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Lost in Punslation:A comparative study of AI and Google Translate in handling Humor

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Abstract

Abstract: This paper attempts to explore and compare the challenges of translating puns by each of AI and Google Translate. Puns are considered to be a type of humor, and humor basically relies on culture; therefore, translating it is challenging and needs a more comprehensive background, as sometimes it is not translatable at all. It is hypothesized that using AI to translate puns is better than Google Translate, as AI language models have enormous data and can generate more fluent and natural-sounding translations. Besides, the ability to learn makes AI models perform better in translating puns compared to Google Translate. The data of this study were derived from the first season of the Friends sitcom, whereby 240 pun samples were collected and compared. The samples were first categorized into four types, following Delabastita's (1996) categorization. Second, they were translated from English into Kurdish by AI once and by Google Translate another time. Third, the translation strategies are denoted, following Delabastita's (1996) eight strategies for translating puns. The two versions of the translations were compared to identify the similarities and differences, frequencies, and challenges of translating puns through AI and machine translation. Only central Kurdish is considered to be tested for the TL. For accuracy, the study used the Deep Seek-v3, which is more updated, and its Kurdish version is believed to be more accurate than the other models. The study results show that meaning and humor are often lost when translating puns 'punslation' in both cases. AI models and machine translation both face challenges in dealing with puns when translating from English into Kurdish.

Keywords:
Machine_Translation,
Google_Translator,
Translating_puns,
wordplay,
AI_Translating.

1. Introduction

Translation bridges cultures and facilitates the exchange of ideas and emotions. These ideas and emotions encompass a wide range of additional elements, including various forms of humor and their respective classifications. Translators and experts have extensively explored and developed various strategies aimed at effectively rendering humor across linguistic and cultural boundaries, by formulating theories and offering novel perspectives, one facilitates the emergence of new definitions, identifies existing problems, and contributes to the development of potential solutions. Nevertheless, the process of translating, particularly humor, is more complex than it may seem.

The translation of humor, particularly puns and wordplay, has garnered significant scholarly attention, with researchers such as Balestra (2024), Albin and Paul (2022), Ermokkove (2022), and CLEF (2022) contributing to the discourse on this topic. Additionally, Experts have conducted many studies on translating humor, concluding that the translator needs to know the cultures of both SL and TL (Attardo, 2020).

The Kurdish audience is among the other audiences that read and listen to humor and enjoy it. To the best of the researchers' knowledge, no academic research study has addressed this issue. This study, hopefully, aims to investigate the strategies of translating puns from English into Kurdish using AI and Google Translate. Both AI and Google considered using machine learning; however, AI models are more innovative and more applicable for learning. Therefore, this study is expected to be beneficial to the fields of translation, computational linguistics, AI trainers, and language learners.

2. Theoretical Background and Previous Studies

2.1 Background

Various terms are used to describe humor, such as "funny," "comic," and "ironic." Scholars have struggled to distinguish between these concepts (like *humor vs. ridicule or irony vs. sarcasm*). However, they are confused, and the confusion increases even more when these are translated into another language. After a long time, defining these terms has been challenging, but humor studies have started using the term 'humor' as a broad umbrella term for various humorous situations. However, that does not mean that differences between these terms cannot be revealed. (Attardo, 2020).

Among the issues of translation, the humor is the issue of pun, which is often based on word play, sound, or structure. Translators then face challenges in translating puns into the TL. Trying to preserve the original joke is either impossible or hard. Delabastita (1996) indicated that, for example, English words like "snow" or "ice" have many equivalents in Eskimo languages, which suggests that both "snow" and "ice" in English are used in a broader sense. Therefore, these might be confusing for translators, and they often use this because there is not always a direct one-to-one equivalent between languages.

As humor is difficult to categorize, define, and explain (due to its various forms and ambiguity), translation involves many choices among these terms that might not have a direct equivalent.

2.1.1 Pun

A Pun is typically a word or phrase with multiple meanings and they are one of the most popular types of humor (Blake, 2007). Puns are considered part of verbal humor (Attardo, 2020). Furthermore, from a linguistics and semiotic perspective, they can be defined as phenomenon that play with sound or the structure of words, creating a humorous effect (Attardo, 1994).

The term 'wordplay' often encompasses puns, spoonerisms, and jokes come to mind. Wordplay is closely related to humor, which in turn is connected to laughter (Chiaro, 1992).

According to Blake (2007), the philosopher Henri Bergson considered puns the lowest type of humor in his book Laughter. Freud also considered them the lowest form of wit as they require the least effort.

Delabastita (2021), defines the pun/wordplay as:

"Wordplay is the general name indicating the various textual phenomena (i.e. on the level of performance or parole) in which certain features inherent in the structure of the language used

(level of competence or langue) are exploited in such a way as to establish a communicatively significant, (near)simultaneous confrontation of at least two linguistic structures with more or less dissimilar meanings (signified) and more or less similar forms (signifiers)". (p.57)

The above definition shows that a pun is a clever and creative use of language, whereas words/phrases look/sound alike but have different meanings, resulting in humorous meanings. Additionally, the study introduces the term "Punslation" to describe the process of translating puns.

2.1.2 Types of Puns

Pun/wordplay has been categorized into various categories, offering typologies to distinguish it from the other types of humor and better understand its functions and forms. Delabastita (1996) argued that previous attempts to classify pun/wordplay from Aristotle to the Renaissance led to more confusion than clarity.

Blake (2007) distinguished it into three types: If two words sound alike, they are called homophones (as in *Fin* and *Finn*). If two words sound and spell the same, then they are homonyms (as in bear—the animal—and bear—to carry). Another type is when a word or phrase gains an extra meaning (often a metaphoric one), which is called polysemy.

Attardo (1994) classified puns into four types:

1- Based on linguistic phenomena: This includes homonymy, homophony, homography, paranomy, antonymy, morphic attraction, tendency to motivation, and Contamination.

2- Systematics: includes each of (paradigmatic puns, syntagmatic puns, chiastic puns, inclusion puns, zeugmatic puns, and sylleptic pun).

