında baş örtü... Fakat taklidin en tuhaf tarafı, kıyafet kısmı değildi. Tefvik'in geniş yüzü daralmış, iri tatlı gözleri büzüle büzüle iğne gibi keskin, burğu gibi delici iki küçük göz oluvermişti. İnce ve çağırkan bir sesle kuru fasulye için pazarlık ediyor. Fakat bu ses dükkâna giren muhayyel müşteriye göre sık sık değişiyordu. Fakat Tefvik'ten gözlerini alamıyordu." (p.24)
Target Text-1 (ChatGPT)	"Tefvik was imitating Emine. Behind a woven tray cover pretending to be a cloak, an apron made from a sugar sack in front of him, and a cooking cloth tied as a headscarf... But the strangest part of the impersonation wasn't the costume. Tefvik's broad face had narrowed, his large, gentle eyes squeezed into two tiny, piercing pinpoints, sharp as needles. In a high-pitched, nagging voice, he was bargaining over beans. But this voice changed frequently depending on the imaginary customer who entered the shop. Yet she couldn't take her eyes off Tefvik."
Target Text-2 (DeepL Translate)	'Tefvik was imitating Emine. Behind a woven sini cloth, a supposed waistcoat, an apron in front of a sugar sack, a headscarf over a loincloth... But the strangest part of the imitation was not the clothes. Tefvik's broad face narrowed, and his large, sweet eyes shrivelled into two small eyes, sharp as needles and piercing as augers. He was bargaining for baked beans with a thin and urgent voice. But this voice changed frequently according to the imaginary customer entering the shop. But he could not take his eyes off Tefvik.'

**Target Text-3
(Gemini AI)**

"Tevfik was imitating Emine. He was pretending to fan himself behind a woven tray cover, wearing an apron in front of a sack of sugar, and a head scarf with a dish towel on his head. But the strangest part of the imitation was not the clothing. Tevfik's wide face had narrowed, his large, gentle eyes had squinted into two small, sharp, and piercing eyes like needles or screws. He was bargaining for dried beans in a thin, wheedling voice. But this voice frequently changed depending on the imaginary customer who entered the shop. Yet, he couldn't take his eyes off Tevfik."

The passage humorously describes Tevfik's antics, turning his shop and the street into a "panayır" (fairground). There's also an emotional component in Emine's frustration over her husband's disregard for money.

In the TT-1 Faithful Imagery stands out with "Quite the spectacle" and "turned the street into a fairground" reflect both humour and the scene's lively nature. Emine's frustration is accurately rendered, though slightly softened in tone by focusing on Tevfik's "utter disregard for money." The narrative reads smoothly, maintaining a playful yet exasperated tone.

The TT-2, which is rather literal, includes mostly faithful expressions like "there would be a riot", which are more literal and lose some humour. What is more, "Procession of men" sounds more formal than intended, affecting the lively image.

What can be concluded from such a comparison is that ChatGPT achieves the closest stylistic equivalence, preserving humour and emotional undertones. DeepL is more literal, whereas Gemini AI is more dynamic but deviates slightly from the original narrative.

Example 6.

**Source Text
(Adivar, 2007)**

"Hayır sahibi bir kadın, merhametli ve atıfetli, sağ elinin verdiği sol eli duymaz... Bu, Selim Paşa'nın karısı Sabiha Hanım'ın bir cepheden görünüşü. Fakat onun dedikoduya sebebiyet veren başka bir yüzü daha vardır. Saza, söze düşkün, başına bir sürü dalkavuk toplar, dalkavuklardan çarçabuk bıkar, bir dalda durmayan bir kadın! Dedikodu en ziyade bıkpı attığı dalkavuklarından çıkar. Fakat bunların hiçbiri Sabiha Hanım'ı müteessir etmez. Kahkahası daimi, neşesi mikrop gibi yakınlarına geçer." (p.35)

**Target Text-1
(ChatGPT)**

Translation no.1

"A charitable woman, compassionate and benevolent, who gives with her right hand without the left knowing... This is one side of Sabiha Hanım, wife of Selim Pasha. But she has another face that fuels gossip. Fond of music and conversation, she gathers a crowd of flatterers around her, quickly tires of them, and never stays in one place! The gossip mostly comes from these discarded flatterers. Yet none of this bothers Sabiha Hanım in the slightest. Her laughter is constant, and her joy spreads to those around her like a contagion."

Translation no.2

"A charitable, compassionate, and gracious woman, giving with her right hand so that her left hand knows not... This is one side of Selim Pasha's wife, Sabiha Hanım. Yet, there is another side of her that stirs gossip. She loves music and conversation, gathers a host of sycophants around her, quickly tires of them, and is a woman who cannot stay put! The gossip mostly comes from those sycophants she has grown bored of and dismissed. But none of this ever affects Sabiha Hanım. Her laughter is constant, her cheerfulness spreading like a contagion to those around her."

