

Machine vs. Human Translation: The Traduction of Cultural Issues in Children's Literature as Represented in H.C.

Anderson and J.K. Rowling

(Sandy Adel Nabih, English Instructor)

Abstract

This comparative study investigates the impact of Machine Translation (MT) on children's literature, specifically examining its influence on cultural references. The selected genres for analysis are fantasy fiction and fairy tales/folklore fiction. Therefore, the study will include short stories by Hans Christian Andersen, which are *The Little Mermaid*, *The Nightingale*, and *The Tinderbox*, alongside the third book of the *Harry Potter* series, *Harry Potter and the Prisoner of Azkaban*, authored by J. K. Rowling. By employing a comparative approach, the MT version, using ChatGPT, is contrasted with a human translation (HT). The findings of this study provide significant insights into the limitations of Machine Translation (MT) in preserving cultural identity, particularly when applied to children's literature. The results highlight how MT tools, such as ChatGPT, often fail to account for the cultural sensitivities, social values, and contextual nuances that are essential to making translated texts appropriate and accessible for young Arab readers. This study suggests that proper prompts should be employed while using ChatGPT in translating children's literature, as these specific, tailored prompts may aid in preserving the Arab culture. The main goal is to keep culturally specific terms in translated texts, making the translation more authentic and accessible for children to read and appreciate.

Keywords: Machine Translation, Children's Literature, Cultural Appropriation, Fantasy, Fairytales

مقارنة بين الترجمة البشرية والترجمة الآلية في نقل القضايا الثقافية في أدب الطفل كما تمثلت في أعمال هانس كريستيان أندرسن وج. ك. رولينج

المستخلص

تتناول هذه الدراسة المقارنة أثر الترجمة الآلية على أدب الأطفال، مع التركيز على مدى تأثيرها في نقل المرجعيات الثقافية داخل النصوص. وقد وقع الاختيار على نوعين أدبيين يتميزان بغنى ثقافي واضح، وهما: أدب الفانتازيا والقصص الخيالية الشعبية. وبناءً على ذلك، اشتملت العينة المدروسة على نصوص مختارة من قصص هانس كريستيان أندرسن، بالإضافة إلى الجزء الثالث من سلسلة "هاري بوتر" للكاتبة ج. ك. رولينج، بعنوان: هاري بوتر وسجين أзкаبان. وتعتمد الدراسة على منهج المقارنة بين الترجمة البشرية والترجمة الآلية عبر نموذج شات جي بي تي. وتشير نتائج الدراسة إلى محدودية كفاءة الترجمة الآلية في الحفاظ على المكونات الثقافية للمجتمع العربي، بما في ذلك عاداته وتقاليد، خصوصاً عند التعامل مع النصوص الأدبية الموجهة للأطفال. وتوصي الدراسة بضرورة توظيف تعليمات دقيقة وموجهة (prompts) عند استخدام شات جي بي تي في ترجمة هذا النوع من الأدب، إذ قد تسهم هذه التوجيهات في تعزيز حضور الثقافة العربية في النصوص المترجمة. ويتمثل الهدف الرئيس في ضمان أصالة الترجمة، وتقديم محتوى ثقافي مفهوم وقريب من الطفل العربي. الكلمات المفتاحية: الترجمة الآلية، أدب الأطفال، المرجعيات الثقافية، الفانتازيا، الحكايات الشعبية.

Machine vs. Human Translation: The Traduction of Cultural Issues in Children's Literature as Represented in H.C.

Anderson and J.K. Rowling

(Sandy Adel Nabih, English Instructor)

Introduction

Once upon a time, long ago, the world was introduced to literature. "Great literature is simply language charged with meaning to the utmost possible degree." (Pound, 1934, p. 36). Literature can be classified into many types: poetry, fiction, drama, novel, children's literature, and more. Children's literature includes books, novels, stories, or any literary work that was made to target children (Sabr, 2023). Children's literature can be described as a sophisticated and evolving concept. It is often inspired by the influence of cultural perceptions of childhood and the diverse range of literary genres, including fairy tales and folklore. The fairytales/folklore genre mainly focuses on magical and fantasy elements, which is popular in children's literature because of its delighted, hopeful spirit (Al-Badri, 2023).

Moreover, fantasy has been widely embraced as a children's literature genre, enchanting young readers for centuries (Levy & Mendlesohn, 2016). Fantasy literature is celebrated for its fantastical events, heroic characters, and epic settings, and it shares similarities with the fairy tales/folklore genre. These similarities also make it a well-liked genre in children's literature, presenting artistic storytelling with an imaginative approach that captivates young readers (Feldt, 2015).

The extraordinary difference between children's and adult literature is often a subject of debate among scholars. Cultural values are commonly the focus of children's literature, which allows it to serve an educational purpose. Therefore, translating literature requires a degree of understanding of its unique characteristics, especially when it comes to children's literature. A thorough understanding of the distinctive characteristics entailed in the translation of children's literature is crucial (Alla, 2015). Accordingly, translating children's literature holds immense significance (McMartin & Coillie, 2020). Translators should remember that providing cultural values is the key to appropriate children's literary work. This is when machine translation (MT) for children's literary works faces some challenges.

