

Lost in Algorithms: A Comparative Analysis of Human and AI Translation of Culture-Specific Items in Alkoni works

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التوهان في الخوارزميات: دراسة تحليلية مقارنة بين الترجمة البشرية وترجمة الذكاء الاصطناعي للعناصر ذات الخصوصية الثقافية في أعمال الكوني

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Abstract

This study investigates applying the artificial intelligence tools in translating culture-specific items in literary works. A heated debate has been initiated among scholars since the beginning of using AI tools in translation; the core of this debate was about the ability of AI translation tools to convey cultural nuances compared to human translators. Furthermore, techniques are usually adopted by AI translators in case of a lack of equivalence. To investigate these queries, fourteen excerpt, containing cultural elements have been chosen from three Libyan novels by Ibrahim Al-Koni, The Bleeding of the Stones, Dust Gold and Anubis, are utilized as a case study to compare the human translator's work with AI translation tools, namely, ChatGPT and DeepL. The major results of this study are the performance of AI tools almost the same as human translators. Although AI translation tools outperformed human translators' work in some situations, they still require specialized training on culture specific items related to specific communities. A collaboration between human and AI tools results in significant translation rather than separating or substituting each other. The mixing between machine and human leads to important progression in the field of translation.

Keywords culture specific items, Artificial Intelligence Tools, Human translators, literary works.

الملخص

تتناول هذه الدراسة استخدام مولدات الذكاء الاصطناعي في ترجمة العناصر الثقافية في الأعمال الأدبية. وقد احتدم النقاش بين الباحثين منذ بداية استخدام أدوات الذكاء الاصطناعي في الترجمة؛ حيث كان جوهر هذا النقاش يدور حول قدرة المترجمين الآليين على نقل الفروق الثقافية الدقيقة مقارنةً بالمترجمين البشريين، وكذلك حول الأساليب التي عادةً ما يتبعها المترجمون الآليون في حالة عدم وجود مرادفات. وللتحقيق في هذه التساؤلات، تم اختيار أربعة عشر مقتطف تحتوي على عناصر ثقافية من ثلاث روايات ليبية لإبراهيم الكوني، وهي نزيف الحجر، التبر، أنوبيس، واستُخدمت كدراسة حالة لمقارنة عمل المترجم البشري مع مترجمي الذكاء الاصطناعي، وهما ChatGPT و DeepL. وتتمثل النتائج الرئيسية لهذه الدراسة في أن أداء أدوات الذكاء الاصطناعي يكاد يكون مماثلاً لأداء المترجمين البشريين. وعلى الرغم من أن مترجمي الذكاء الاصطناعي تفوقوا على عمل المترجمين البشريين في بعض الحالات، إلا أنهم ما زالوا بحاجة إلى تدريب متخصص على العناصر الثقافية الخاصة بمجتمعات بعينها، وأن التعاون بين المترجم البشري وأدوات الذكاء الاصطناعي ينتج عنه ترجمة ذات جودة عالية، عوضاً عن الفصل بينهما أو استبدال أحدهما بالآخر. حيث أن المزج بين الآلة والإنسان يؤدي إلى تقدم مهم في مجال الترجمة.

الكلمات المفتاحية: العناصر الثقافية، أدوات الذكاء الاصطناعي، المترجمون البشريون، الأعمال الأدبية.

1. Introduction

The critical role of translation is bringing people together by transferring the linguistic elements of different languages. Moreover, translation is one of the means for eliminating cultural boundaries to help people from various backgrounds to cohabit and understand each other. Additionally, translation studies refer to translations as not just a process of replacing words with their denotative meaning; however, it involves a complex procedure of rendering the sense between languages. Translation is not an effortless task; it is not just an automatic replacement of linguistic elements. It is a complicated process that conveys contextual meaning, cultural aspects, and feelings. Nida [1] discusses that to assess a translation, the translator must