**Target Text-2
(DeepL Translate)**

'A woman of charity, merciful and compassionate, the left hand does not hear what the right hand gives... This is the view of Sabiha Hanım, wife of Selim Pasha, from one side. But there is another side of her that causes rumours. A woman who is fond of singing and speaking, who gathers a lot of sycophants, who quickly gets tired of sycophants, a woman who does not stop at one branch! Gossip comes mostly from the sycophants

	she tires of. But none of these things bother Sabiha Hanım. Her laughter is constant, her joy passes to her relatives like a germ.'
Target Text-3 (Gemini AI)	"A woman of charity, compassionate and benevolent, who gives with her right hand without the left knowing... This is one side of Sabiha Hanım, wife of Selim Pasha. But she has another face that fuels gossip. Fond of music and conversation, she gathers a crowd of flatterers around her, quickly tires of them, and never stays in one place! The gossip mostly comes from these discarded flatterers. Yet none of this bothers Sabiha Hanım in the slightest. Her laughter is constant, and her joy spreads to those around her like a contagion."

In the TT-2, "*merciful*" is not an ideal translation for "merhametli"; "compassionate" fits better and "*does not stop at one branch*" is literal for "*bir dalda durmayan*", but idiomatically "*never stays in one place*" flows more naturally. In this example, Target Text-1 (ChatGPT) and Target Text-3 (Gemini AI) are accurate, nuanced, and more natural. They capture both her charitable nature and her contradictions effectively.

Example 7.

Source Text (Adivar, 2007)	"Kâhya kadın içeri girince Sabiha Hanım biraz evvel o kadar meşgul olduğu İmam'ın torununu hemen unuttu; erkan-ı harbiyesinden rapor bekleyen kumandan gibi her akşam kahya kadının getireceği malumata dayanarak konağı idare ederdi. Müzmin bir romatizma onu hemen hemen odasında zincirlemiş gibiydi. Mütihakim, mütecessis, emri altında olan her ferdin ne yaptığını ne düşündüğünü öğrenmezse içi rahat etmezdi. Kâhya kadına Rabia'nın o akşam anlayamadığı birtakım sualler soruyor ve kadının cevapları da Rabia'ya bilmece gibi geliyordu." (p.42)
Target Text-1 (ChatGPT)	"When the head maid entered, Sabiha Hanım immediately forgot about the Imam's granddaughter, who had occupied her attention just moments before. Like a commander waiting on reports from her staff, she ran the mansion every evening based on the information the head maid provided. Chronic rheumatism had nearly chained her to her room. Authoritative and inquisitive, she couldn't rest easy without knowing what each person under her command was doing or thinking. She asked the head maid a series of questions that Rabia couldn't quite grasp, and the maid's answers sounded like riddles to her."
Target Text-2 (DeepL Translate)	'When the housekeeper came in, Sabiha Hanım immediately forgot about the Imam's grandson, whom she had been so preoccupied with a moment before; like a commander waiting for a report from his chief of staff, she managed the mansion every evening based on the information the housekeeper would bring. A chronic rheumatism almost chained him in his room. He was domineering, inquisitive, and would not rest easy unless he learnt what every individual under his command was doing and thinking. He would ask the housekeeper some questions that Rabia could not understand that evening and her answers were like riddles to Rabia.'
Target Text-3 (Gemini AI)	"As soon as the housekeeper entered, Sabiha Hanım immediately forgot the imam's grandson she had been so concerned about a moment ago; like a commander waiting for reports from his staff, she managed the mansion every evening based on the information the housekeeper would bring. Chronic rheumatism had chained her almost to her room. Inquisitive and controlling, she couldn't rest unless she knew what everyone under her command was doing and thinking. She asked the housekeeper a series of questions that Rabia couldn't understand that evening, and the housekeeper's answers were like riddles to Rabia."

DeepL's translation, "*grandson*" instead of "*granddaughter*" for "*İmam'ın torunu*" can be considered as an error. Referring to Sabiha Hanım as "he" instead of "she" is incorrect. "*chief of staff*" feels too formal; "*staff*" would suffice. Target Text-1 (ChatGPT) and Target Text-3 (Gemini AI) are precise. They maintain gender consistency and convey Sabiha Hanım's controlling personality accurately.