While MT offers remarkable advantages in terms of speed and minimizes the efforts exerted in the translation process, it involves challenges when it comes to translating literary works, especially

children's literature. This can be due to the machine's deficiency in the comprehension of cultural references and its inability to convey the required culturally specific items.

Literature Review

“Neural machine translation is what is meant when we generally talk about translation with the help of AI or deep learning” (Plenter, 2023, p. 02). Nowadays, it is unthinkable to translate without the support of machines. Human-machine coexistence in response to the progress of MT has become a new trend. Despite its potential, MT's rapid advancement has sparked debates and predictions about the future of human translation (HT), with many experts expecting post-editing to replace a significant portion of current translation work (Lin, 2023).

While ChatGPT demonstrates impressive capabilities in domains like legal and medical translation, its effectiveness in literary translation is more contentious. Salman (2022) highlights that while MT is effective for legal and scientific texts due to its cost-efficiency and speed, it lacks sensitivity to cultural references and metaphorical language elements central to literature. Without this understanding, the artistic and symbolic depth of the original text is lost, making MT unsuitable for literary translation.

Teng (2024) further explores these limitations, emphasizing that while ChatGPT has potential, it struggles with translating literary works, particularly poetry. Her research shows that ChatGPT's translation of poetry appears flat and lacks a deeper understanding of the source text's mood and symbolic imagery. While reinforcement learning may improve ChatGPT's performance over time, its current capabilities fall short of the nuanced interpretation that human translators provide. Khoshafah (2023) adds to this critique by emphasizing that ChatGPT often fails to handle idiomatic expressions and symbolic meanings effectively in literary translation. Its literal approach can result in culturally insensitive or distorted translations, highlighting the necessity of human oversight. Translators must carefully navigate cultural identities, linguistic differences, and the author's original intentions to produce accurate and culturally sensitive translations.

The challenges of literary translation are compounded when translating between languages with distinct cultural and structural characteristics, such as Arabic and English. As ChatGPT struggles with metaphors, idiomatic expressions, and genre-specific elements, human translators remain essential for ensuring accurate and expressive translations (Khoshafah, 2023; Salman, 2022). Obeidat and Jaradat (2024) warned that “electronic armies”, which are groups spreading

intentional misinformation online, can corrupt MT outputs by poisoning the data these systems rely on. Their study revealed that such manipulation resulted in distorted translations, loss of nuance, and misrepresentation of resistance literature, underscoring the vulnerability of AI to biased or manipulated input.

In a corpus study of Mahfouz's *Zuqāq al-Midaqq*, Al-Kaabi et al. (2024) found that while ChatGPT can produce readable translations, it fails to capture cultural nuance, literary depth, and symbolic meaning. The study emphasized that human translators' cultural and interpretive expertise remains essential for accurately translating complex literary texts.

Fantasy literature, known for its rich cultural references, imaginative events, and heroic characters, further illustrates these challenges. The inclusion of *Harry Potter and the Prisoner of Azkaban* by J. K. Rowling and selected fairy tales by Hans Christian Andersen in this study underscores the difficulty of preserving cultural identity in translations of children's literature. These genres demand not only linguistic accuracy but also sensitivity to cultural and artistic nuances that MT systems like ChatGPT often overlook.

In summary, while ChatGPT offers useful tools for various translation contexts, its limitations in literary translation, especially in preserving cultural identity and stylistic nuance, underscore the indispensable role of human translators. The selected case studies highlight these challenges and emphasize the need for culturally aware and creative translation strategies.

Theoretical Framework

Mailhac's (1996) framework has proven essential for understanding how translators handle CSIs. Across multiple studies, his strategies and parameters have helped explain translators' choices and offered practical solutions to cultural challenges. The continued use of his model shows its lasting value in translation studies. Mailhac defines a "cultural reference" as any mention of a cultural entity that is sufficiently opaque to the target reader to be considered a potential issue due to its distance from the target culture (Mailhac, 1996).

The study adopts Mailhac's (1996) procedures and definitions:

- Cultural borrowing: Transferring an ST term into the TT.
- Literal translation: Word-for-word translation.
- Definition: Using a general term, a substantial definition, or anything in between.
- Cultural substitution: Replacing an ST term with a TL one that describes a similar concept.

- Lexical creation: Coining a new word in the TT to translate a nonexistent or non-lexicalized ST term.
- Deliberate omission: Deleting an ST term or expression from the TT.
- Compensation: Providing necessary information to compensate for the lack of adequate shared cultural information.
- Combination of procedures: Applying more than one procedure.
- Footnote: Providing additional information in the form of a footnote.

Multiple studies have successfully employed Mailhac's framework. For example, Robati (2016) examined Mailhac's strategies in translating the Quranic term "Jilbab," emphasizing its usefulness in navigating culturally sensitive terms. Hashim (2023) applied Mailhac's techniques, such as cultural borrowing, footnotes, and compensation, in his study of senior-year students' translation of CSIs from English to Arabic. Mohammed (2017) adopted both Mailhac's procedures and decision-making parameters, such as text type, cultural transparency, and pragmatic coherence, in her study of Arabic-English translations, demonstrating their practical application.