determine the response of the receptor to the translated message. Then, comparing this response with the way in which the original receptors most likely reacted to the message when it was given in its original setting Whereas, the present era is known for globalisation and rapid development in technology, the importance of translation extends beyond communication. The demand for quick, accurate translations is increasing. Therefore, the situation has led to find supportive and sometimes alternative tools rather than human translator like translation machine to meet the growing and urgent demand for translation services. Koehn [2] highlighted that machine translation has been utilized in various fields, including international trade, diplomacy, education, and research, helping people from different backgrounds to share information and ideas. Translation is one of these fields that has been affected by the quick progression of artificial intelligence (AI), particularly through the development of neural machine translation (NMT) systems and large language models (LLMs). Tools such as ChatGPT, DeepL and others have introduced new possibilities for affordable and fast translation. AI translators have been applied on different types of translation including literary translation which requires a deep knowledge and full understanding of both, source and target language to capture aspects such as cultural nuances. Such tools can process general texts in many different language pairs with exceptional simplicity. However, using AI translators in literary translation, increases the concern about AI's capability to convey the contextual, artistic, and cultural elements that distinguish literary works.[3]

2. Literature Review

Many studies have been conducted about the use of AI tools in conveying culture-specific items and evaluating their efficiency, particularly compared to human translators. Sekhri [4] studied problems of translating cultural terms in the Arab world by AI translators and concluded that due to the risk of mistranslating cultural elements and fear of over-relying on it, many translators avoid using machine translations. Omar & Gomaa [5] studied the use of machine translation, namely, Google Translate and Q Translate, to translate literature and concluded that both systems made significant lexical, structural, and pragmatic mistakes which make their translations unreliable. Azizov [6] studied translating culture-specific expressions in AI systems and concluded, according to measurements of cultural adequacy, DeepL and GPT-4 preserved idiomatic expressions superbly; however, both systems continue to have persistent challenges Zang [7] compared and evaluated the translation quality and performance of ChatGPT in the language combinations of English-to-Chinese and English-to-Japanese and concluded, ChatGPT still can't understand cultural and contextual knowledge, especially when it comes to sentences that have emotional subtleties and cultural aspects. It has trouble transferring them correctly. Boluwatife [8] studied the translation of cultural nuances, comparing the abilities of artificial intelligence and human translators, and concluded that, although AI translators are effective, flexible and increasingly advanced, human translators continue to be the best option in relation to translation that needs emotional and cultural intelligence and ethical judgement to preserve the spirit of the message across cultural boundaries. Abu Guba and Abu Qub'a [9] studied the effectiveness of ChatGPT as a translation tool in an academic context and concluded that translating culture-bound expressions using AI tools is still challenging, and ChatGPT has some limitations. Its outputs required human editing and continuing alteration of hybrid human-AI translation approaches to improve translation quality and cultural sensitivity in academic discourse, particularly in addressing the nuances of culture-bound expressions that AI tools struggle to accurately convey. Abdulmughni [10] studied the developing role of AI in Arabic-English literary translation. He concluded that although AI is considered an effective assistant tool in translation, the translation of literary texts across significant linguistic and cultural boundaries, such as between Arabic and English, remains a primarily human activity of cultural mediation and requires human observation.

Despite the vast number of studies on the utilize of AI systems to transfer the culture-specific items from various languages into English, a gap can be identified in the translation of cultural elements that belong to a specific community. These aspects still need to be investigated, particularly in literary works such as the novels of the Libyan author Alkoni, whose works reflect life in the desert and are rich with a mix of standard Arabic, Sahara and Tuareg tribal language. These distinctive cultural elements can be a perfect case to study AI's efficiency in rendering culture-specific items.

3. Aims of the Study

This study aims to evaluate the efficiency of AI tools in conveying culture-specific items in literary work without deforming the meaning or losing the spirit and effect of culture elements, and to investigate which will produce a translation that is more natural and culturally accepted, AI translators or human translators.

4. Research Questions:

1-To what extent is AI effective in translating culture-specific items? What types of culture-specific items present the most challenges to AI translators?

5. Methodology:

In order to assess the efficiency of AI tools in rendering the culture-specific items, a qualitative descriptive approach is adopted in this study. Three original versions of Al-Koni's novels (Anubis, Gold Dust, and The Bleeding of the Stone) and their translations are used to extract 14 excerpts containing CSIs. This allows a comparison of the human translation with AI tools, namely, free version of ChatGPT (GPT-5.5 OpenAI) [11] and DeepLTranslator[12], in translating the cultural aspects from Arabic into English in literary works and examining AI efficiency in transferring cultural nuances. The data excerpts are inserted into the two chosen AI tools manually. The collected data are organized into tables with four cells, respectively.

1-The original text in Arabic

2- the human translation

3- ChatGPT translation

4- DeepL Translation

After each table there is a discussion and explanation about which translation is more precise and accurate in conveying CSIs rather than the others.