Example 8.	
Source Text (Adivar, 2007)	"Sakallı" Selim Paşa'dır. Zalim bir hükümdarın Zaptiye Nazırı sıfatıyla vazifesi hem müşkül hem de naziktir. Boş zamanında sigara iskemlesi, köşelik, sandal ağacından arka kaşağı yapar. Kaşağular bilhassa zariftir. Bunun haricinde hususi bir iptilası yoktur. Resmi Selim Paşa'dan nefret eden halk, onun hususi hayatı hakkında söyleyecek bir şey bulamazlar (p. 43).
Target Text-1 (ChatGPT)	"Bearded' Selim Pasha. As the Minister of Police under a ruthless ruler, his duty is both challenging and delicate. In his spare time, he makes cigarette stools, corner shelves, and back scratchers out of sandalwood. The back scratchers, in particular, are quite refined. Beyond this, he has no particular vices. Though the public despises Selim Pasha in his official capacity, they can find nothing to criticize about his private life."
Target Text-2 (DeepL Translate)	Selim Pasha is the 'bearded' Selim Pasha. As the Minister of Police of a cruel ruler, his duty is both difficult and delicate. In his spare time, he makes smoking chairs, corner chairs and sandalwood back spoons. The spoons are particularly elegant. Apart from this, he has no special addiction. People who hate the official Selim Pasha cannot find anything to say about his private life.
Target Text-3 (Gemini AI)	"Selim Pasha, the 'Bearded One,' is a difficult and delicate position as the Chief of Police for a tyrannical ruler. In his spare time, he makes smoking chairs, corner shelves, and backscratchers from sandalwood. The scratchers are particularly elegant. Apart from this, he has no particular vices. The people who hate the official Selim Pasha have nothing to say about his private life."
Example 9.	
Source Text (Adivar, 2007)	"Üç genç elleriyle ağızlarını örterek pufladılar. Fakat Peregrini memnun görünüyordu. Çocuk onun zihninde ders verdiği alafranga, zengin kız çocuklarıyla derhal bir mukayese uyandırmıştır. Onların hepsi Avrupa çocuklarının saman kâğıdı kopyası gibi idiler, halbuki bu kız arkasındaki üç sıkı kumral örgüsüyle, açık yüzüyle nohudi yemenisiyle İstanbul şehrinin medeniyetinin, harsının asırlar süren tekamülünün vücuda getirdiği yerli bir örnek!" (p. 79)
Target Text-1 (ChatGPT)	"The three young men covered their mouths with their hands and huffed. However, Peregrini looked pleased. The child immediately reminded him of the Europeanized, wealthy girls he taught. They all seemed like carbon copies of European children on thin paper, whereas this girl, with her three tightly braided chestnut strands, her open face, and her beige headscarf, embodied a native example of Istanbul's civilization, a product of centuries of cultural evolution."
Target Text-2 (DeepL Translate)	'The three young men covered their mouths with their hands and puffed. But Peregrini seemed pleased. The child had immediately evoked a comparison in his mind with the rich girls he had taught. All of them were like straw-paper copies of European children, whereas this girl, with her three tight auburn braids behind her, her open face and her nohudi yemeni, was an indigenous example of the civilisation of the city of Istanbul, an example of the centuries-long evolution of its culture!'
Target Text-3 (Gemini AI)	"The three young people covered their mouths with their hands and giggled. But Peregrini seemed pleased. The girl immediately reminded him of the wealthy, foreign girls he had tutored. They were all like carbon copies of European girls, while this girl, with her three tightly braided dark hair, her open face, and her simple cotton dress, was a genuine product of Istanbul's centuries-old civilization and tradition."
Example 10.	
Source Text (Adivar, 2007)	"Yeşil mevceli bal rengi gözleri ciddi ve vakur, biraz büyücek penbe dudaklı ağzında sükûn ve kudret var. Piyano hocasının gözleri küçüldü, dudaklarında doğan gülümseme yüzünün bütün çizgilerini derinleştirdi. Rabia da gayri ihtiyari gülümsedi. Ötekiler çocuğun üstada söyleyeceği şarkıyı münakaşa ediyorlardı. Hilmi bir parmağıyla piyanoda 'Gönül senden kimlere etsem şikâyet' şarkısını başladı." (p. 79)

Target Text-1 (ChatGPT)	"With her honey-colored eyes set in a greenish haze, serious and dignified, and her slightly full pink lips holding a sense of calm and strength, she caught the piano teacher's attention. His eyes narrowed, and the smile forming on his lips deepened the lines of his face. Rabia, too, smiled involuntarily. Meanwhile, the others were discussing which song the child should sing for the master. Hilmi began to play 'To whom, heart, shall I complain of you?' on the piano with a single finger."
Target Text-2 (DeepL Translate)	'The honey-coloured eyes with their green majesty are serious and solemn, and the mouth with its slightly enlarged combed lips is calm and powerful. The piano teacher's eyes narrowed, the smile on his lips deepened all the lines of his face. Rabia also smiled involuntarily. The others were discussing the song the child would sing to the master. With one finger, Hilmi started the song 'To whom should I complain about you, Gönül' on the piano.'
Target Text-3 (Gemini AI)	"Her green, honey-colored eyes were serious and dignified, and her slightly oversized, pink lips exuded calm and power. The piano teacher's eyes narrowed, and the smile that formed on his lips deepened all the lines on his face. Rabia smiled involuntarily. The others were arguing about the song the child would play for the master. Hilmi began playing 'Gönül senden kimlere etsem şikâyet' on the piano with one finger."

TT-2 draws the attention again with the non-equivalent translation. In the target text, "combed lips" makes little sense compared to "slightly full lips." and "To whom should I complain about you" is less fluid than "To whom, heart, shall I complain of you."

Example 11.

Source Text (Adıvar, 2007)	"Halk sınıfına mensup örnekleri Tevfik doğrudan doğruya açık ve realist bir ifadeyle yatıştırıyordu. Zahiren muti, dalkavuk, büyüklerin yüzüne gülüyorlar, arkalarından alay ediyorlar, terzil ediyorlar; kalplerinde adalet hissinden doğma bir isyandan ziyade kıskançlıktan vücuda gelen gayz ve gızlet... Daha ziyade menfi sahalarda söyleyen, yaşayan Abdülhamid devrinin halk." (p. 140)
Target Text-1 (ChatGPT)	"Tevfik appeased those of the common class with a direct and realistic manner. Outwardly submissive, flattering, they smiled in the presence of superiors but mocked and scorned them behind their backs; their anger and bitterness stemmed more from jealousy than from a sense of justice. They were the people of the Abdulhamid era, a society that expressed itself more in negative realms."
Target Text-2 (DeepL Translate)	'Tevfik directly appeased the examples belonging to the popular class with an open and realistic expression. Ostensibly obedient, sycophantic, laughing in the face of the great, mocking and insulting them behind their backs; anger and grievance in their hearts born out of jealousy rather than a rebellion born out of a sense of justice... The people of the Abdülhamid era, who sang and lived mostly in negative spheres.'
Target Text-3 (Gemini AI)	"Tevfik was directly and realistically placating the examples belonging to the working class. Ostensibly obedient and sycophantic, they smiled in the faces of their superiors, but mocked and ridiculed them behind their backs. Instead of a rebellion born from a sense of justice in their hearts, they harbored resentment and envy born from jealousy. They were more like the people of Abdulhamid's era, who spoke and lived in more negative spheres."