Methodology

This study adopted a qualitative approach. The goal was to evaluate the cultural appropriateness of children's literature within the fantasy and fairy tale genres by comparing AI-generated translations using ChatGPT to the HT versions. The evaluation focused on how culturally sensitive elements are dealt with in both translation types. Qualitative data were derived using comparative analysis based on Mailhac's theory of CSIs, which provided appropriate criteria for analysing translation strategies and cultural sensitivities.

The analysis was conducted to examine how CSIs were handled in both the MT and HT, relying on Mailhac's nine translation strategies.

Material

Ten English excerpts were selected from two sources: *Harry Potter and the Prisoner of Azkaban* and Hans Christian Andersen's short stories (*The Little Mermaid*, *The Nightingale*, *The Tinderbox*). These were chosen for their culturally sensitive content, such as themes of alcohol, gender roles, romance, violence, and social norms.

Both humans and ChatGPT translated each excerpt. Using Mailhac's (1996) framework, the translations were analyzed to identify strategies used to handle culturally sensitive elements. The comparison evaluated the cultural appropriateness of each translation, highlighting

how AI and human translators adapted content for Arab audiences. The human-translated versions were obtained from المكتبة الخضراء, a well-known Arabic publishing house. This formed the basis for the findings discussed in the next chapter.

Analysis

Harry Potter and the Prisoner of Azkaban

Example 1

English ST	Arabic HT	Arabic MT
"Aunt Marge reached for her glass of wine."	"مدت العمة «مارج» يدها إلى الكأس الموضوعة أمامها"	"مدّت العمة مارج يدها لتناول كأس النبيذ."
"At that moment, the wine glass Aunt Marge was holding exploded in her hand."	"في هذه اللحظة انفجرت الكأس التي كانت تحملها «مارج»"	"في تلك اللحظة، انفجر كأس النبيذ الذي كانت العمة مارج تمسكه في يدها."
"Aunt Petunia cooked a fancy dinner and Uncle Vernon uncorked several bottles of wine."	"فأعدت الخالة «بيتونيا» عشاء فاخرا وأحضر العم «فيرنون» أنواعا متعددة من الشراب."	"أعدّت العمة بتونيا عشاء فاخرا، وفتح العم فيرنون عدة زجاجات من النبيذ."
"Then Aunt Petunia made coffee and Uncle Vernon brought out a bottle of brandy."	"ثم قامت الخالة «بيتونيا» بإعداد القهوة، فقال العم «فيرنون»: هل ترغبين في المزيد من الشراب يا «مارج»؟"	"ثم أعدّت العمة بتونيا القهوة، وأخرج العم فيرنون زجاجة من البراندي."
"Aunt Marge had already had rather a lot of wine."	"كانت العمة «مارج» قد تناولت الكثير من الشراب."	"كانت العمة مارج قد شربت الكثير من النبيذ بالفعل."

These excerpts describe a typical setting where English people can sit together, drink alcohol, and talk about life. This is precisely what Aunt Marge, Aunt Petunia, and Uncle Vernon did. Rowling describes how Aunt Marge enjoyed bullying Harry Potter while sipping wine. However, this part of the wine is omitted when the excerpt is translated into Arabic by a human. The Arabic-speaking translator's choice to use deliberate omission by Mailhac (1996) can be due to religious norms. Alcohol consumption is generally a taboo in most Arab countries. Therefore, mentioning wine or alcohol consumption to children who speak Arabic can be considered controversial, which is why it can be believed that the translator decides to only mention the glass, without any detail to what Aunt Marge was drinking, maintaining a neutral tone, knowing that this omission may not affect the events. The translator also uses the Compensation technique when translating Brandy, a type of Whiskey, to الشراب, doing the same to "bottles of wine," which shows how he insists on making the drink vague. On the contrary, ChatGPT translates does the opposite, mentioning the specific types of alcohol while translating words

like البراندي and كأس النبيذ, providing details, keeping the translation faithful to the ST and its culture that allows alcohol consumption. This may be seen as a failure to maintain cultural elements while using MT.

Example 2

English ST	Arabic HT	Arabic MT
"She burped richly and patted her great tweed stomach."	ثم ربتت على معدتها "الممتلئة"	"تجشأت بصوت عالٍ وربتت على بطنها الكبير المغطى بالقماش التويد."

While humorous/offensive behaviors such as burping are still given to Aunt Marge by the author J. K. Rowling to emphasize she is not a good character, the human translator decides to ignore such a detail. In many cultures, burping is considered an impolite behavior, and in Arab culture, it is not likely to find a woman who burps in public. Thus, the translator's decision can be to focus on the content and omit this detail, using the deliberate omission technique, introduced by Mailhac (1996). This original narrative does not add up to the story; moreover, it may teach children inappropriate behaviors, so maintaining conservative social norms may be the best-case scenario here. Nevertheless, MT does not see the necessity to omit this behavior, which shows that preserving the Arab culture is not one of its priorities.