3- Based on surface structure, which includes: 1) Zero phoneme difference (i.e., homonyms). For example, a club (*club as stick vs. club as social institution, p.120).* 2) One phoneme difference. (*edit vs. eat it, p.120*) Between /ɵ/ and /t/. 3) Two phoneme differences. 4) Three phoneme differences. 5) Four phoneme differences.

4—Eclectic puns: This type is often found in literary works and advertisements. It combines multiple pun types, including linguistic and stylistic.

Delabastita (1996) divided the pun/wordplay into four types: 1) Homonymy (words with different meanings but sounds and spell alike). 2) Homophony: words that sound alike but differ in both spelling and meaning. 3) Homography: words with the same spell but different pronunciations). 4) Paranomy: (words that are similar in sound and spelling but not identical. Accordingly, the formal typology of the pun can be divided into two parts:

1) Vertical wordplay: This occurs when similar words appear in different texts with different meanings. Their connection is understood through context.

2) Horizontal wordplay: This occurs when words with similar sounds or spelling appear consecutively in the exact text.

The table below is adapted from Delabastita (1996); the examples from the original table have been changed and adapted to this study, whereas the samples from the Friends sitcom (Season 1, Episode 1) have been added:

Table 1 The formal typology of pun modified and adapted from Delabastita (1996)

V/H	Homonymy	Homophony	Homography	Paranomy
VERTICAL	*Coffee*: (*Coffee* as a beverage vs. *Coffee* as a social situation)	*Wine* (the drink) vs. *Whine* (complaining).	*Ross: "I can't believe what I'm hearing!"* (Seriousness vs. Mocking).	*loose her vs. looser* (sounds somewhat similar)
HORIZONTAL	*Get*: (*Get* as an acquiring something vs. *Get* receiving support)	*Perform* (general task) vs. *perform* (sexually)	*Slept*: (Slept as a past tense of sleep vs. Slpet as a sexual encounter)	*Good* as a comforting vs. *good* as an agreement

According to the above descriptions, experts have given puns various typologies based on linguistic, structural, and functional aspects. Some seem to have focused more on phonetic similarities, and others on contextual ambiguity.

2.1.3 Translating Puns

Translating puns can be considered a unique challenge for translators, as they rely on wordplay, double meanings, or phonetic similarities, making them challenging or non-translatable. Attardo (1994) discussed that the earlier version of Raskin's humor theory focused much on the similarities and opposites of humor, which means the theory works for translating jokes but lacks the differences between humor and puns. Accordingly, humor can be translated, but puns cannot be translated. Attardo simplifies translating puns by giving an example, as translating Penguin jokes makes no sense on Amazon.

Delabastita (1994) explains that puns are difficult to translate because they are often based on clever wordplay in the original language, relying on specific features of that language. These features include homophones and near-homophones (similar-sounding), double and multiple meanings (polysemic clusters), and idioms or grammar rules.

Similarly, Sanderson (2009) sees that translating puns requires and involves more complex linguistic skills than other types, and that is mainly due to the differences among languages. Having no direct match between the way words (i.e., puns) sound and their meaning in both SL and TL makes the translation difficult. Hence, the translators prioritize either the effects of the puns or the actual content. Low (2010) explains that translating puns is difficult, and translators must think creatively and systematically to maintain humor when facing puns.

All the experts who discussed translating puns see it as either challenging or untranslatable. However, the majority see it as a difficult task that requires more effort from the translators. The experts suggested several strategies and models for translating puns, which are presented in the following section.

2.1.4 Strategies for Translating Puns

Experts employed various strategies to translate puns from SL to TL, and each dealt with them from a different point of view.

Regattin (2022) explains that translating wordplay involves a threefold approach. In the first level, the translator aims to translate the wordplay from SL to TL but maintains the humor of the original wordplay, even if that means not translating it literally. In the second level, the translator will recreate the wordplay in the TL; to do so, s/he must understand and follow the definition of the original wordplay. The last level, some of the wordplays, might not be translated directly because of the differences between languages or in their writing system. Hence, the translator must devise new rules to create a similar effect of the wordplay.

Low (2010) suggests that the two most common methods for translating puns are Pentagons and Hexagons. The first shows how pun translation can maintain humor through clever connections, while the latter shows that pun translation can be more complex and require deep connections among words.

Delabastita (1996) suggested eight strategies for translating puns:

1- Pun to Pun: a pun in the ST is translated to a pun in the TL, with more or less differences in each structure and meaning.

2- Pun to Non-Pun: The pun in the ST is substituted by a non-pun in the TL. The translator uses a word or phrase that is not wordplay.

3—Pun to Related Rhetorical Device: The Pun in the ST is replaced by a rhetorical device such as irony, alliteration, rhyme, or repetition. The replacement aims to recreate a similar effect to the original pun.

4- Pun to ZERO: The original pun is completely omitted in TL.

5- PUN ST to PUN TT: The pun is not translated but will be preserved.

6- NON-PUN to PUN: The translator adds a new pun, while no pun existed in the ST, and that is often to compensate for a lost pun elsewhere.
7- ZERO to PUN: The translator added new material, which serves as a compensatory device.
8—Editorial Techniques: The translator explains the changes using techniques such as footnotes, endnotes, or comments.
Moreover, Delabastita explains that these strategies might sometimes be merged. For example, a pun may be translated into a non-pun with a footnote explaining the omission.

2.2 Previous Studies:

Balestra (2024) conducted a thesis entitled: "*Machine Translation and Artificial Intelligence Applied to the Translation of Puns and Wordplay in 'Alice's Adventures in Wonderland"*, aimed at investigating the use of Machine Translation (MT) and Artificial Intelligence (AI) in translating humor, with a specific focus on puns. This study examines Neural Machine Translation (NMT) and AI models such as ChatGPT 3.5 and Microsoft Edge Copilot. It explores the strategies to enhance the performance of literary translation. Mixed methods were used to analyze the data. The data of the study have been taken from Lewis Carroll's "Alice's Adventures in Wonderland", in which five instances of humorous texts were taken and translated, first; manually and with two automatic methods called (BLEU and TER), Then the same texts were translated again using the same tool, but this time, improvement strategies were applied: NMT systems were trained specifically to handle puns and wordplay, and AI tools were given prompts tailored to the desired translation outcomes. In contrast, AI tools were given specific prompts to gain better results. Finally, both results were compared and evaluated. The study concluded that using special prompts helps, but training the translation tool did not, as after the second attempt, the puns were not translated well. AI and machines can help translators translate puns, especially when provided with clear instructions, but translators still need to put in the effort.