6. Defining culture-specific items in the literary texts

As Álvarez and Vidal [13] point out, everything in a language is a product of a particular culture, beginning with language itself. It is difficult to define exactly what can be classified in a text as culture-specific. One broad definition of what might be termed 'culture-specific items' could be every feature in a ST which presents a problem for the translator because there is an intercultural gap between the SL and the TL. Such a gap is found where an item in the ST does not exist in the TL culture, or the TL has no word for that item. Koller [14] states each language has elements which are derived from its culture, that every text is fixed in a specific culture, and that rules of text production and reception contrast from culture to another. Therefore, translators who adapt culture-oriented method should bear in mind that fact. An attentiveness of such issues can at times make it more appropriate to think of translation as a process which occurs between cultures rather than simply between languages [15]. According to Newmark [16] most 'cultural words' are easy to detect since they are associated with a particular language and cannot be literally translated. However, many cultural customs are described in ordinary language, where literal translation would distort the meaning and thus the translation "may include an appropriate descriptive-functional equivalent". Newmark categorized the cultural words into Ecology (flora, fauna, hills, winds, plains) - material Culture (food, clothes, houses

and towns, transport) - social Culture (work and leisure) - organizations Customs, Activities, Procedures, Concepts (Political and administrative, religious, artistic)- gestures and habits. He claimed that culture-specific items are challenging to translate due to the fact there are no direct lexical equivalents in the target languages. Baker [17] refers to such cultural words and concedes that the SL words may express a concept which is totally unknown in the target culture. She points out that the concept in question may be "abstract or concrete, it may relate to a religious belief, a social custom, or even a type of food." Baker then, calls such concepts 'culture-specific items'.

7. Overview about ChatGPT and DeepL:

7.1 ChatGPT

It was released in 2022 by OpenAI, is a publicly accessible advanced conversational AI model designed to generate coherent and context-aware responses. It is known for its ability to make natural, human-like conversations in many languages. It is also trained to understand human language and translate different texts into various languages. Additionally, ChatGPT is able to process texts easily, for instance, to translate a text into any language, you only input the text you wish to translate and add "translate this into (intended language) and then add the sentence or phrase that you want to translate. This instruction is referred to as a "prompt" [18]

7.2 DeepL Translator

It was launched in August 2017 and is mostly known as a free translation service that supports 31 languages. Because it has been trained on high-quality data DeepL is known for generating translations that are natural and more accurate than those of other machine translation services, DeepL is particularly good at producing natural expressions similar to a native speaker. DeepL is popular in a number of countries, for the natural quality of its translations [3].

8. AI translators' strengths and limitation

Boluwatife [8] mentioned the strengths and limitations of AI in translation. He thinks AI tools such as ChatGPT and DeepL made a significant development in the field of translation and enabled people to communicate in different languages.

8.1 AI strengths:

- Cost-effective: In translating low-risk texts such as instructions, operation manuals and product descriptions, AI costs less than the human translators or even free translation.
- Constantly improving: AI tools become more and more sensitive to the formality and, in some situations, can produce natural idiomatic translation.
- Speed and efficiency; AI tools can translate whole documents and long texts in just seconds. More strengths of AI tools can be mentioned in this context; they are the following:
- Availability: There is no work time or specific place for AI translators. The translation work can be done anytime and anywhere.
- Multi-languages: AI tools can translate from and to more than one language at the same time as a situation demands. For instance, DeepL can translate to and from about 30 languages, including Arabic, with high accuracy. As well as ChatGPT, it can translate to and from about 50 languages.

8.2 AI limitations:

In spite of these undeniable advantages in translating different text genres, AI translators still face difficulty dealing with cultural nuances. It has several restrictions that effect its performance on texts that need deep understanding and demand high sensitivity to the differences between cultures.

-The Lack of the experiential understanding of culture comparing to humans:

AI works with symbols based on probability; it can't "understand" text as same as the way a human does. In other words, AI translators very often transfer, cultural references, idioms, sarcasm, and humor literally which produce a deformed translation. A machine may accurately

translate the words of a sentence, but it may not be able to understand the intended meaning of original speaker's tone, meaning, or subtext.