Example 3

English ST	Arabic HT	Arabic MT
"The sooner we get on the train, the better," he said. 'At least I can get away from Percy at Hogwarts. Now he's accusing me of dripping tea on his photo of Penelope Clearwater. You know,' Ron grimaced, 'his girlfriend. She's hidden her face under the frame because her nose has gone all blotchy ...'"	"من الأفضل أن نيكّر في ركوب القطار. أخيراً، سنستطيع الابتعاد عن «بيرسى» في «هوجورتس»، فهو يتهمني الآن بسكب الشاي على صورته."	'كلما أسرعنا في ركوب القطار، كان أفضل،' قال رون. 'على الأقل سأبتعد عن بيرسي في هوجورتس. الآن يتهمني بأنني أسقطت شايًا على صورته لـ بينيلوب كليرووتر. كما تعلمين،' قال رون بوجه متجهّم، 'صديقتي. لقد أخفت وجهها تحت الإطار لأن أنفها أصبح مليئًا بالبقع!'

Ron Weasley speaks, in this excerpt, to Harry Potter about his brother and how he's angry with him. Ron Weasley explains the reason, which is Percy Weasley's belief that Ron Weasley had ruined his picture with his girlfriend, who had hidden her face because she did not like what her nose looked like. While in Western societies, romantic relationships among young people may be perceived as regular, this is not the case among more conservative cultures like the Arab culture. Accordingly, the human translator omits any reference to the girlfriend altogether, focusing solely on Percy and the photo. This strategy reflects deliberate omission, one of the procedures identified by Mailhac (1996) for addressing CSIs; this reflects a careful consideration of cultural sensitivity and cultural adaptation. However, ChatGPT does not do the same. ChatGPT mentions

the name of the girl, "بينيلوب كليرووتر" and he mentions that she is Percy Weasley's "girlfriend," which does not align with the target audience's cultural norms. Moreover, the human translator repeatedly uses the deliberate omission technique when he omits the blotchy nose. Such details' omission can be because they bring mockery, which may be seen as inappropriate for young readers, a point that MT neglects. It is also essential to consider that this detail's omission can be because the whole existence of Penelope Clearwater is deleted, and thus her nose, too, with its features.

Example 4

English ST	Arabic HT	Arabic MT
"Urgh, no, Harry won't want one of those, they're for vampires, I expect,' Hermione was saying. 'How about these?' said Ron, shoving a jar of Cockroach Cluster under Hermione's nose. 'Definitely not,' said Harry."	لا. «هاري» لن يريد واحدة من هذه. فتساءل «رون» وهو يقدم لها نوعاً آخر: «وماذا عن هذه؟». فقال «هاري»: «لا بالطبع.»	"أوه، لا، هاري لن يريد واحدة من هذه، فهي على الأرجح لمصاصي الدماء،" قالت هيرميون. "ماذا عن هذه؟" قال رون وهو يدفع بمرطبان من حلوى صرصور تحت أنف هيرميون. "بالتأكيد لا،" قال هاري.

In this excerpt, Hermione Granger and Ron Weasley are present in a candy shop for wizards and witches, buying candies for their friend Harry Potter. J. K. Rowling shows strange types of candies in her magical world, and they are usually related to supernatural creatures, such as vampires. In the Arabic HT, the mention of the vampires is omitted. This can be because the reference of vampires can be seen as conflicting with cultural and religious beliefs. The Arab world is not very fond of creatures related to dark magic or creatures that drink blood, which gives unpleasant imagery to young readers.

Moreover, cockroach references were removed to create a cleaner, more child-friendly version without altering the main idea. In contrast, ChatGPT retained disturbing elements like vampires and cockroaches, overlooking their potential discomfort for young readers. This highlights the value of Mailhac's (1996) strategies in culturally sensitive translation.

Example 5

English ST	Arabic HT	Arabic MT
A curvy sort of woman with a pretty face was serving a bunch of rowdy warlocks up at the bar. "That's Madam Rosmerta," said Ron. 'I'll get the drinks, shall I?' he added, going slightly red."	أشار «رون» إلى سيدة ذات وجه جميل تقوم بخدمة رواد المحل قائلاً: «هذه هي مدام روزميرتا». .. سأذهب لإحضار المشروبات. «	"كانت امرأة ممثلة القوام وجميلة الوجه تقدم المشروبات لمجموعة من السحرة المشاغبيين عند البار" "هذه مدام روزميرتا"، قال رون. "سأحضر المشروبات، أليس كذلك؟" أضاف وهو يحمر قليلاً."