Arroubat (2022) conducted a study entitled "*Wordplay Location and Interpretation with deep learning methods"*, aimed at investigating the automatic translation of puns from French into English and vice versa using AI techniques. The study classifies the interpretation of puns using Jurassic-1, which is a large language model. The study data contained 3,387 puns (words and sentence-based puns). The study found that the model used for translating puns (i.e., Jurassic-1) detects pun locations but sometimes misinterprets meanings and achieves 50% accuracy in correctly interpreting wordplay.

Ermakova et al (2022) conducted a study titled "*CLEF Workshop JOKER: Automatic Wordplay and Humor Translation"*, aimed at exploring automatic methods for translating humor (particularly wordplay) and evaluating machine translation's ability to translate wordplay. The data was taken from video games and other texts in English and French. The training data contained over 2000 wordplay samples in English and over 2500 samples in French. The study used mixed methods for analyzing data and found that machine learning models still struggle with translating wordplay due to their complexity and depend heavily on cultural context. Traditional methods like BLEU for checking and evaluating the quality of the translation do not work well. The study finally suggested that new evaluation frameworks are needed.

(Albin & Paul, 2022) conducted a study titled "*Automatic Translation of Wordplay"*, aimed to assess machine translation's ability to translate wordplays, including homographs, paronyms, and portmanteaus, and to evaluate their effectiveness in creative translation. The study data were drawn from the JokeR project. The study focused on translating wordplays from English into French, and for doing so, 9515 wordplays were listed, but only 7893 were analysed, as the rest were invalid. 1145 of the valid translations were successfully translated into French wordplay. Results showed that only 14.5% of the translations were humorous. The study used a mixed method to analyse the data. The findings indicated that many wordplays resulted in errors and failed to preserve the intended meaning, and only some maintained the original wordplay.

Farwell & Helmerich (2006) carried out a study titled "*Pragmatics-based MT and the Translation of Puns"*, exploring a pragmatics-based approach to machine translation. The study data was drawn from a UNESCO Courier article titled "Latin America: Accion Speaks Louder Than Words.", which

was translated into fourteen distinct languages. Authors focused on the speaker's intention: locutionary, illocutionary, and perlocutionary. The results of the study revealed that some translators used different approaches. Some of them kept the wordplay, some emphasized meaning, and the rest were behind to give the reader an enjoyable title.

This study differs from previous studies in that it applies to the Kurdish Language and even uses a different AI model (Deep Seek-v3). Besides, this study is a comparative study between the AI model used for translation and Google Translate, whereas none of the previous studies compared these two.

3. Methodology:

3.1.1 Corpus: This study employs a mixed-methods approach to analyze the data and comprehensively compare the AI model and Google Translate in translating puns from English to Kurdish. The study employed a purposive sampling technique in the qualitative method, resulting in the collection of 240 samples of puns extracted from the first season of the Friends sitcom (24 episodes). Moreover, only Central Kurdish is considered for testing the TL. For accuracy, the study utilized the Deep Seek-v3, which is more up-to-date, and its Kurdish version is believed to be more accurate than other models.

Extracting the samples was challenging, and no tools were used, mainly because humor is subjective; what is considered funny by one person may not be humorous to others. Besides, in all samples, the complete statement has been translated, and that is for two purposes: first, to give both the AI model and Google Translate the context, and second, to know whether the other strategies like non-pun to pun, zero to puns, and editorial techniques are working for these tools or not.

3.1.2 Method: The study followed Delabastita's (1996) classification for the typology of puns: a Homonymy, b) Homophony, c) Homography, d) Paranomy *(discussed in 2.1.2).*

3.1.3 Translation Methods: Each of the samples was translated first using the AI model (Deep Seek-v3) and then, for comparison, the same pun was translated by Google Translate.

The Deep seek-v3 model was chosen because it provides more comprehensive and accurate Kurdish language (Central Kurdish) than the other models.

For the AI model (Deep Seek-v3), the following prompt has been applied for all the extracted puns/wordplays: *You are an expert translator with expertise in translating puns and wordplays from English to Central Kurdish within specific contexts. Your challenging task is translating this scene from the Friends sitcom, preserving the humor context, cultural relevance, and intended pun and wordplay. Ensure that puns and wordplay remain funny and culturally appropriate. the pun is: (TEXT=THE PUN/WORDPLAY)*

The translations are placed in the appendix. The quantitative method measures the types of puns and strategies for translating them. Then, the qualitative method identifies which AI model or Google Translate is more accurate for translating puns into Kurdish (Central Kurdish) and presents the strengths and weaknesses of both.

3.2 Problem Statement:

Translating puns remains one of the most difficult challenges in MT due to their dependence on linguistic ambiguity and cultural specificity. This study addresses the problem of selecting appropriate AI models for such tasks, particularly in under-represented languages like Central Kurdish.

3.3 Objectives of the Study

The aims are to achieve these objectives:

1- Evaluating the accuracy of translating puns from English into Kurdish by using AI compared to Google Translate.

2- Identifying and categorizing errors in translating puns using both AI and Google Translate.

3. Finding out the challenges of punslation and suggesting strategies for addressing them.

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3.4 Research Questions:

The study aims to answer the following:
1-Which AI models or Google Translate are more accurate for translating puns?
2- What are the strengths and weaknesses of both?
3- Which types of puns are more common than the other?
4- What translation strategy has been used by each of AI and Google Translate? The Frequency of each strategy?

