

Investigating Implicature in the Machine Translation of Selected Conversations from the Novel *The Hunger Games*

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ABSTRACT

*This study investigates the translation of conversational implicatures via machine translation of selected conversations from the novel *The Hunger Games* by Collins (2008). The nine selected conversations are taken from the beginning, middle and end of the novel from crucial points in the novel's plot and are conversations that push the action of the novel forward. This study analyzes conversational implicatures according to Baker's (2018) pragmatic equivalence and Grice's maxims (1991). The study specifically examines Google Translate's (GT) translation of instances where these maxims were flouted in the source text since, according to Baker (2018), these maxims are not universal and thus the translation of their conversational implicature imposes a cultural challenge to any translator. This is done through putting the novel's conversations into GT and the output/translation is then analyzed and compared with the source text's conversational implicatures. The findings of the study revealed that GT can translate conversational implied meanings correctly and to a great extent when the maxim of relation is flouted. This is due to the fact that it translates the utterance literally and thus the same effect is mimicked in the target text. However, the implied meanings created through the flouting of quality or manner maxims are harder for GT to translate. When it comes to the maxim of quantity, instances where the maxim of quantity intersects with maxim of manner were also challenging for GT to translate. Therefore, researchers in the field of machine translation should work to improve the machine translation regarding implicature created through the flouting of the maxims of manner and quality.*

Keywords: Pragmatics, Machine translation, Grice's maxims, Implicature, Google translate

1. INTRODUCTION

The increasing demand for translation is growing rapidly and at a pace that goes beyond the capacity of the translation profession. Therefore, a complete mechanization of translation has been one of the oldest dreams for humanity; a dream that will help meeting the increase of demand for translation and will also help in facilitating the process of translation. However, the dream of having machines that can easily translate any text with just a click of a button seems like a distant and unachievable future. This is because a lot of changes have to be done to the

machine's output to make it reach an acceptable standard to human reading, making the process longer and more demanding. The obstacles which are faced in translating by computer are always linguistic and not computational (Hutchins and Somers 1992). These obstacles are presented in the problems:

...of lexical ambiguity, of syntactic complexity, of vocabulary differences between languages, of elliptical and 'ungrammatical' constructions, of, in brief, extracting the 'meaning' of sentences and texts from analysis of written signs and producing sentences and texts in another set of linguistic symbols with an equivalent meaning.

(Hutchins and Somers 1992, 2-3)

These types of ambiguities can help in identifying the types of mistakes produced by MT systems and how these mistakes differ from those of human translators. Therefore, an analysis of these mistakes is needed to help identify the main problems within MT systems and help focus research efforts to fix these problems.

When it comes to the analysis of the mistakes that MT systems create in their output, it is often done on the lexical, syntactic, and pragmatic levels. Therefore, the aim of this paper is to include a pragmatic perspective to analyzing the mistakes created by MT systems, specifically on the pragmatic level of intended meaning that has to do with conversational implicatures. The study mainly investigates the machine translation of intended meaning that is created through the flouting of Grice's (1975) maxims in conversations. For the purpose of the current study the updated version of Grice's maxims' (1991) is used as a tool of analysis.

The study will specifically examine the output of 'Google Translate' in the translation of conversational implicatures from the English novel 'The Hunger Games' (Collins 2008) into Arabic. The study mainly aims to analyze the output that MT systems, Google Translate (GT) in the context of this study, create while translating the intended meaning created in conversations through the flouting of Grice's (1991) maxims. It also aims to investigate which maxim, when flouted in the source text's conversations, posed the greatest challenge for the MT system to translate. The study also aims to answer the following questions:

How can Grice's (1991) maxims help in identifying wrong machine translation output?

To what extent can Google Translate (GT) translate conversational implicatures?

Which maxim, when flouted, is wrongly translated by GT the most?

It is important to highlight that the study analyzes conversations from only one novel because of space and time limitations. It will also only include the excerpts from the conversation where the maxims are flouted, because according to Grice (1991), these are the instances where conversational implicatures arise. Additionally, this study focuses on analyzing the output of GT; it does not suggest methods on how to improve it because it requires knowledge of the system's computational aspects which is beyond the knowledge of the researchers of this study.