In the former excerpt, Harry Potter, Hermione Granger, and Ron Weasley enter a bar that serves drinks. J. K. Rowling describes the woman serving in the bar by calling her “curvy with a pretty face.” In the Arabic HT, it is noticed that the translator demonstrates proficiency referring to the woman’s face, omitting her body shape. This can reflect cultural and social norms because it is usually unnecessary to describe details about women’s bodies in conservative cultures like the Arab culture. In Arab societies, modesty is usually emphasized, so references to unnecessary details about women’s physical appearance may not be suitable for young readers. Same goes to omitting Ron’s red face, which may be a subtle way to show Ron’s attraction towards this woman, and how he feels self-conscious about it. Although this may add depth to Ron’s character, the human translator uses deliberate omission to preserve his culture. On the contrary, Arabic MT, created by ChatGPT, does not see the necessity of the deletion of these few details, translating “curvy” to “امرأة ممتلئة القوام” which, somehow, makes it awkward.

The Little Mermaid

Example 1

English ST	Arabic HT	Arabic MT
“The sun rose up red and glowing from the water, and its beams brought back the hue of health to the prince’s cheeks; but his eyes remained closed. The mermaid kissed his high, smooth forehead, and stroked back his wet hair; he seemed to her like the marble statue in her little garden, and she kissed him again, and wished that he might live.”	وطلع الصبح في اليوم التالي عن نهار جميل، أشرقت فيه الشمس، وداعبت أشعتها وجه الأمير الشاب، فعاد قلبه ينبض بالحياة، وكانت عروس البحر على مقربة من البر، فسارت به إلى الشاطئ، ومددته فوق صخرة كبيرة من صخوره.	أشرقت الشمس حمراء متوهجة من الماء، وأعادت أشعتها لون الصحة إلى وجنتي الأمير؛ لكن عينيه بقيتا مغمضتين. قبلت حورية البحر جبينه العالي الناعم، ومسحت شعره المبلل إلى الخلف؛ بدا لها وكأنه التمثال الرخامي في حديقته الصغيرة، فقامت بتقبيله مرة أخرى وتمنت أن يعود إلى الحياة.

In this excerpt, Anderson describes the moment when the mermaid rescues the prince from drowning. While the ST explains that the mermaid kisses the prince multiple times and strokes his hair. The HT uses the cultural substitution technique, as defined by Mailhac (1996), replacing the physical intimacy described in the source text with a culturally appropriate action, using “سارت به إلى الشاطئ” highlighting the rescue process and the good deed the mermaid does, omitting the physical intimacy the mermaid shows towards a stranger. The HT may have done this to maintain the innocence of the children and help them focus on

learning to help people in trouble. The HT also omits the marble statue part, maintaining consistency in translation, which suggests using a combination of procedures in this translation process. On the contrary, the MT does not concentrate on the rescue process; the MT, instead, puts all the focus on the physical intimate moments the mermaid has with the prince. The MT uses words like “قبلت حورية البحر جبينه العالي الناعم” and “فقامت بتقبيله مرة أخرى” which is culturally inappropriate for Arab audience, especially children.

Example 2

English ST	Arabic HT	Arabic MT
“The prince said she should remain with him always, and she received permission to sleep at his door, on a velvet cushion.”	This excerpt is omitted.	قال الأمير إنه ينبغي أن تبقى معه دائماً، وحصلت على إذن بالنوم عند بابه على وسادة من المخمل.

In this excerpt, Andersen explains the progress in the relationship between the mermaid and the prince. He shows the prince’s care by mentioning how he always wants the mermaid to be very close to him, permitting her to sleep at his door. The HT uses the deliberate omission technique, erasing this whole part. The HT may have done this because it is uncommon to have ladies near men’s doors, even in innocent contexts. Another interpretation could be that the translator omits this part to preserve the dignity of the mermaid; she is a princess, not a servant. The MT, however, does not succeed at protecting Arab children from inappropriate images. The MT translates the whole part using words like “وحصلت على إذن بالنوم عند بابه” which does not send a proper message to children of the Arab culture.

Example 3

English ST	Arabic HT	Arabic MT
“Do you not love me the best of them all?” the eyes of the little mermaid seemed to say, when he took her in his arms, and kissed her fair forehead.”	This excerpt is omitted.	“ألا تحبني أكثر من أي شخص آخر؟ هكذا بدت عينا حورية البحر الصغيرة تتوسلان إليه عندما احتضنها وقبّل جبهتها البيضاء.”

Andersen, in this excerpt, continues to highlight the mermaid's love for the prince through her eyes, while the prince shows his fatherly affection for her. The HT completely erases this part, using deliberate omission technique. The translator’s point of view here may be that showing physical love between unmarried people, even if it is a forehead kiss, can be unsuitable for Arab children. Therefore, displaying this kind of physical affection between the mermaid and the prince may hinder cultural appropriateness. The MT, however, remains faithful to the ST,

translating words like “احتضنها وقبّل جبهتها البيضاء” which ignores the norms of the Arab culture.

The Nightingale

Example 4

English ST	Arabic HT	Arabic MT
“Already a new emperor had been chosen and the people who stood in the street asked the lord-in-waiting how the old emperor was; but he only said, “Pooh!” and shook his head.”	ولما أيقن رجال الدولة والشعب أن الملك يعالج سكرات الموت، اختاروا ملكا آخر، واستعدوا للاحتفال بتتويجه، بعد أن يدفنوا الملك الراحل، ويواروه في التراب.	"لقد تم اختيار إمبراطور جديد بالفعل، وكان الناس الواقفون في الشارع يسألون الوزير عن حال الإمبراطور القديم، لكنه اكتفى بالقول: 'أوه!' وهز رأسه."