3.5 Significance of the Study

This study is expected to be helpful to those who work in translation and even computational linguistics. It is also hoped to benefit AI trainers, language learners, and researchers.

4. Data Analysis and Discussion

Translating puns presents significant challenges, even for human translators, due to their reliance on wordplay, cultural context, and multiple layers of meaning. Despite the recent developments in the world of technology, particularly AI, the systems still struggle to capture the accuracy of translating puns. With the rise of AI tools (large language models) that might be used for many purposes, the question has been renewed and even slightly changed for the better.
This study aimed to address similar questions, open new avenues for conducting research in this area, and propose new ideas and solutions.
The study's data were collected from a sitcom (Friends), specifically from season one, which consists of 24 episodes—240 samples —using purposive sampling techniques. First, the puns are extracted by watching the episodes, and each pun is written. Even the timelapse is also written beside it, so that it can be reliable and easy to catch and review. Besides puns, the type of pun follows Delabastita (1996). After that, the pun is translated by an AI model (Deep Seek-v3) for its accurate Central Kurdish, then the pun this time is translated by Google Translate, and after the strategy for translating pun is revealed, first by AI (AI) and second by Google Translate (GT).
The frequency of the types of puns is illustrated in the table below:

Table 2: Frequency of the puns used in season 1 of the *Friends* sitcom.

Types of puns identified	Occurrences
Homophone	102
Homonymy	78
Paranomy	57
Homograph	3
Total	240

The table above shows that the most frequent type of puns used in season one of Friends is homophony, which occurred 102 times in the sample. The homonymy appears second, happening 78 times, followed by the paranomy, which appears 57 times, while the homograph is the least common, occurring only 3 times out of 240 samples.
Furthermore, the Figure below shows the percentage of each type of pun used in season one of *Friends*.

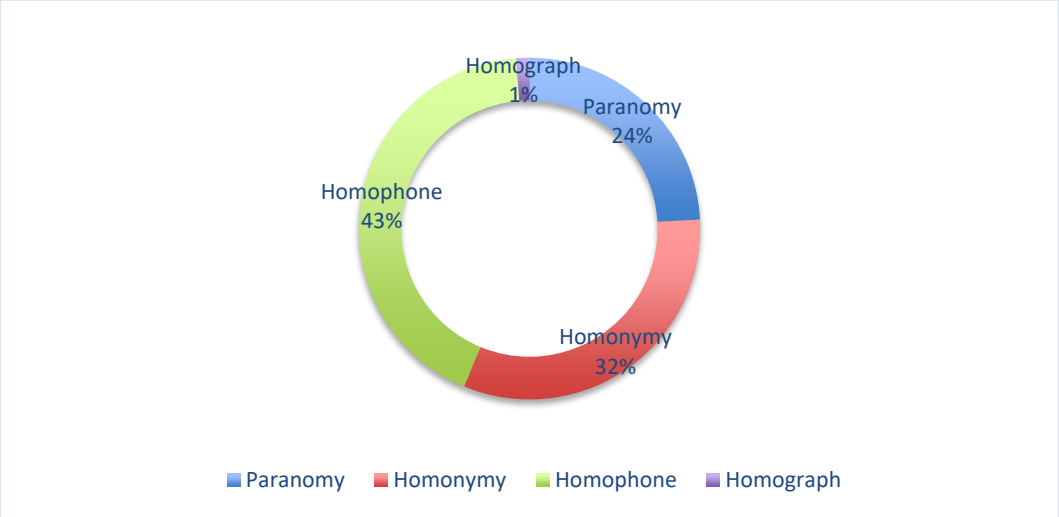

Figure 1: The percentage types of puns used in the *Friends* sitcom.

Moreover, the strategies employed by Depp Seek-v3 for translation were likely to favor the non-pun translation more.

Table 3: Frequency of strategies used in translating types of puns by Depp Seek-v3.

Strategies used by Deep Seek-v3 in translating puns	count
Pun to Pun	1
Pun to non-pun	201
Pun to related rhetorical device	0
Pun to Zero	6
Pun ST to Pun TT	18
Non-pun to Pun	0
Zero to Pun	0
Editorial Techniques	6
Total	226

The 14 remaining samples were classified under both untranslatable and mistranslation.

Table 4: Frequency of Mistranslation and Untranslatable Puns by Deep Seek-v3

Untranslatable	**4**
Mistranslation	10

Although the prompt provided to Deep Seek-v3 indicated that the statement contained a pun, the puns are not translated from one pun to another (i.e., pun to pun). The strategy of (pun to non-pun) is used widely, and it occurred in 201 samples. This strategy results in a loss of humor, which is reflected in a text that lacks wordplay.

For example, sample 14: *"How about I'll catch up with you in the Ice Age?"* (S1E02, 00:02:40.17). The phrase Ice Age " is categorized as a homonym; it can be referred to as a historical moment, and also might refer to a long time ago before now, or even a long time from now, while sounding and spelling the same. The Ice Age is translated as سەرەمی سەهۆڵبەندان, which is a literal translation; the first meaning is conveyed, but the second one is not, resulting in the loss of humor. In central

Kurdish, some other phrases have been used for a long time, like (هی سەردەمی دەقیانووسە belong to the age of Decius), and other phrases to express something that might happen in the far future, like (هەرگیز، مەحاڵە، مەگەر شەممە لە هەفتە بێرێت when pigs fly). However, one meaning will be lost, leading to a loss of sense of humor.

Moreover, there are six samples of Pun to zero, and an example of this is sample 137: “Well, smack my ass and call me Judy” (S1E15,00:18:09.16). The statement is translated to " باشە، لێم بدە و پێم بڵێ جودی.." The words (ass) have not been translated but omitted, and that is what happens when this strategy is used.

Furthermore, there are 18 samples of Pun ST to Pun TT. To give an example, sample 171: (Hey, that's "jo-incidence" with a "C.") (S1E18,00:14:44.14). Deep Seek-v3 translated this example as "هێی، ئەوە جۆ- ئینسیدێنسە بە س.", as it can be observed that the pun is not translated but preserved.