2. REVIEW OF THE LITERATURE

2.1 Pragmatic Equivalence in Translation

Thomas (1995) states that pragmatics is meaning in use or meaning in context. Additionally, Griffiths (2006) illustrates that pragmatics is concerned with the use of

certain tools in meaningful communication. It has to do with the interaction of semantic knowledge with our knowledge of the world, taking into account contexts of use (Griffiths 2006). In addition, Birner (2013) defines pragmatics as the study of language use in context while the study of literal meaning is semantics. The pragmatic meaning is not found in dictionaries and is different from one context to the other. This means that one utterance has different meanings in different contexts. On the other hand, translation is all about transferring meanings from a language to another. One of these meanings is the pragmatic meaning and providing an equivalent to the source text's pragmatic meaning. Moreover, Jaszczolt and Tuner (2003) illustrate that pragmatic equivalence is the equivalence of what has been communicated implicitly. Similarly, Baker (2018) defines pragmatics as the study of meaning which is conveyed by participants in communication.

Therefore, the pragmatic approach is a well-defined and commonly used approach in translation studies (TS) (Baker 2018). It is because this approach allows to see translation beyond the level of merely trying to find an equivalent in the target text on the level of only words or sentence structures. It also allows the translator to take a look at the macro level of equivalence, which Baker (2018) calls pragmatic equivalence. In this approach, the translation process depends on the context of the entire text and its meaning. Two of the most important notions that are covered in a pragmatic approach to translation are coherence and implicature. The first is important in the translation process because it is crucial to understand the conceptual relations that take place in the source text before conveying them into the target text. On the other hand, implicature is important because the entire translation process should focus on the intended meaning of communication process or the deep meaning rather than the meaning provided by the surface structure. It is the job of the translator to find this intended meaning and make it cross language boundaries and into the target text (Baker 2018). Pragmatics and, specifically the concept of implicature, are very well-established notions in TS research and application. Therefore, when it comes to MT research, a pragmatic perspective on the translation of conversational implicatures in MT output is needed. This is because when pragmatic assessment of MT performance is addressed, results prove that the machine's performance in translating pragmatic meaning is lacking in accuracy and are not reliable; for instance, in medical contexts (Taira et. al 2021).

2.2 Implicature and Machine Translation Research

According to Sofer (2009), MT systems will never replace human translators because of their failure to

understand the intended meaning of communication and their focus on communicating the literal meaning or surface structures of an utterance. Therefore, intended meaning lies at the heart of the problem of wrong translation in MT systems output, specifically pragmatic ambiguities that arise from conversational implicatures in Grice's (1991) co-operative principle's maxims. This is due to the fact that conversational implicatures provided through the flouting, violating, or opting out of any of these maxims are the heart and core of the study of intended meaning in pragmatics (Yule 1996). In addition, it is important to highlight that there are other MT research studies that cover the pragmatic aspect through describing how a MT system's approach can be based on speech acts theory in pragmatics to provide more accurate target texts (Rothkegel 1986).

2.3 MT systems and Speech Act Theory

Rothkegel (1986) describes how Texan, a system of transfer-oriented text analysis, and its linguistic concepts are based on a communicative approach within the framework of speech act theory. In this study, the researcher considers the texts results of linguistic actions that control the process of the selection of translation equivalents. The computer analysis in this system is performed by a context-free illocution grammar processing categories of actions including a propositional structure of affairs. Thus, the grammar related to the texts' lexicon provides a link among these categories and the surface units of a single language. Then, the researcher tests the use of these structures on the system and reaches the following findings: "the transfer part is to be seen as a kind of "helper" for translation purposes. It may be used by human translators as well as by systems generating the complete target text" (Rothkegel 1986, 337).

2.4 Machine Translation of Intended Meaning in Literary Prose

It is evident that the need for MT systems outgrew the use of ordinary people that need to find an equivalent for a certain word in their language. Instead, MT systems are integrated into translation pedagogies and thus, as a tool, it must be well-introduced and taught to students and professionals (Omar & Gomaa 2020). But still, when it comes to the translation of literature and its unique language, the performance of MT is still questionable and thus its usefulness to this field is also questioned (Omar & Gomaa 2020). In their study, Omar and Gomaa (2020) try to identify the challenges that may have negative impacts on the reliability of machine translation systems' translation of literary texts. This is achieved through the evaluation of two machine translation systems, Google Translate and

Q translate. In this study, the automated translations are compared to Arabic translations made by human beings of Poe's short story 'The Black Cat' and Rowling's novel *Harry Potter and the Philosopher's Stone*. The study concludes that pragmatic errors are encountered by users which negatively impacts the reliability of these translations (Omar & Gomaa 2020, 228). Therefore, it is clear that literary language and pragmatic meaning incorporated in it stand as a challenge to MT systems and calls for more research in this area.