Andersen, in the previous excerpt, continues to highlight mockery against authority figures. In the Arabic HT, a few changes are implied to make this translation more culturally sensitive. This is shown in the substitution of the “Pooh! And shook his head,” with the proper burying process after a respectful, structured, ceremonial transition. Cultural substitution is shown in the usage of these words “بعد أن يدفنوا الملك الراحل،” “ويواروه في التراب.” The translator, therefore, avoids teaching children disrespecting former rulers. On the other hand, the MT, generated by ChatGPT is literal, which sends an inappropriate message about authority figures, and this does not align with the Arab culture and norms.

The Tinderbox

Example 5

English ST	Arabic HT	Arabic MT
“What are you going to do with the tinderbox?” asked the soldier. “That is nothing to you,” replied the witch; “you have the money, now give me the tinderbox.” “I tell you what,” said the soldier, “if you don’t tell me what you are going to do with it, I will draw my sword and cut off your head.” “No,” said the witch. The soldier immediately cut off her head, and there she lay on the ground. Then he tied up all his money in her apron, and slung it on his back like a bundle, put the tinderbox in his pocket, and walked off to the nearest town.”	لماذا تهتمين هذه الاهتمام الشديد بتلك القداحة؟ ما قيمتها بجانب ما في هذا الكنز الكبير؟! إنها ليست إلا حجرين من الصوان، عليهما بعض النقوش... هذا لا يعنيك.. خذ أنت ما حملت من ذهب وجواهر، وأعطني قداحة جدتي الساحرة! لن أعطيك القداحة، حتى تحدثيني عن سرها وقيمتها.. قلت لك إن هذا لا يهمك. هاتها.. وأنا قلت إنني لن أعطيك القداحة، حتى تعرفيني سرها... أنني جندي محارب، فلا تكتري من الكلام معي... وفجأة رأى الجندي العجوز قد انتفضت انتفاضة شديدة، وهي واقفة، فانقلبت سحنتها، وتدلّت شفّتها السفلى على صدرها، وصار شكلها مخيفاً، قبيحاً كأنها قرد عجوز، وصرخت صرخة مرعبة...	"ماذا ستفعلين بصندوق النقاب؟" سأل الجندي. "هذا لا يخصك"، ردّت الساحرة. "لقد حصلت على المال، والآن أعطني صندوق النقاب." "سأخبرك بشيء"، قال الجندي. "إذا لم تخبريني بما ستفعلين به، فسأستل سيفي وأقطع رأسك." "لا" قالت الساحرة. فقطع الجندي رأسها فوراً، وسقطت هناك على الأرض."

In the previous excerpt, Andersen describes some events that show extreme violence; the soldier manages to kill his enemies; however, it is too graphic. While fairy tales usually aim at prevailing justice, the way Andersen presents this is rather brutal and disturbing to children. This is why a huge change has been made in the Arabic HT. In the first excerpt, the translator uses the cultural substitution technique and replaces the whole idea of cutting the witch's head off by simply running away from the witch. The translator replaces the, "I tell you what," said the soldier, "if you don't tell me what you are going to do with it, I will draw my sword and cut off your head," with something that is less disturbing. He simply says, "I am a warrior; do not talk much with me." This is shown in the words: *إنني جندي محارب، فلا تكثري في الكلام معي.* The changes tone down violent imagery, replacing murder with a strict warning. This protects children from fear-inducing content and discourages harmful behavior. Although the soldier still steals the tinderbox in the Arabic HT, theft is seen as less disturbing than murder, making the story more suitable for young readers. Meanwhile, ChatGPT did a different job while generating a translation for this excerpt. The MT remains faithful to the text, highlighting severe violence that can be troubling for children and can fail at teaching them good ethics. It translates in detail how the soldier cuts off the witch's head using words like, *إذا لم تخبريني بما ستفعلين به، فسأستل سيفي "وأقطع رأسك"*. Not only is this extreme, but it can also teach kids to threaten people who do not offer them what they ask. More importantly, adding words like *"فقطع الجندي رأسها فوراً، وسقطت هناك على الأرض"* make it less appropriate for the target audience. This translation may cause children to feel frightened and anxious, as at this age, they may not be able to control their feelings.

Findings

Examining the results, it becomes evident that human translators and ChatGPT follow distinctly different approaches when it comes to handling cultural content in children's literature. Using Mailhac's (1996) framework, the analysis showed that human translators made conscious efforts to protect cultural values and ensure the stories remained suitable for young Arab readers. On the other hand, ChatGPT stuck mostly to literal translation, often missing the deeper cultural layers and sensitivities.