-Tone and politeness key aspects which are two important parts of communication. The importance of formality and hierarchical relationships contrast from one culture to another. Therefore, translating a text in wrong level of politeness or formality could be seen as impolite or offensive. AI might, for example, translate a casual statement too formally in a casual setting or vice versa, which would mess up the intended social dynamic.

-The lack of emotional intelligence also appears in sensitive or emotionally complex details. Translating texts such as a political speech, a poem, or a sympathetic text demand well understanding of emotional tone, empathy and what the audience expects. AI translator can grasp structure, but it can't understand emotions, which are often attached to cultural nuances. Because of this lack, AI isn't good for tasks that need thinking, feeling, and sensitivity.

9. Overviews about the three novels and the translators:

The Bleeding of the Stone is Al-Koni's first novel which was translated into English. It is based on the life in the Libyan Desert. The author tries to match the hero's character of the novel, who isolated himself from people, with a wild animal *Waddan* (a type of gazelle), which lives on the mountains in the desert. The novel was translated by May Jayyusi and Christopher Tingley [19]. The second novel is *Anubis* from Tuareg folklore and it is based on Tuareg myth man lived in the desert of southern Libya set out a trip in the desert to find his father who left him and his mother when he was a child. The novel was translated by William Maynard Hutchins [20]. The third novel is *Gold Dust*, the camel (Al-ablaq) is the hero. The novel tells the story of a man who lives in the desert where the tough laws govern people who struggle for survival and freedom. The extraordinary bond with his camel became more than just a relationship with an animal; it was a soulmate which gave his life meaning. The novel was translated by Elliott Colla [21].

10. Findings and discussion

10.1 Excerpt 1

Source text	وقد عاد في أول ليلة اختطف منها نعسة بعد حديث عابر السبيل. التبر 127
Human translator	This was the dream that came back the first night after talking with <u>the traveler</u> . Gold Dust p.118
ChatGPT	He returned on the very first night he had dozed off after a brief chat with <u>a passer-by</u>
DeepL	He returned on the very first night he had dozed off after a brief chat with <u>a passer-by</u> .

In this excerpt the expression *عابر سبيل* has been rendered into two different ways:

Human translator: conveyed *عابر سبيل* () as *the traveler* which has a different connotation and does not involve the intended meaning in source language sense. In Arabic there is a difference between the two words. The following holy verse mentioned *عابري السبيل* على سفر to indicate that the two terms are different and each one has its denotation and connotation meaning

"..... ولا جنباً إلا عابري سبيل حتى تغتسلوا وإن كنتم مرضى أو على سفر....." سورة النساء: 43

-ChatGPT and DeepL rendered *عابر سبيل* as *passer-by* which means someone who is going past a particular place [18]. To sum, in Arabic "*aber-asabeel*" refers to the person who moves from place to another, however, he has become stranded because he does not have enough money to living or going back to his country. According to what was mentioned, neither human translator nor AI translators succeed in conveying the intended meaning.

10.2 Excerpt (2)

Source text	...كان يسرق الشعير من الخباء وي طرحه في راحتي يديه ويقدمه له . التبر 20
Human translator	 He would sneak barley from <u>the tent</u> , placing it in the palms of his hands to offer it to the camel. Dust Gold p18
ChatGPT	He used to steal barley from <u>the tent</u> , place it in the palms of his hands, and offer it to him.
DeepL	He would steal barley from <u>the granary</u> , tip it into the palms of his hands, and offer it to him

In excerpt (2) the human translator and ChatGPT conveyed (الخباء) as **tent** which has imprecise meaning in this context. In general, (الخباء) in Arabic has a dictionary meaning: the *tent* is used as a shelter and also indicate a kind of bags or vessels or containers which are used by people who live in the desert and the Bedouins tribes to save food such as grain, dates, Olive oil, ...etc., and they are usually made of clay or animal skin like goat skin but, in this context there are many evidence give the mentioned word connotation meaning prove that **tent** is not the right equivalent for الخباء. For instance, the verbs steal/ sneak refers to taking something is not available or from protected place, so rendering الخباء as a container or vessel for storing food and grains is more accurate. On the other hand, DeepL translate الخباء as **granary** which according to Cambridge dictionary means: a large building for storing grain and this kind of facilities contrast with the environment of the novel, which is about the live in the dessert. Thus, all of human translator, ChatGPT and DeepL failed to provide the exact translation.