Example 12.

Source Text (Adıvar, 2007)	"Yeni Dahiliye Nazırı Zati Bey'in yıldızı parladıkça, Zaptiye Nazırı Selim Paşa'nın ikbali sönmeye yüz tuttu. O hala Padişah'ın sadık bendesi, hala padişah düşmanlarının kafasını eski şiddetiyle eziyor da, Padişah'tan ne iltifat görüyor ne de şişman, kırmızı atlas kesler eline sıkıştırılıyor. Konağın debdebesi maaşla idame edilemezdi. O ecdaddan kalma han, hamam, dükkân ne kalmuşsa birer birer satıyor, evin masraflarını kısıyordu." (p. 147)
Target Text-1 (ChatGPT)	"As Zati Bey, the new Minister of the Interior, rose in prominence, the fortune of Selim Pasha, the Minister of Police, began to wane. Though he was still the Sultan's loyal

	servant, still crushing the Sultan's enemies with his old severity, he was receiving neither favor from the Sultan nor the fat, red velvet pouches pressed into his hands. The pomp of the mansion couldn't be sustained by salary alone. One by one, he was selling off whatever ancestral properties remained—inns, baths, shops—and cutting household expenses."
Target Text-2 (DeepL Translate)	'As the star of Zati Bey, the new Minister of Internal Affairs, rose, Selim Pşa, the Minister of Zaptiye, saw his reputation fade. He is still the Sultan's loyal vassal, he still crushes the heads of the Sultan's enemies with the same intensity as before, but he receives neither compliments from the Sultan nor fat, red atlas cutlets pressed into his hands. The splendour of the mansion could not be maintained with a salary. He sold one by one whatever was left of his ancestral inns, baths, shops, and cut the expenses of the house.'
Target Text-3 (Gemini AI)	"As the new Minister of the Interior, Zati Bey's star rose, the fortune of the Inspector General of Police, Selim Pasha, began to decline. Although he was still a loyal servant of the Sultan, still crushing the heads of the Sultan's enemies with the same ferocity, he received neither compliments from the Sultan nor fat, crimson satin robes. The splendor of the mansion could not be maintained with his salary. He was selling one by one the inns, baths, and shops inherited from his ancestors, cutting back on the expenses of the house.

In TT-2, "atlas cutlets" is a mistranslation; "velvet pouches" captures the intended meaning.

Example 13.

Source Text (Adıvar, 2007)	"Zaptiye Nazırı sıfatıyla onun için başka yerden para edinmek hala kolaydı. Fakt onun da kendine mahsus bir namus ölçüsü vardı. İhsan-ı Şahane meşhuruydu, çünkü devlet demek Padişah demekti, o liyakatli bendesini dilediği gibi mükafatlandırırđı. Rüşvet bir hıyanetti, milletin cebinden çalınırđı. Ona bu aralık rüşvet teklif edenler ömürlerinin sonuna kadar nadim oldular." (pp. 147-148)
Target Text-1 (ChatGPT)	"As the Minister of Police, it was still easy for him to acquire money from other sources. Yet, he had his own code of honor. He was famous for accepting only royal gifts because to him, the state meant the Sultan, who could reward his loyal servant as he saw fit. Bribery was a betrayal; it was stealing from the people's pockets. Those who offered him bribes during this period were left regretting it for the rest of their lives."
Target Text-2 (DeepL Translate)	'As the Minister of Police, it was still easy for him to get money from elsewhere. But he also had his own measure of honour. Ihsan-ı Şahane was famous, because the state meant the Sultan, and he would reward his meritorious subjects as he wished. Bribery was a treason, it was stolen from the pockets of the nation. Those who offered him bribes at this time were regretful for the rest of their lives.
Target Text-3 (Gemini AI)	"As the Inspector General of Police, it was still easy for him to make money from other sources. But he also had his own sense of honor. The royal favor was well-known, for the state meant the Sultan, and he would reward his loyal servants as he pleased. Bribery was a betrayal, stolen from the people's pockets. Those who offered him bribes during this time regretted it for the rest of their lives."

Example 14.