One more issue must be declared. First, Delabastita (1996) stated that a pun is untranslatable if it does not follow the provided eight strategies. Nevertheless, we can say that it is intended for human translation, and since we applied these strategies for AI translation, we have observed both mistranslations and untranslatable content. One example of mistranslation might be sample 183: “We'll start all over again.” (S1E20, 00:19:32.03). Translated as (.ئێمە لە سەرەوە دەستپێدەکەین).

Additionally, Deep Seek-v3 has provided some notes (see Appendix II) to clarify the changes, which Delabastita (1996) classified as an editorial technique. The translator uses techniques such as footnotes, endnotes, or comments to explain the changes. For example, sample 217: *“Oh, God. I just had sex with someone who was not alive during the bicentennial.”* (S1E22,00:12:38.23) is translated as: .ئەی خوایە! من لەگەڵ کەسێک خەوتووم کە لە ساڵی ڕاپەڕیندا ژیانی نەبووە. then giving a not that (“ساڵی ڕاپەڕین (Kurdish uprising) replaces the US bicentennial.”), Hence, the Deep Seek-v3 provided a note on the cultural reference; even in one of the notes, the name “Chad” has been translated as a Kurdish name (Rebin ڕێبین). Other notes on wordplay and clarity can be found in Appendix II.

From the above samples, it can be observed that translating with AI (namely Deep Seek-v3) from English to Kurdish mostly results in losing the sense of humor.

The Figure below illustrates the Percentage of translation pun strategies used by Deep Seek-v3, plus mistranslation and untranslatable features. The most widely adopted strategy by Deep Seek-v3 is 'Pun to non-pun', which accounts for 84%, while the least common ones are 'Pun to related rhetorical device', 'Non-pun to Pun', and 'Zero to Pun'.

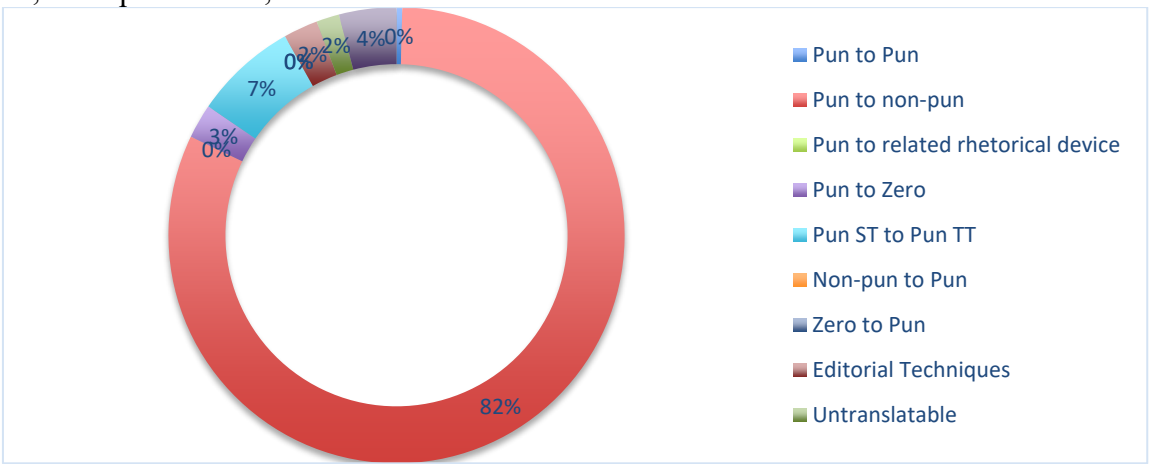

Figure 2: Percentage of the strategies of translation puns used by Deep Seek-v3, plus mistranslation and untranslatable features.

However, Google Translate (GT) is a popular translation service that serves millions of people daily. In the initial steps, GT used statistical machine translation, whereas it currently uses neural machine translation. This study compared GT to one of the AI models in translating puns.

GT also translated the 240 samples that Deep Seek-v3 translated. As GT is a translation tool, there is no need to give prompts. There were so many similarities and close results. The table below illustrates the frequency of strategies in translating types of puns.

Table 5: Frequency of strategies used in translating types of puns by Google Translate.

Strategies used by Google Translate in translating puns	count
Pun to Pun	2
Pun to non-pun	202
Pun to related rhetorical device	0
Pun to Zero	0
Pun ST to Pun TT	14
Non-pun to Pun	0
Zero to Pun	0
Editorial Techniques	0
Total	218

The above table shows that 199 samples are translated from Pun to non-Pun, making it GT's most widely used strategy for translating puns. Two samples are translated from Pun to Pun. Sample 65: *"Well, she's not quite."* (S1E08,00:05:45.07). The word "quite" can be categorized as a homonym, as it can be used to a certain extent and also refers to "completely". The GT translated the statement as: باشە، ئەو تەواو نییە. Occasionally, in Kurdish, the "تەواو نییە. "can be used to refer to both (to a certain extent and completely). Another example of translating from pun to pun is sample 138: "Has anybody seen my engagement ring?" (S1E24/00:05:23.08). translated to: " کەس ئەڵقەی دەستگیرانی منی بینیوە؟".

Figure 3: A scene from *Friends*, where the words (seen) play as a pun.

An example of pun ST to Pun TT is sample 218: "It's icky." (S1E22,00:19:02.01). Translated as: "..ئەوە ئیکییە", it can be observed that the pun (homonym) is not translated but preserved.

Furthermore, neither of these strategies occurs- pun to related rhetorical devices, pun to zero, non-pun to pun, zero to pun, and editorial techniques.

However, Table 3 shows 218 samples; therefore, the remaining 22 are categorized as untranslatable and mistranslated. The table below illustrates this matter**.**

Table 6: Frequency of Mistranslation and Untranslatable Puns by Google Translate.

Untranslatable	**3**
Mistranslation	19

To give an example from the above table (Due to space limitations), sample 28: "Smoke away." (S1E03, 00:02:42.21). Translated as "دووکەڵ دوور بکەوەرەوە". Means "stay away from smoke".