10.3 Excerpt 3

Source text	ولو صمدت في تطفلي قيد أنملة لتراثي لي. أنوبيس p.186
Human translator	If I pressed my intrusion <u>an inch</u> farther it would appear before me. Anubis p.149
ChatGPT	And if I persisted in my prying even for a <u>fingertip's span</u> , it would appear before me.
DeepL	And if you were to stand firm in your meddling, even for <u>a moment</u> , you would see.

The expression (قيد أنملة) means in Arabic very near or to stay at the same place or level without moving forward or making any progress (almaany.com) and as measurement unit it equals a fingertip. In this excerpt the human translator rendered (قيد أنملة) as **an inch** according to the British measurement system. ChatGPT transferred (قيد أنملة) into **fingertip's span** successfully, whereas it has the exact meaning. On contrast, DeepL conveyed (قيد أنملة) as **a moment** which is time measurement unit instead of **fingertip** which is a unit of distance measurement. In this situation ChatGPT outperforms both human translator and DeepL.

10.4 Excerpt 4

Source text	يداري ربكته بشد أطراف اللثام على وجهه. نزيف الحجر p.20
Human translator	hurriedly pulled the edges of his <u>veil</u> over his face. The bleeding of the stone p.12
ChatGPT	...He hides his unease by tightening the edges of his <u>face veil</u> .
DeepL	He pulls his <u>cloak</u> tightly around his face

In excerpt (4): both the human translator and ChatGPT used generic term to transfer (اللثام), which is a very important part in the costume of Tuareg so it is difficult to find similar costume in the target language, into **veil** which means covering face as general meaning, in particular veil means a piece of thin material worn by women to cover the face or head. On the other hand, DeepL used completely different meaning and failed to grasp the meaning of (اللثام) and conveyed it into **cloak**, which means a loose outer piece of clothing without sleeves, that fasten at the neck, and is worn instead of a coat.

10.5 Excerpt 5

Source text	عقله في الوادي، وتركه يرتع بجوار الرثم الفواح. التبر 13
Human translator	He <u>tethered</u> the camel in the valley and left him to graze next to the fragrant broom. Gold Dust 13
ChatGPT	His <u>mind wandered far away</u> , leaving him to roam beside the fragrant ratham.
DeepL	He left his <u>mind</u> in the valley, letting it roam beside the fragrant stream.

The human translator used general meaning to transfer ((عقله)) into **tethered** which means to fasten something tightly. In Arabic عقله means to bound the wrist of the animal to its upper arm, this procedure usually applies to camels to prevent their movement or standing. The translation here does not convey the accurate meaning of the ST. ChatGPT and DeepL mistranslate عقله when rendered it into **his mind** because of the same Arabic spelling of: عقله to fasten the animal wrist to its arm, عقله his mind.

10.6 Excerpt 6

Source text	تغزل الصوف وتنسج الجرود والعباءات. نزيل الحجر 149p.
Human translator	spinning wool and weaving <u>cloaks and other garments</u> . The bleeding of the stone p.121
ChatGPT	She spins wool and weaves <u>jerouds and cloaks</u> . وهو لباس تقليدي (غطاء صوفي)، لذلك تركت كما هي مع تعريب بسيط jerouds
DeepL	Spinning wool and weaving <u>rugs and cloaks</u>

In this excerpt the human translator transferred الجرود والعباءات into **cloaks and other garments**, these items of clothes are very traditional Libyan costumes and using generic terms to render such cultural elements doesn't convey the exact meaning and does not give the TT reader sufficient idea about these clothes. By using hybrid technique, ChatGPT conveyed الجرود into **jerouds and cloaks**. It adapted foreignization for **jerouds** with a simple explanation and added (s) for plural whereas the Arabic word was already plural, and domesticated العباءات into **cloaks** which refer to different meaning. DeepL rendered الجرود as **rugs** which has a completely different meaning and replaced العباءات with **cloaks**.

10.7 Excerpt 7

Source text	قلت لك انكسرت رقبتَه جيفة. نزيل الحجر 31p.
Human translator	I told you, his neck was broken. <u>He was already dead</u> " ⁱ . The bleeding of the stone p.20 ⁱ In the Muslim religion, animals whose meat lawful to eat must be slaughtered alive. Dead animals are viewed as corpses, and eating their meat is unlawful.
ChatGPT	I told you his neck was broken - <u>a corpse</u>
DeepL	I told you his neck was broken. He's <u>a dead man</u> .