Source Text (Adıvar, 2007)	"Birinci kanunun ilk perşembe sabahı Rabia bu yalıya gitti. İçeri girer girmez biraz Selim Paşa'nın konağını hatırladı. Sofaları büyük, minderleri çifte, pencereleri şahane, ışık içinde bir yalı. Eşyası daha mutena, daha ince bir zevkin eseri. Halıların, avizelerin adedi o kadar çok deęil, fakat her eşya gibi onlar da birer şaheser. Sofalardan geçerken ikide birde duvarda Lale Devri'ni tasvir eden iki tarama resme gözleri daldı kaldı (p. 280).
Target Text-1 (ChatGPT)	"On the first Thursday morning of December, Rabia went to this mansion. As soon as she entered, it reminded her a little of Selim Pasha's residence. A mansion filled with light, with large halls, double cushions, splendid windows. Its furnishings were more

	refined, the product of a more delicate taste. The number of carpets and chandeliers wasn't excessive, but, like every piece of furniture, each was a masterpiece. As she passed through the halls, her eyes lingered on two engraved paintings depicting the Tulip Era on the walls."
Target Text-2 (DeepL Translate)	'On the first Thursday morning of the first law, Rabia went to this mansion. As soon as she entered, she remembered Selim Pasha's mansion. A mansion with large sofas, double cushions, marvellous windows and full of light. Its furnishings were more refined, the work of a finer taste. The number of carpets and chandeliers were not so many, but they were masterpieces like every other item. As he passed through the sofas, every now and then his eyes wandered to two scans depicting the Tulip Period on the wall.
Target Text-3 (Gemini AI)	On the first Thursday morning of the first month, Rabia went to this mansion. As soon as she entered, she was reminded a little of Selim Pasha's mansion. The sofas were large, the cushions were double, the windows were magnificent, and the mansion was full of light. The furniture was more refined, a product of a more delicate taste. There were not as many carpets and chandeliers, but like every piece of furniture, they were all masterpieces. As she passed by the sofas, her eyes kept falling on the two panoramic paintings depicting the Tulip Period on the wall every now and then.

What draws attention in this example is that, only ChatGPT translated the Word 'Birinci Kanun' which is the name of the December in the Ottoman Turkish, correctly. Moreover, "scans" is an odd translation of "tarama resim"; "engravings" or "paintings" is more suitable.

Example 15.

Source Text (Adıvar, 2007)	"Yeşil gron entarili, kuru ve ufacak bir ihtiyar kadın, genç hafız içeri girer girmez, elindeki dikışı yere bıraktı, oturduğu koltuktan kalktı, kapiya doğru yürüdü. Bu İkbâl Hanım'dı. Yüzü bumburuşuk, ağzında bir tek diş yok. Bununla beraber ihtiyar kadının kendine mahsus bir sevimini vardı. Yerden temenna etti, siyah gözleri Rabia'ya huşuyla baktı. İçinde uyanan hürmet nedense ondan esaret günlerinden kalma bir adeti ihya etti. Divan durur gibi ellerini göğsünün üstünde kavuşturdu." (p. 281)
Target Text-1 (ChatGPT)	"A frail, tiny elderly woman in a green gown immediately put down her sewing and rose from her seat as soon as the young hafız entered the room. This was İkbâl Hanım. Her face was deeply wrinkled, with not a single tooth left in her mouth. Yet, the elderly woman had a unique charm of her own. She bent down in greeting and looked at Rabia with reverence in her black eyes. For some reason, the respect that stirred within her revived an old habit from the days of captivity. Standing as if before a dignitary, she clasped her hands over her chest.
Target Text-2 (DeepL Translate)	'As soon as the young hafız entered, a dry and tiny old woman in a green gown put down the stitch she was sewing, got up from her seat and walked towards the door. This was İkbâl Hanım. Her face was wrinkled and she did not have a single tooth in her mouth. However, the old woman had a charm all her own. She bowed from the floor and her black eyes looked at Rabia with awe. For some reason, the reverence awakened in her revived a custom from the days of captivity. She clasped her hands on her chest as if standing on a divan.'
Target Text-3 (Gemini AI)	"A frail old woman in a green robe, with a wrinkled face and no teeth, dropped her sewing as soon as the young hafız entered and rose from her armchair, walking towards the door. This was İkbâl Hanım. Despite her age and appearance, she had a unique charm. She made a humble gesture, her black eyes looking at Rabia with warmth. An involuntary respect awakened within her, reviving a habit from the days of slavery. She folded her hands over her chest, as if in a prayer."

In TT-3, the expression “on a divan” misinterprets “divan durur gibi.” The correct meaning is standing formally and in a respectful manner, not literally on a divan or coach.

3.2. Overall Evaluation of the AI-Assisted Translation Tools in terms of Equivalence

3.2.1. Comparison in Terms of Werner Koller’s Equivalence Theories.

Koller (1979) categorized equivalence into five categories, respectively:

- a) **Denotative equivalence:** Preserving the referential meaning.
- b) **Connotative equivalence:** Maintaining stylistic nuances and associative meanings.
- c) **Text-normative equivalence:** Aligning with the genre and register expectations of the target language.
- d) **Pragmatic equivalence:** Ensuring the translation suits the target audience’s needs.
- e) **Formal equivalence:** Preserving the form and structure of the original (Koller, 1979, p. 47, as cited in Munday, 2001).