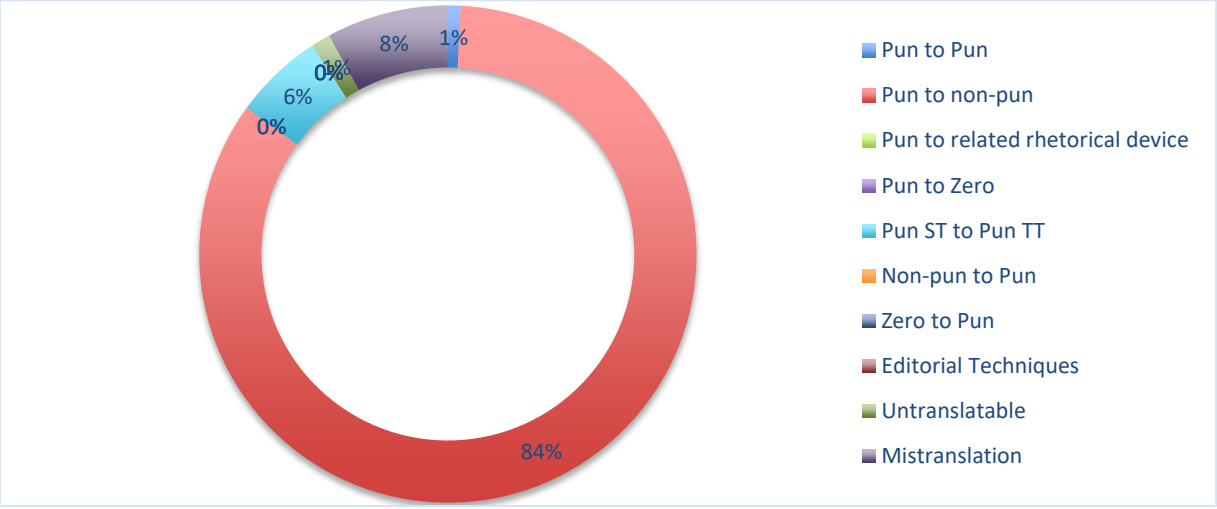

Figure 4: Percentage of the strategies of translation puns used by Google Translate, plus mistranslation and untranslatable features.

Moreover, the most widely used strategy is the transition from pun to non-pun, which accounts for 84%. As previously stated, this strategy leads to the loss of the sense of humor, in which a pun is translated by a text that does not create a wordplay at all. The second common strategy is to replace ST with TT, which accounts for 6%. According to this strategy, the punt is not translated but preserved. The least common strategies GT uses in translating puns are pun to related rhetorical devices, pun to zero, non-pun to pun, zero to pun, and editorial techniques, which they have not used.

Outside the scope of the strategies, mistranslation puns accounted for 8% of the samples, in which the GT mistranslated the puns.

4.1 Results

The results of this study show some similarities between translating puns using an AI-based model (namely Deep Seek-v3) and Google Translate. Before comparing the data, several beneficial points should be addressed. For example, AI-based models are often referred to as large language models, which are used for various purposes, including translation. In this context, the user must translate the text into a different language. This is usually referred to as providing a prompt; the more precise you are in providing the prompt, the more accurate the translation you will receive. Nevertheless, this is not dependable, as the same prompts by different users get different translations! Besides, sometimes the AI-based model focuses on something else, or considers another word in the statement, and identifies it as a pun! To give an example, consider sample 138 (shown in Figure 3):

Table 7: Identifying another word as a pun by Deep Seek-v3

N.	Sample	Deep Seek-v3	GT
138	- Has anybody seen my engagement ring? (S01E24) (00:05:23.08)	کەس ئەو ئەڵقەی منی بینیوە؟ Editorial Technique: "زەنگ" (ring) can refer to both: 1- Engagement ring (though less common, it's understood in context). 2- The sound of a phone ringing (more natural in Kurdish).	- کەس ئەڵقەی دەستگیرانی منی بینیوە؟

The above table shows that, although it is by chance that the word (seen/homonym) has been

translated into (بینین), which might refer to both notice and observation, Deep Seek-v3 focused much more on the word "ring," as it has even been given editorial technique.
Another noteworthy point is that Deep Seek-v3 occasionally makes spelling mistakes when analyzing data, which can sometimes affect the meaning. Sample 29: "But you'll have to live with the knowledge that you sent an honest man to die." (S1E03, 00:02:21.20), translated to: " بەڵام پێویستە بەو زانینە بژیت کە پیاوێکی پاکەت کوشت. The word (پاکەت) is the same as (Packet) in English, while (پاکت) means honest or clean. See sample 67 in Appendix I for further examples.

Another key consideration is that GT sometimes translates names into another word with a different meaning. In Samples 39 and 73, the name of the characters (Rachel) has been translated as (ڕەچەڵەك), which means "Origin".

In contrast, the Deep Seek-v3 changed the names to Central Kurdish names, making them sound more natural, and it even provided an editorial technique strategy, declaring that these names had been changed. Previously, it was discussed that the name "Chad" has been replaced by a Kurdish name, "Rebin ڕێبین," for local recognition. (For editorial technique, see Appendix II). For example, sample 195: *"Oh, Barry. Come on. This is all way too... No, we can go to Aruba." (S01E20,00:07:07.03).* The name (Aruba) is translated into (هەولێر), which means "Erbil/Arbil/Hawler", while the first name (Barry) is preserved and not translated.