The most common strategy used by human translators was deliberate omission. This means they simply left out parts of the original text that might not be appropriate for children in the Arab world. For example, in *Harry Potter and the Prisoner of Azkaban*:

- In example 1, references to alcohol like “wine” and “brandy” were removed.
- In example 2, burping and other impolite gestures were erased to reflect social norms.
- Example 3 omitted romantic talk and comments about a woman's body.
- In Example 4, elements such as vampires and cockroach-flavored candies were removed.
- Example 5 removed awkward references to female physical features and romantic feelings.

A similar pattern appeared in Andersen's tales. For instance:

- In *The Little Mermaid* (example 2), a scene where the mermaid sleeps at the prince's door was cut out.
- In example 3, kissing and hugging were left out to avoid showing intimacy between unmarried characters.

Another helpful strategy was compensation. Instead of deleting the entire idea, translators swapped problematic words with culturally neutral alternatives. In example 1 from *Harry Potter*, “brandy” was simply translated as “الشراب,” making the scene acceptable while keeping the overall meaning.

Cultural substitution was observed frequently, especially in fairy tales. Here, translators didn't just delete; they creatively changed details to fit the Arab context:

- In *The Little Mermaid* (example 1), a romantic moment became an act of heroic rescue.
- In *The Nightingale* (example 4), a cold reaction to the emperor's death was replaced with a respectful burial.
- In *The Tinderbox* (example 5), a violent beheading scene was softened into a stern warning.

In contrast, ChatGPT's translations often retained everything. It translated word-for-word, even when it meant including alcohol, romantic touches, or references to violence. For example, in examples 1, 3, and 5, it preserved every detail without filtering out what might be considered too sensitive or inappropriate for children.

These differences show the heart of the issue: human translators bring judgment, creativity, and cultural intuition to their work. They consider the reader's background, values, and emotional safety. ChatGPT, while powerful and accurate in many ways, still requires assistance when navigating culture, particularly in emotionally or morally sensitive texts for children.

Discussion

The findings of this study confirm the crucial role of cultural sensitivity in translating children's literature and validate Mailhac's (1996) framework for analyzing CSIs. The HTs consistently applied Mailhac's strategies, such as cultural substitution, compensation, and deliberate omission, to adapt texts appropriately for Arab child readers. These results align with previous studies that highlighted the usefulness of Mailhac's procedures for addressing cultural opacity and maintaining relevance for target audiences (Hashim, 2023; Mohammed, 2017). In contrast, the AI-generated translations produced by ChatGPT tended to rely on literal translation and showed difficulties handling CSIs, particularly those with high cultural opacity. This finding reflects the limitations identified by Al-Kaabi et al. (2024) and Obeidat and Jaradat (2024). While ChatGPT performed well in literal accuracy, it lacked the pragmatic and cultural decision-making observed in HTs and emphasized in Mailhac's model. Furthermore, the results support broader arguments in the literature that human translators possess the flexibility to combine multiple strategies when needed, a feature also noted by Hashim (2023) and Robati (2016). Overall, the outcomes reinforce the ongoing relevance of Mailhac's framework as both a theoretical foundation and a practical tool for translation practice and research.

Conclusion

This study explored the translation of CSIs in children's literature by comparing HTs with those generated by ChatGPT. Using Mailhac's (1996) framework as the central analytical tool, the research applied a qualitative approach that included an analysis of literary texts. Literary case studies featured excerpts from *Harry Potter and the Prisoner of Azkaban* and three stories by Hans Christian Andersen: *The Little Mermaid*, *The Nightingale*, and *The Tinderbox*, providing a rich foundation for comparing how culturally sensitive themes were handled in both translation types and in the fantasy and the fairy tale genres, which are popular in children's literature.

The study showed that human translators effectively used Mailhac's strategies, such as omission, compensation, and cultural substitution, to adapt sensitive content like religion, gender roles, and romance, ensuring cultural relevance and suitability for children. In contrast, ChatGPT relied on literal translation, often causing cultural mismatches. These results highlight the creativity and cultural sensitivity human translators bring, qualities still lacking in AI tools. Future research could explore how AI can support, rather than replace, human translators in literary contexts.

Lastly, it is also recommended that translators and researchers utilize tailored prompts when employing ChatGPT or other AI/ MT tools for translating children's literature. These prompts must be carefully designed to include cultural context, target audience considerations, and genre-specific nuances, particularly in genres like fantasy and fairy tales, as they are rich in metaphor, symbolism, and culturally embedded references. Providing culturally sensitive input to MT tools can improve translation accuracy, aligning outputs with the target culture's values and idioms. This reduces cultural misrepresentation and enhances the authenticity and educational value of texts for young readers.