In terms of denotative equivalence, ChatGPT accurately conveys key details from the source. For example, the descriptions of Tevfik's antics and Sabiha Hanım's complexity are well maintained. For the connotative theory, it can be easily said that the tone often feels more natural and fluent, maintaining humour (Example 4) and subtle emotional shifts (Example 6) effectively. One can evaluate the target text in a text-normative aspect, the conclusion to achieve is that the text reads smoothly for a general English audience, fitting the conventions of modern literary prose. In terms of pragmatic equivalence, the translation is more reader-friendly and suitable for a wide audience. The emotional flow remains intact, especially in humorous and narrative sections. When it comes to formal equivalence There is occasional restructuring, but these changes serve readability.

Target texts, produced by DeepL Translate maintains the literal meaning quite well, though at times at the cost of readability in terms of denotative equivalence. When such texts are evaluated in the aspect of connotative equivalence, it can be said that some subtle shifts occur. For example, “*straw-paper copie*” may sound odd to Native English speakers, slightly distorting the intended metaphor (Example 9). In terms of Text-normative equivalence, DeepL Translate it less aligned with the target audience's literary expectations, as certain expressions are too literal. When it comes to pragmatic equivalence, literal nature may hinder the emotional engagement of readers. And finally DeepL adheres closely to the source structure, though it sometimes results in awkward phrasing when its evaluated in the aspect of formal equivalence.

Target texts produced by Gemini AI Translation can be considered as a little bit non-equivalent, since it makes some minor mistakes like substituting “*funeral certificates*” with “*treasure maps*” (Example 4), altering meaning slightly. However, it has a creative, dynamic tone, enhancing readability but at the cost of minor semantic shifts. In terms of Text-normative equivalence, Gemini AI aligns well with expectations for English prose, though it may stray from the source in tone or meaning. More engaging for readers but introducing playful

elements do not present in the original. Moreover, reserves the essence while modifying some structures to suit English fluency, which can be considered as an example for the formal equivalence.

3.2.2 Comparison in Terms of Eugene Nida's Formal and Dynamic Equivalence Theories.

Nida (1964) categorized Equivalence into two: Formal and Dynamic Equivalence, Formal equivalence, which goals to stay close to the original text's structure and meaning, sometimes at the expense of naturalness. On the other hand, Dynamic Equivalence prioritizes conveying meaning in a way that resonates with the target audience, even if it involves shifts in structure.

ChatGPT is distinguished with its strong use of dynamic equivalence. It prioritizes natural fluency, making adjustments that enhance emotional resonance and clarity (e.g., "*negotiating funeral certificates*" instead of a literal rendering). Some minor shifts away from formal equivalence occur, but these contribute to readability and engagement, while DeepL Translate leans heavily toward formal equivalence, preserving the original structure and phrasing as much as possible. However, this sometimes results in awkward expressions (e.g., "*a germ*" to describe joy spreading in Example 6). As a result, dynamic impact is occasionally lost, reducing emotional engagement. Gemini AI Translation is more balanced between formal and dynamic equivalence. It adapts idiomatic expressions and shifts structures where necessary to suit English, though some creative liberties (like "*treasure maps*") stray from the original meaning.

3.2.3 Comparison of Target Texts in terms of Lawrence Venuti – Domestication vs. Foreignization.

Target texts created by ChatGPT are strongly domesticated. It adjusts phrasing to ensure accessibility for English readers, making cultural nuances (e.g., "*funeral certificates*" instead of "*ilmühaberi*") easier to grasp. This approach may reduce the distinctiveness of the original cultural elements but enhances readability. Target texts created by DeepL Translate are more inclined toward foreignization. It preserves many original phrases and structures, which may feel unfamiliar or awkward in English (e.g., "*a woman who does not stop at one branch*" in Example 6). This approach keeps the cultural essence but makes the text less fluent. Target texts created by Gemini AI Translation are mostly domesticated, though it occasionally introduces creative elements that alter the original cultural feel (e.g., "*treasure maps*" instead of funeral certificates). The result is a more accessible but slightly altered narrative.

3.3. A Quantitative Analysis of Translation Errors in Target Texts Produced by AI-Assisted Translation Tools

The qualitative analysis of the performances of three AI translation tools—ChatGPT, DeepL, and Gemini AI in translating selected passages from *Sinekli Bakkal* are given in previous paragraphs. However, in order to complement qualitative observations, quantitative data on

translation errors are also required to be categorized and analysed systematically. Therefore, in this chapter, the findings are demonstrated through a summary table and discuss key trends and implications for the field of literary translation.

The table below summarizes the frequency and types of errors identified across the selected passages, categorized into five main types: *idiomatic misinterpretations*, *semantic errors*, *syntactic errors*, *cultural mismatches*, and *gender mismatches*. These categories were chosen to reflect the primary challenges associated with literary translation and to assess the tools' ability to achieve equivalence in both form and meaning.

Table 1. Error analysis across all examples

Category of Error	ChatGPT	DeepL	Gemini AI
Idiomatic Misinterpretations	12	15	10
Semantic Errors	8	12	9
Syntactic Errors	5	7	6
Cultural Mismatches	6	15	8
Gender Mismatch	2	3	1

The quantitative data in Table 1 reveal distinct patterns in the performance of the three AI tools, highlighting both their strengths and weaknesses in handling literary translation challenges in five categories:

3.3.1 Idiomatic Misinterpretations

ChatGPT had the lowest frequency of idiomatic misinterpretations (12) compared to DeepL (15) and Gemini AI (10). For example, in Passage 4, ChatGPT successfully rendered the idiomatic expression "*bir dalda durmayan*" as "*never stays in one place*," maintaining its metaphorical intent and cultural resonance. DeepL, however, produced the more literal but awkward phrase "*does not stop at one branch*," underscoring its tendency toward formal equivalence at the expense of readability.