Mistranslation issues are also notable concerns. As previously stated, this study followed the eight strategies outlined by Delabastita (1996) for translating puns. Nevertheless, these strategies are made for human translation, and that's why we found nothing about mistranslation! While for both GT and AI-based models, we have a number of these cases. For instance, consider sample 32: " Flupie? " (S1E04,00:11:34.21). The word (Flupie) is not a real word, formed for a specific purpose; it means when you lack a plan, and it is the opposite of "figured out" or "clear". Moreover, it is translated as "فلۆپی؟" by both GT and Deep Seek-v3, which precisely means (Floppy disk)! In Sample 69, the (Brian) is translated as (برایان), which means (Brothers)!
Furthermore, it should be noted that several translations are identical. Samples: 8, 37, 100, 154, 156, 166, 214, and 233. These examples are similar in terms of translation, punctuation, and so on. Some samples are similar or have a very slight change or minor spelling mistakes. For instance, sample 211 is the same, but only one phoneme differs, which is a spelling mistake by Deep Seek-v3.
Checking and analyzing the data also revealed the use of different synonyms. For example, in sample 163, both (گەمژە=گێل =) are used to translate (stupid).
Returning to the first point, we compare dates to highlight the similarities and differences between the GT and Deep Seek-v3 translations. The table below illustrates the similarities and differences between the two in translating pun into Central Kurdish.

Table 8: Similarities and differences of strategies used by GT and Deep Seek-v3 in translating puns from English into Central Kurdish.

Strategies	Deep Seek-v3	GT
Pun to Pun	1	2
Pun to non-pun	201	202
Pun to related rhetorical device	0	0
Pun to Zero	6	0
Pun ST to Pun TT	18	14
Non-pun to Pun	0	0
Zero to Pun	0	0
Editorial Techniques	6	0

The data illustrated in the above table clearly shows that there are many more similarities between the GT translation of the puns and the Deep Seek-v3 translation. The pun-to-pun translation is 1 to 2 for Deep Seel-v3 to GT, only one sample differs out of 240 samples, and the same is true for the pun-to-non-pun! Deep Seek-v3 provided two more samples for pun ST to pun TT than GT.
The differences are not significant, but although some are rare, they are essential. Punto zero is six samples for Deep Seek-v3 while none for GT, and that is not good for translating puns. Nevertheless, six samples for Deep Seek-v3 for editorial techniques, while none for GT, might be good for AI-based models.
The table below presents the untranslatable and mistranslation numbers of GT and Deep Seek-v3.

Table 9: Frequency of untranslatable and mistranslated samples by GT and Deep Seek-v3.

Untranslatable/Mistranslation	Deep Seek-v3	GT
Untranslatable	4	3
Mistranslation	10	19

There are a few differences in untranslatability between the two, although the number is greater in mistranslation. Only 10 samples of puns are mistranslated by Deep Seek-v3, while GT mistranslates 19 samples.

4.2 Discussion of the results

The outcomes of this study can be interpreted as the GT and AI-based model (namely Deep Seek-v3), which are similar but not the same in translating puns from English into Kurdish. Some differences are significant, and some are not.
Answering the study's questions, both models are similar in translating puns effectively, which is not accurate and leads to a loss of sense of humor. And that's probably because the puns are culturally and linguistically based. The machine still struggles to understand this context.
The strength of both might be the number of puns they translated (although from pun to non-pun) and the need for less effort. The weakness that can be regarded is the strategy they used in translating puns, the number of untranslatable and mistranslations, and the main reason behind that might be the lack of understanding of the context.
The study also found that both homonymy and homophone were the common types among the four types of puns. And the pun to non-pun strategy was the most common type used by both models.
The frequency of each strategy used by both is again similar, with Deep Seek-v3 having differences in each of these two strategies: pun to zero and editorial technique.
Spelling mistakes made by Deep Seek-v3 have been observed, sometimes leading to changes in meaning, while no spelling mistakes were observed in GT translations.
The results show that translating puns by both deep-seek-v3 and GT still faces significant challenges. Although AI-based models demonstrate the promising ability to understand context, translating puns from English to Central Kurdish requires human insight and more sophisticated language models.

5. Findings and Conclusions

This study investigated the ability to translate puns for English into Central Kurdish using Google Translate and Deep Seek v-3. The study examined 240 samples from the sitcom *Friends*, specifically from season 1, which comprises 24 episodes. The findings of this study provide important insights into the ability of Google Translate and Deep Seek v-3 in punslation from English into Kurdish. To answer the first question, the study showed that both GT and Deep Seek v-3 employed similar strategies when translating puns, with the most frequent strategy being the translation of puns into non-puns. Moreover, the findings present that neither tool fully captures the nuances of puns, as both struggle with the more complex structure of the puns. The study also highlighted the limitations and the ability of both tools in punslation.

Answering the second question of the research, both models failed to employ strategies for translating more complex puns, such as rhetorical devices or the conversion from non-puns to puns, which were absent in the translations.
For the third question, homophones and homonyms were the most common types among the samples, while homographs were the least common.
And for the last question, the most frequent strategy employed by both AI models was translating puns into non-puns. This means that both tools still struggle with understanding context and finding a suitable equivalence for translation. Other strategies, such as translating puns into rhetorical devices or attempting to convert non-puns into puns, were either very rare or not used at all. The study also found that specific strategies were used exclusively by Deep Seek-v3, such as punto zero and editorial techniques, which were not present in GT's translations.

6. Implications and Future Work

The findings of this study suggest that further research is needed, particularly with larger datasets, a broader range of humor types, and comparisons of AI-based models (specifically those with extensive data on Central Kurdish, such as Claude Sonnet and Poe), to develop specialized chatbots for translating humor.
The Appendices: https://drive.google.com/file/d/1nmlHv5XJwNUCBS-YEbGPUngxFilgWZ0S/view?usp=sharing

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تۆژینەوەیەکی بەراوردکارییە لەبارەی چۆنیەتی مامەڵەکردن لەگەڵ وەرگێڕانی گاڵتە و :گومبوون لەنێو پرۆسەی وەرگێڕانی وشەبازیدا - گەپ لەنێوان ژیریی دەستکرد و وەرگێڕانی گوگڵ