2.5 Google Translate

According to Almahasees (2022), Google translate is a statistical machine translation system which has been launched since 2006 by Google. It is a free machine translation which provides translation to over 103 languages. It is measured that around 500 million are using it daily. Google translate has different advanced translation features like voice recognition, pronunciation of translated texts and image translation. In 2016, Google translate approach has been changed from SBMT to Neural Machine Translation (NMT) system to give a more accurate translation. NMT system is that an artificial neural network based on a huge dataset that makes predictions of the sequences of words to map texts between the source and the target language. It has special features to solve many of the linguistic problems based on large corpora. However, although there is a kind of improvement in the system of Google translate, it still encounters some linguistic problems at the syntactic, lexical, semantic and pragmatic levels. Google Translate's translation of Conversational implicatures have not been tackled in previous research and thus, this study tries to provide an insight when it comes to this area.

3. DATA AND METHODOLOGY

3.1 Data Description

3.1.1 The Hunger Games Novel

The novel chosen for analysis is the 2008 best seller dystopian novel *The Hunger Games* by Suzanne Collins. The novel is the first in The Hunger Games trilogy followed by *Catching Fire* (2009) and *Mockingjay* (2010). All three books were later adapted in to films directed by Gary Ross in 2012. The novel is set in a time of a dystopian future in the totalitarian nation of Panem which is divided into 12 districts and the Capitol. Every year, two representatives are taken from each district to compete and participate in The Hunger Games for punishment and for entertainment purposes. These games are always televised and the citizens of Panem are required to watch when participants are being forced to eliminate their competitors. When selected for participation, competitors are often chosen via a toss or lottery. That is why when the younger sister of the 16-year-old Katniss, Prim, is selected to

participate in the games, Katniss volunteers to take her place. Katniss and her male counterpart Peeta are then chosen from district 12 to compete in the games against other bigger and stronger contestants, some of which trained for this their entire life. Katniss is then rushed to the Capitol where she receives intense training before entering the arena to fight and become the victor of the seventy-fourth annual Hunger Games.

The novel is an ideal corpus for this study because it includes fictional characters with fictional conversations that are governed by a specified fictional context. This means that it requires a skillful translator to understand the different dimensions that contribute to the intended meaning or implicature taking place in conversations between characters in order to provide an accurate and functional translation. Therefore, it will pose a serious challenge for GT and help getting more vivid results that will help understand the core problem in GT translation of conversational implicatures. In other words, it will help understand which maxim, when flouted, is considered the most challenging for GT to translate.

Three conversations were taken from the beginning, middle, and end of the novel to provide a holistic data collection method from the entire novel. The first three conversations that were taken from the beginning of the novel are: conversation 1 from chapter 1 between Katniss and Gale, conversation 2 from chapter 2 also between Katniss and Gale, and conversation 3 from chapter 3 between Katniss and her mother. The second three conversations that were taken from the middle part of the novel are: conversation 4 from chapters 9 and 10 between Caesar and Peeta, conversation 5 from chapter 10 between Peeta, Effie, Katniss, and Haymitch, and conversation 6 from chapter 16 between Katniss and Rue. The final three conversations that were taken from the final part of the novel are: conversation 7 from chapter 24 between Peeta and Katniss, conversation 8 from chapter 25 also between Peeta and Katniss, and finally conversation 9 from chapter 27 between Katniss, Peeta, and Caesar. The mentioned conversations chosen for analysis are extremely important and relevant to the entire context of the novel especially that these conversations took place in parts of the action that moved the story forward from the start till the end.

3.1.2 Google Translate

According to Google's official products website, Google translate is considered a multilingual neural machine translation service provided by Google to translate documents, texts, and websites. Neural machine translation is a type of machine translation that uses artificial neural network to predict the sequence of words and thus providing more human like language. Google Translate was first launched by Google in April 2006 and in November 2022 it included more than

133 languages in its translation premises and more than 500 million people use it daily for free. Therefore, it is important to trace the mistakes created by this system and how these mistakes are developed and fixed over the years. In relevance to this, the study will analyze Google Translate's output. This MT system is chosen for this study due to the following reasons: it is free and can be accessed easily. It is one of the most famous MT systems that are used worldwide (Turovsky 2016). Finally, it is a system that is developed rapidly and frequently and, therefore, this study's analysis of its output from a pragmatic perspective can contribute to research conducted for the development of this MT system.