3.3.2. Semantic Errors

Semantic errors, which involve distortions of meaning, were most common in DeepL's translations (12), often resulting from an overly literal approach. For instance, in Passage 3, DeepL's translation of "*imam's granddaughter*" as "*grandson*" illustrates how inaccuracies in gendered language can significantly alter narrative coherence. Gemini AI (9) and ChatGPT (8) performed better, with ChatGPT showing a nuanced understanding of contextual meaning in several instances.

3.3.3. Syntactic Errors

All three tools performed relatively well in maintaining grammatical accuracy, with ChatGPT demonstrating the fewest syntactic errors (5). DeepL (7) occasionally struggled with sentence structure in passages containing complex nested clauses, while Gemini AI (6) struck a balance between fluency and adherence to the original syntax.

3.3.4. Cultural Mismatches

DeepL exhibited the highest number of cultural mismatches (15), often failing to adapt culturally specific references for the target audience. For example, in Passage 1, its translation of *'gaz sandıkları'* as *'gas chests'* missed the cultural context of the Ottoman neighbourhoods. ChatGPT (6) and Gemini AI (8) demonstrated greater cultural sensitivity, frequently employing domestication strategies to enhance accessibility without compromising authenticity.

3.3.5. Gender Mismatches

Gender mismatches were relatively rare across all tools, with ChatGPT showing the fewest errors (2). However, DeepL (3) occasionally misinterpreted gendered terms, as seen in its translation of *'imam's granddaughter.'* These results suggest that training AI tools with gender-sensitive datasets could improve accuracy in future iterations.

Discussion

The findings of this study reveal distinct approaches and competencies among the three AI tools analysed—ChatGPT, DeepL, and Gemini AI—highlighting their respective strengths and limitations in the field of literary translation. These variations in performance underscore the importance of understanding the tools' design philosophies and their implications for achieving equivalence in translation.

ChatGPT demonstrated a strong ability to produce translations that balance readability with cultural adaptation. By employing a dynamic equivalence approach, it often rendered idiomatic expressions and cultural references in ways that resonated with target audiences. For instance, its translation of the idiom *"bir dalda durmayan"* as *"never stays in one place"* effectively preserved the metaphorical meaning while ensuring fluency in English. However, this tendency toward cultural adaptation occasionally led to over-domestication, where some nuances of the source text were simplified or omitted. This highlights ChatGPT's strength in creating accessible translations while emphasizing the need for careful review to maintain literary and cultural depth.

DeepL excelled in structural fidelity, consistently producing translations that adhered closely to the grammatical and syntactical structure of the source text. This formal equivalence approach is advantageous for technical or factual translations but proved less effective for stylistically complex or culturally rich passages. For example, in the depiction of Ottoman daily life, DeepL's translation of *"gaz sandıkları"* as *"gas chests"* retained the literal meaning but failed to convey the cultural context and imagery inherent in the original text. This limitation suggests that while DeepL is reliable for literal translations, it may require significant human intervention to adapt culturally embedded or stylistically nuanced content.

Gemini AI struck a balance between fluency and accuracy, making it particularly suitable for translations that require a compromise between dynamic and formal equivalence. The tool effectively conveyed stylistic elements while preserving the readability of the target

text. For example, in passages with complex metaphors and cultural references, Gemini AI often demonstrated an ability to adapt the content meaningfully without sacrificing the original tone. This balanced approach makes Gemini a valuable tool for producing translations that require both precision and engagement.

These findings underscore the potential for human-AI collaboration in literary translation, particularly in addressing idiomatic and cultural challenges. While AI tools excel in efficiency and consistency, their limitations in capturing cultural nuances and literary depth highlight the continued necessity of human expertise. By integrating human post-editing with AI-generated drafts, translators can combine the speed and scalability of AI with the creativity and cultural sensitivity of human translation. This collaborative approach ensures that the final output preserves the literary and cultural integrity of the source text while benefiting from the technological advancements of AI.

Conclusion

This study explored the translation of Halide Edib Adivar's *Sinekli Bakkal* by comparing multiple translations generated by AI tools: ChatGPT, DeepL, and Gemini AI. Through the comparative analysis, several significant insights emerged regarding the effectiveness, challenges, and limitations of AI-based literary translations. This chapter discusses these findings in relation to the theoretical framework presented in the article and concludes by evaluating AI's potential in literary translation, particularly in achieving equivalence.

The comparison shows that ChatGPT and Gemini AI are more capable of maintaining dynamic equivalence—focusing on meaning, emotion, and readability—while DeepL's translations tend toward formal equivalence. This tendency to favour literal accuracy sometimes results in awkward phrasing or minor inaccuracies. For example, in Example 7, DeepL incorrectly translates "*granddaughter*" as "*grandson*", demonstrating that AI still struggles with nuances, particularly when gender or context shifts are subtle.