In this excerpt the human translator rendered جيفة as the phrase: **he was already dead**, and to transfer the exact meaning of جيفة he attached a glossary to the translated novel. ChatGPT translated جيفة as **corpse** which means a dead body and it has different meaning, also DeepL miss- translate جيفة when conveyed it as dead man.

10.8 Excerpt 8

Source text	ابتسمت ثم تمايلت يمينا ويسارا وهي تخض قربة الحليب بين يديها. نزيل الحجر p.10
Human translator	...then smiled, rocking right and left as <u>she shook the milk in her hands</u> . The bleeding of the stone. p.4
ChatGPT	She smiled, then swayed from side to side as she churned the milk in a <u>skin bag</u> between her hands.
DeepL	She smiled, then swayed from side to side as she shook the <u>milk skin</u> in her hands

In this excerpt the word **قربة** which refers to something similar to a container has a bag shape and it is made of goatskin, Bedouins and people in the desert usually use it to keep water cool or milk. The human translator: perhaps due to the lack of equivalence in the target culture, omitted **القربة** and this make the sentence shows absence of rationality by shaking milk in her hands.

ChatGPT conveyed **القربة** into a **skin bag** which does not give the exact meaning and clear description of it. DeepL rendered **القربة** as **milk skin** which can be understood as skin color also it does not convey the intended meaning. By comparing the three translations we find that the three translators: human, ChatGPT and DeepL failed rendering the cultural element in the excerpt 8.

10.9 Excerpt 9

Source text	تساءل أسوف: - وهل <u>حللته</u> ؟ هل ذبحته. نزيل الحجر p.31
Human translator	"Did you slaughter it," Asouf asked, " <u>and make its flesh lawful</u> ?" The bleeding of the stone p.20
ChatGPT	Asouf wondered: "Did you <u>make it lawful</u> ? Did you slaughter it?"
DeepL	Asouf asked: - Did you <u>butcher it</u> ? Did you slaughter it?

In this excerpt the human translator tried to transfer the meaning by giving explanations of the religious term **حللته** as **make its flesh lawful**. ChatGPT also used lawful to transfer **حللته**, but the word **lawful** is not enough to convey the exact meaning. To make the flesh lawful indicate the way in which Muslims slaughter the animals and what they say and intend when they do that. DeepL transferred **حللته** as **butcher it** which refers to the way the butcher cut and prepare meat for selling and this translation does not convey the exact meaning.

10.10 Excerpt 10

Source text	يحشو أسوف ذراعيه في رمل الوادي ويبدأ في التيمم لإنجاز صلاة العصر. نزيل الحجر p.7
Human translator	Asouf plunged his arms into the sands of the wadi to begin his <u>ablutions</u> , in readiness for his afternoon prayers. The bleeding of the stone p.1
ChatGPT	Asouf buried his arms in the valley sand and began performing <u>dry ablution (tayammum)</u> in order to perform the afternoon prayer.
DeepL	Asuf buries his arms in the sand of the valley and begins to perform <u>tayammum</u> in order to perform the afternoon prayer

The human translator transferred **التييم** as **ablutions** which has a different meaning ,because it is a very sensitive cultural term because it relates to Islamic religious only. ChatGPT used simple explanation as **dry ablution** and borrowed the original term as **tayammum** in an attempt to convey the meaning, however, the meaning is still unclear. DeepL also used borrowing to render **التييم** into **tayammum** which is could not be understood by others culture rather than Muslims.

10.11 Excerpt 11

Source text	هذا ما يقال له: راقد الريح يلقي العظم في الكرشة. نزيف الحجر p.93
Human translator	That's what you call <u>coming out of the frying pan</u> , "he said, " <u>into the fire</u> ." The bleeding of the stone. p.73
ChatGPT	He who <u>lies still like the wind will find a bone in the belly</u> .
DeepL	This is what they say: 'The wind blows the bone into the tripe.'

The translator replaced the source culture proverb **راقد الريح يلقي العظم في الكرشة** with target culture idiom refers to a similar situation. This idiom means when you get out of a problem then find yourself in worse one, you are **out of the frying pan, into the fire**. Otherwise, this Arabic proverb is usually used in situation when someone has no fortune. ChatGPT and DeepL misunderstand the meaning of the Arabic proverb completely and generated a very strange translation.