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پوختە

ئەم تۆژینەوەیە هەوڵێکە بۆ دۆزینەوە و بەراوردکردنی ئاڵنگارییەکانی بەردەم وەرگێڕانی وشەبازی لەڕێگەی هەریەک لە ژیریی دەستکرد و وەرگێڕانی گوگڵ. وشەبازی (پەنز) بە جۆرێک لە جۆرەکانی گاڵتە و گەپ دادەنرێت، و گاڵتە و گەپیش بەشێوەیەکی سەرەکی بەندە لەسەر کەلتوور، کەوابوو؛ وەرگێڕانیان بۆ زمانی دیکە ئاڵنگاری دەوێت و هەروەها پێویستی بە تێگەیشتنی تەواو هەیە لە پاشخانەکەی، و هەروەها هەندێکجاران هەر ناتوانرێت وەربگێڕدرێن بۆ زمانانی دیکە. وا گومان دەبرێت کە وەرگێڕانی وشەبازی لەڕێگەی ژیریی دەستکردەوە چاکترە وەک لەوەی لەڕێگەی گوگڵەوە بێت، ئەمەش بەپێی ئەوەی ئامرازەکانی ژیریی دەستکرد خاوەنی داتای زەبەلاحن و بەشێوەیەکی ڕووں ڕەوانتر وەرگێڕان دەکەن و هەروەها وەرگێڕانەکەشیان پتر سرووشتی دەردەکەوێت. جگە لەوانەش، بوونی توانستی فێربوون لەلایەن ئامرازەکانی ژیریی دەستکردەوە وادەکات لەوەرگێڕان چاکتر بێت. داتای ئەم تۆژینەوەیە لە زنجیرەی هاوڕێکان وەرگیراوە، وەرزی یەکەم کە لە 24 ئەڵقە پێکدێت و لە ئەنجامدا 240 نموونە کۆکرایەوە و وەرگێڕانەکەیان بەراوردکرا. نموونەکان سەرەتا پۆلێن کران لەسەر ڕێبازی دیلاباستیتا (1996)، پاشان لەلایەن هەریەک لە ئامرازەکانی ژیریی دەستکرد و گوگڵەوە وەرگێڕانیان بۆ کرا. دواجاریش ستراتیژییەکانی وەرگێڕانیان دیاریکرا بەپێی ستراتیژییەکانی دیلاباستیا (1996) بۆ وەرگێڕانی وشەبازی. لەمیانەی بەراوردکردنی نموونەکانی وەرگێڕان، جیاوازی و لێکچوونەکان دیاریکران و هەروەها ئاماژەش بە ئاڵنگارییەکان فریکوێسنی کرا. بۆ ئەم تۆژینەوەیە تەنها زاری ناوەڕاست بەکاربراوە و بەوهۆیەش ئامرازی Deep Seek-v3 بەکارهێنراوە کە زاری ناوەڕاستی گەلێ ڕەوانترە لە ئامرازەکانی تر. لەکۆتاییدا، دەرکەوت کە هەردووک (مانا، و گاڵتەئامێزیی) زۆرجاران گوم دەبێت لەکاتی وەرگێڕانیان لەلایەن هەریەک لە گوگڵ و ژیریی دەستکردەوە و بەم پێیەش وەرگێڕانی ئامێریی و ئامرازەکانی ژیریی دەستکرد تاوەکو هەنووکە ڕووبەڕووی ئاڵنگاری زۆر دەبنەوە کاتێک لەڕێگەیانەوە وشەبازی (پەنز) وەرگێڕانی بۆ دەکرێت .

وشە سەرەکییەکان: وەرگێڕانی ئامێر، وەرگێڕی گووگڵ، وەرگێڕانی وشە، یاری بە وشە، وەرگێڕانی.AI

الاختفاء في عملية ترجمة الكلمات الملعوب بها:دراسة مقارنة في كيفية التعامل مع ترجمة الفكاهة بين الذكاء الاصطناعي وترجمة جوجل

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الملخص

هذه الدراسة محاولة للمقارنة والكشف عن التحديات التي تواجهها ترجمة الكلمات الملعوبة بها عن طريق الذكاء الاصطناعي وترجمة جوجل.

يعد اللعب بالكلمات نوعاً من أنواع الفكاهة، والفكاهة بشكل رئيسي تعتمد على التراث، وبهذا؛ فإن ترجمتها إلى لغة أخرى تعتبر تحدياً، لأنها تعتمد على فهم كامل وخلفية ثقافية، وفي بعض الأحيان تتعذر ترجمتها إلى لغات أخرى، ويُظن أن ترجمة الكلمات الملعوبة بها عن طريق الذكاء الاصطناعي أحسن من ترجمة جوجل، لأن الأول يمتلك خزينة من البيانات الضخمة التي تساعد على الترجمة بشكل أوضح وأكثر طبيعية. إضافة إلى قدرة أدوات الذكاء الاصطناعي على التعلم مما يؤدي إلى الترجمة بشكل أحسن.

بيانات هذه الدراسة أخذت من سلسلة الأصدقاء. الفصل الأول متكون من 24 حلقة وبالنتيجة تم جمع 240 نموذج من ترجماتهم ومن ثمّ مقارنتها. في البداية تم تصنيف النماذج وفق منهج ديلاباستيتا (1996)، ومن ثمّ تم ترجمة كل من النماذج من خلال الذكاء الاصطناعي وترجمة جوجل، وفي الأخير تم تحديد استراتيجية الترجمات وفق استراتيجية منهج ديلاباستيتا (1996)، لترجمة الكلمات الملعوبة بها. ومن خلال نماذج الترجمة تم تحديد نقاط التشابه والاختلاف إضافة إلى الاشارة إلى تحدي التردد.

ومن الجدير بالذكر أن الكردية الوسطى هي اللهجة المستعملة في هذه الدراسة وتم الاعتماد على أداة Deep Seek-v3، لأن ترجمتها أوضح من الأدوات الأخرى. وفي الختام توصلنا إلى نتيجة مفادها أن (المعنى والفكاهة) كثيرا ما تختفي عند ترجمتها بواسطة كل من الذكاء الاصطناعي وترجمة جوجل، وعليه فإن الترجمة وفق الذكاء الاصطناعي وترجمة جوجل لحد الآن تواجه تحديا عندما نترجم الكلمات الملعوبة بها.

الكلمات المفتاحية: الترجمة الآلية، مترجم جوجل، ترجمة ألعاب الكلامية، اللعب بالكلمات، الترجمة بالذكاء الاصطناعي.