References

- al-Badri, W. S. Y. (2023). The fairy tales and Anne Sexton's transformation with reference to female protagonists in Cinderella. *Lark Journal for Philosophy, Linguistics and Social Sciences*, 50 (1), 695–714. <https://scispace.com/pdf/the-fairy-tales-and-anne-sextons-transformation-with-1bm29c4l.pdf>
- al-Kaabi, M. H., al-Qbailat, N. M., Badah, A., Ismail, I. A., & Hicham, K. B. (2024). Examining the cultural connotations in human and machine translations: A corpus study of Naguib Mahfouz's Zuqāq al-Midaqq. *Journal of Language Teaching and Research*, 15 (3), 707–718. <https://doi.org/10.17507/jltr.1503.03>
- Alla, A. (2015). Challenges in children's literature translation: A theoretical overview. *European Journal of Language and Literature*, 2 (1), 15–18. <https://pdfs.semanticscholar.org/5dd7/5745f3465e71dd61565a7f0eb3598f9f921d.pdf>
- Andersen, H. C. (1837). *The Little Mermaid*. Urbana: Project Gutenberg.
- - -. (1843). *The Nightingale*. Urbana: Project Gutenberg.
- - -. (1835). *The Tinderbox*. Urbana: Project Gutenberg.
- Feldt, L. (2015). Harry Potter and contemporary magic: Fantasy literature, popular culture, and the representation of religion. *Journal of Contemporary Religion*, 31 (1), 101–114. <https://doi.org/10.1080/13537903.2016.1109877>
- Hashim, B. A. (2023). The impact of cultural differences in translation from English into Arabic (Master's thesis). University of Basrah. <https://rgdoi.net/10.13140/RG.2.2.34761.31849>
- Khoshafah, F. (2023). ChatGPT for Arabic-English translation: Evaluating the accuracy. *Research Square*. <https://doi.org/10.21203/rs.3.rs-2814154/v2>
- Levy, M., & Mendlesohn, F. (2016). *Children's fantasy literature: An introduction*. Cambridge University Press.
- Lin, Y. (2023). The relationship between machine translation and human translation in the era of artificial intelligence. *Proceedings of the 3rd International Conference on Signal Processing and Machine Learning*, 1–9. <https://doi.org/10.54254/2755-2721/5/20230547>
- Mailhac, J.-P. (1996). *The formulation of translation strategies for cultural references*. Salford: European Studies Research Institute.
- McMartin, J., & Van Coillie, J. (2020). *Children's literature in translation: Texts and contexts*. Leuven: Pers Leuven.
- Mohammed, H. G. (2017). Translating Arabic/English individual cultural references: Strategies and parameters. *Al-Mustansiriya Journal of Arts*, (76), 1–20. <https://search.emarefa.net/en/detail/BIM-874129-translating-arabic-english-individual-cultural-references-st>

- Obeidat, M. M., & Jaradat, M. A. (2024). Artificial intelligence accuracy in translating resistance literature from Arabic into English: Google Translate and ChatGPT as a model. *Advanced Humanities and Social Sciences*, 5 (2). <https://royalliteglobal.com/advanced-humanities/article/view/1506/742>
- Plenter, J. I. (2023). Advantages and pitfalls of machine translation for party research: The translation of party manifestos of European parties using DeepL. *Frontiers in Political Science*, 5, 1268320. <https://doi.org/10.3389/fpos.2023.1268320>
- Pound, E. (1934). *ABC of reading*. New Directions Publishing.
- Robati, F. Z. N. (2015). Comparative analysis of strategies applied in Persian and English translations of Quranic-Arabic culture-bound term "Jilbab" (33:59). *International Journal of Applied Linguistics and English Literature*, 5 (2), 1–9. <https://journals.aiac.org.au/index.php/IJALEL/article/view/2134/1887>
- Rowling, J. K. (1999). *Harry Potter and the Prisoner of Azkaban*. London: Bloomsbury.
- Sabr, M. A., & Al Ali, K. (2023). A study of responses of student translators to some basic problems in translating children's literature. *Adab Al-Basrah*, 104 (1), 1–18. <https://www.basradab.edu.iq/wp-content/uploads/2024/08/22-مها-عبدالواحد.pdf>
- Salman, S. D. (2022). A cognitive approach to machine translation post-editing of English-Arabic literary texts. *CDELTA Occasional Papers in the Development of English Education*, 80 (1), 75–99. <https://doi.org/10.21608/opde.2022.282202>
- Teng, S. (2024). Exploring the effect of ChatGPT on the translation of poetry in literary works: A case study of the David Hawkes translation of *A Dream of Red Mansions*. *Arts, Culture and Language*, 1 (7), 1–15. <https://doi.org/10.61173/zgt1q485>
- الغضبان، ع. (2018). (الببل) اقتباس عن قصة لـ هانس كريستيان أندرسن، سلسلة المكتبة الخضراء للأطفال. القاهرة: دار المعارف.
- الغضبان، ع. (2016). (عروس البحر) اقتباس عن قصة لـ هانس كريستيان أندرسن، سلسلة المكتبة الخضراء للأطفال، العدد 13. القاهرة: دار المعارف.
- الكبير، ع. (1993). (القداحة العجيبة) اقتباس عن قصة لـ هانس كريستيان أندرسن، سلسلة المكتبة الخضراء للأطفال، العدد 13. القاهرة: دار المعارف.
- رولينج، ج. ك. (1999). هاري بوتر وسجين أزكابان (ترجمة سحر توفيق). القاهرة: دار نهضة مصر.