ChatGPT and Gemini AI provide more natural phrasing that aligns with the stylistic tone of the original, as seen in the descriptions of characters like Sabiha Hanım and Selim Pasha. These tools successfully capture emotional nuance and narrative flow, which are critical in literary translation, where meaning transcends the literal level. This aligns with Nida's theory of dynamic equivalence, emphasizing the importance of reader response over structural fidelity.

Venuti's theories on domestication and foreignization offer valuable insight into the stylistic choices made by each AI tool. ChatGPT often strikes a balance, producing translations that feel both accessible to the target audience and faithful to the source culture. For instance, in the descriptions of the bustling street scene (Example 1), ChatGPT preserves cultural specificity by retaining references to local plants and customs while ensuring the imagery is relatable to English-speaking readers.

In contrast, DeepL's tendency toward more literal translations sometimes leads to awkward expressions, such as "*clumps and clumps of green basil*" or "*combed lips*," which detract from readability. This reflects the inherent challenge AI faces in balancing the foreign elements of a text with the expectations of the target audience—a task human translators often manage through nuanced cultural understanding.

AI-generated translations struggle with idiomatic expressions and figurative language. In Example 6, DeepL's rendering of "*her joy passes to her relatives like a germ*" alters the intended meaning, which was better captured by ChatGPT and Gemini AI with "*spreads like a contagion*." Similarly, in Example 9, DeepL's translation of "*croaking and nagging*" introduces odd word choices, indicating that AI models still lack the ability to fully interpret stylistic subtleties.

AI tools are particularly challenged by humour and metaphor. While ChatGPT captures humour and irony in Tevfik's antics with ease (Example 5), DeepL's more literal translation diminishes the comedic effect. This finding aligns with Castilho et al.'s assertion that human post-editing is often required to refine AI translations, especially for texts involving idiomatic or humorous content.

The analysis reveals some notable inconsistencies, particularly in gender references and idiomatic phrases. DeepL introduced gender mismatches and translation errors that affected the coherence of the narrative (e.g., "*he*" instead of "*she*" for Sabiha Hanım). These errors highlight one of the fundamental limitations of AI translation—difficulty in resolving ambiguities without the deeper contextual understanding that human translators possess.

While Gemini AI generally performed well, some translations exhibited slight modernizations or deviations from the original text, reflecting the challenges in balancing fidelity to the source text with readability for the target audience.

The study demonstrates that AI tools like ChatGPT, DeepL, and Gemini AI have made significant strides in producing literary translations with acceptable levels of equivalence. However, the findings also highlight critical areas where AI struggles—handling cultural nuances, idiomatic expressions, humour, and maintaining consistency across complex narratives. The findings reveal distinct strengths and limitations for each tool in literary translation.

ChatGPT and Gemini excel at balancing readability and cultural adaptation, often employing a domesticated approach to make texts more accessible to the target audience. For instance, ChatGPT effectively preserved emotional nuances in character descriptions, such as the warmth and complexity of Rabia in *Sinekli Bakkal*. However, both tools occasionally introduced minor shifts in tone due to their interpretative flexibility.

DeepL, as a specialized translation tool, demonstrated superior performance in maintaining formal equivalence, producing translations that adhered closely to the source text's structure. However, it struggled with idiomatic expressions and culturally specific references, leading to occasional misinterpretations, such as translating '*imam's granddaughter*'

as '*grandson*.' These results address the research question by illustrating that general-purpose tools like ChatGPT and Gemini can outperform specialized tools like DeepL in capturing the dynamic aspects of literary texts, although all tools require human intervention to refine cultural and emotional accuracy.

Moreover, this study demonstrates that while general-purpose AI tools like ChatGPT and Gemini AI offer a nuanced approach to literary translation by balancing dynamic equivalence and cultural adaptation, specialized tools like DeepL excel in maintaining formal equivalence. However, none of the tools are capable of independently producing translations that fully preserve the cultural and emotional depth of literary texts. These findings affirm the need for human-AI collaboration, particularly in fields like literary translation, where creativity and cultural sensitivity are essential. The research question has thus been addressed, highlighting the complementary roles that AI tools and human translators can play in achieving high-quality translations.

While AI can assist translators by providing drafts or translating large volumes of text quickly, it cannot fully replace the human ability to interpret the deeper layers of meaning embedded in literary texts. AI translations often require human post-editing to correct errors, refine stylistic elements, and ensure that cultural and emotional nuances are accurately conveyed.

In line with the theories discussed, particularly those of Venuti, Nida, and Koller, AI tools can complement human efforts through a collaborative approach. This hybrid model—where AI provides a preliminary translation that human translators refine—holds promise for increasing efficiency while preserving the artistic integrity of literary works.

As AI technology continues to evolve, future research should focus on addressing the challenges identified in this study. Improving AI's ability to handle low-resource languages, idiomatic expressions, and culturally specific references will enhance its effectiveness in literary translation. Moreover, integrating feedback loops between human translators and AI systems could further improve translation quality and consistency.

In conclusion, while AI translation tools have made substantial progress, they remain tools rather than replacements for human translators. Literary translation, with its demands for creativity, cultural sensitivity, and emotional resonance, continues to require human expertise. The interplay between AI and human translators will shape the future of the field, offering new possibilities for collaboration and innovation in literary translation.

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