10.12 Excerpt 12

Source text	اللي بيبي الورد بتحمل شوكة. نزيف الحجر p.134
Human translator	If a man wants roses," Cain said, " <u>he'll put up with their thorns</u> ". The bleeding of the stone p.109
ChatGPT	<u>Whoever wants roses must endure their thorns</u>
DeepL	<u>If you want roses, you have to put up with the thorns</u>

In the excerpt (12) the translator could use the English idiom "**No pain no gain**" as an equivalent of the Arabic idiom instead of translating it literally, which means to achieve something you need to do some sacrifices. ChatGPT and DeepL rendered the idiom literally by generating two translations for it. As a result, it was a kind of explain or interpretation rather than translation.

10.13 Excerpt 13

Source text	الله جميل يحب الجمال. التبر 52
Human translator	God is beautiful and <u>He loves beauty and camels</u> . The Gold Dust p.55
ChatGPT	God is beautiful and <u>loves beauty</u> .
DeepL	God is beautiful and <u>loves beauty</u> .

In thin excerpt the human translator failed to understand the whole meaning of hadith;(Prophet Mohamed, *peace be upon him*, saying). He transferred **يحب الجمال** into **He loves beauty and camels**. The translator faced difficulty in determining which of the two words is intended **الجمال-beauty** or **الجمال-camels**, therefore, he included both equivalents together in the same sentence. On the contrast, ChatGPT and DeepL succeeded in conveying the intended meaning **loves beauty**.

10.14 Excerpt 14

Source text	الزلفة. أنوبيس p.57
Human translator	Last watch of the night. Anubis p.39
ChatGPT	a portion of time
DeepL	Al-Zalfa

According to the Arabic dictionaries **الزلفة** refers to the time and means the first hours of the night that take part from the day. Due to the lack of equivalent the human translator used the definition **Last watch of the night** to convey the exact meaning of **الزلفة**. ChatGPT failed to grasp the exact meaning and rendered **الزلفة** into a **portion of time**. DeepL borrowed the Arabic term **Al-Zalfa** which cannot be fully understood for the target reader.

Conclusion

Using AI tools in the field of translation is witnessing significant development. This development increases the chance of relying on AI translators more heavily in the following years. So far, this study discussed the efficiency of AI tools in translating culture-specific items in Arabic literary works. To apply that, some extracted texts from three Libyan novels by Al-Koni (The Bleeding of Stones, Gold Dust, and Anubis) were examined by a comparison between human translators and AI tools. In accordance with data analysis, the study concluded that all of human translator, ChatGPT and DeepL sought to offer equivalents for most cultural elements and replaced them with terms which, in some cases, didn't match the exact meaning of the source language term. On the other hand, transliteration and literal translation are adopted, and footnotes or glossaries are provided to explain the meaning where there is a lack of an equivalent to make the TT comprehensible. AI tools' performance is somewhat outstanding, competing with and even outperforming human translators in some situations. ChatGPT was able to render some cultural elements that the human translator failed to translate. DeepL performs similarly, but it is not as capable as ChatGPT, which demonstrated an ability to understand the intended meaning and convey it appropriately. On the other hand, both ChatGPT and DeepL misinterpreted cultural aspects such as proverbs and religious terms. In general, AI tools and human translators face many difficulties conveying these kinds of texts with cultural nuances. Whereas culture-specific items, especially those that related to very specific communities such as the Tuareg, whose languages are rich with values and Sahara terms, are sometimes difficult even for Arabic native speakers to comprehend. Also, Alkoni's unique writing style and his way of choosing standard Arabic terms add another reason for these difficulties. Therefore, for the aforementioned causes and others, AI needs more training on data related to cultural sensitivity, emotion and connotations. Although the advantages of AI tools such as speed, translating a large number of documents in a short time, affordability compared to human translators and other characteristics, AI systems still depend completely on human training and face a lack of human insight, creativity and logical thinking. In the field of translation, the future of AI tools will be more successful if there are collaborative efforts between the AI and human translators. With the speed of AI tools and accuracy of human translators, the result would be satisfactory. Translating literary works from Arabic into English demands AI tools that are specially trained on Arab culture, which has its characteristics that differentiate it from other cultures, to overcome transferring the cultural nuances that matter. Thus, AI tools would have a better opportunity to produce more precise and accurate translations to support human translators rather than be a substitute.

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