3.2 Methodology

According to Baker (2018), the way utterances are used in communicative situations and the way we interpret them are the core concerns of the pragmatic field in translation studies. Therefore, Baker (2018) incorporates two core pragmatic principles to answering the question of what makes sense in cultural communication and these two core pragmatic principles are coherence and implicature. Baker (2018) emphasizes that one of the most important notions in understanding implicature and translating it is Grice's (1975) co-operative principle and its maxims; this is due to the fact that these maxims are not universal and thus impose a challenge on the pragmatic meaning level when translated from one language to another. Therefore, this study opted for using the updated 1991 framework of Grice's (1975) maxims in examining the translation of intended meaning produced by Google Translate. Instances where the maxims are flouted in the novel's selected conversations will be identified and their meaning will be analyzed. Then these instances will be fed into GT. The source text and the output of GT will be provided in a table for a clear follow up process of the analysis. Then, a thorough analysis of GT's output will be provided and whether the conversational intended meaning presented through the flouting of the maxims is correctly translated or not and meets the cultural differences between languages or not. In case of wrong translations provided by the GT, a suggestion of what went wrong will be provided. Then, when the analysis process is done, the flouting instances in the source text, instances of wrong translation, and instances of correct translation will be provided in a table to identify whether GT can translate conversational implicatures or not.

3.2.1 Grice's (1991) Cooperative Principle

Since this study investigates Grice's conversational implicature in the MT system's output of conversations from the novel 'The Hunger Games', then it becomes a necessity to identify implicature's types and which type is the focus of this study. In addition, for the purpose of the current study, Grice's (1991) work is

selected as it is the updated version of the cooperative principle. According to Grice (1991), implicature refers to the implied meaning conveyed in certain contexts and is associated with certain maxims. Sometimes a word's conventional meaning reflects what is implied and this is called conventional implicatures. On the other hand, another kind of implicature which is nonconventional is conversational implicatures that depend on discourse features.

In other words, this kind of implicature depends on a context and exchanges of the talk. It is when participants communicate in a conversation and have a common purpose or a direction for the talk and they are expected to observe this direction. Moreover, Grice (1991) explains that participants should make their contribution in a conversation as it is needed for the accepted purpose or direction of the speech in which they are engaged. This principle is called the Cooperative principle. There are four categories or maxims under the Cooperative Principle. They are Quantity, Quality, Relation and Manner. The maxim of Quantity is related to the amount of information provided in an utterance. In other words, the speaker has to make his or her contribution in the talk as informative as it should be for the purpose of the exchange. The second maxim is Quality, which means that the speaker must make his or her contribution a true one and not to say something he or she does not have evidence for. The third maxim is Relation, which means the speaker has to be relevant for the purpose of a talk exchange. The fourth maxim is Manner, which means that a participant avoids ambiguity, obscurity, and his or her contribution is orderly and brief. It is expected that participants have to observe these maxims when they cooperate in a conversation.

However, when speakers fail to abide by these maxims in their conversations, then they are either violating, flouting, or opting out the maxims. First, when a speaker is violating a maxim, it means that they are misleading the listener in the conversation. Second, when a speaker is opting out all maxims, then it means that they are refusing to take part in the conversation. Finally, flouting a maxim, which is the relevant part to this study, is when the speaker or participant is not abiding by the maxims, but this time it is done to create an intended meaning or conversational implicature. In flouting, the listener is aware that the speaker is flouting one of the maxims for the purpose of communicating an intended meaning. For example, when someone says 'I am so hungry I could eat a horse', it does not literally mean that they will eat a horse, and here they are flouting the maxim of quality or honesty, but the listener is aware that the speaker is flouting the maxim of quality to communicate a message. This idea of the listener knowing is what creates the difference between flouting and violating. Thus, investigating the translation of the parts where maxims are flouted in

the novel's conversations will help fulfill the aim of this study.

3.3 Procedure of Analysis

- Procedures of analysis were as follows:
- selecting instances where maxims were flouted in conversations and analyzing their meaning;
- displaying these instances in a table next to GT's output;
- analyzing whether the output is adequate and is equivalent to the previously identified source text's intended meaning or not;
- identifying, in case of mistakes, what went wrong in the output;
- counting instances of flouting, wrong translation, and correct translation; and
- interpreting what these numbers indicate.

Analysis

In this section, excerpts from each conversation are included as a sample of the analysis process of the flouted maxims in each conversation. As mentioned earlier, the conversational implicature will be analyzed in the source text then GT's translation of these instances will be analyzed and compared to the original meaning. Then, in case of wrong translations, the researchers will provide a suggested translation that conveys the accurate meaning. It is important to note that there are a lot of other mistakes that are created by GT in the translation of descriptions between utterances. But as mentioned before, the focus of this research is to analyze the instances where the flouting of the maxims took place only.

3.4.1 Conversation 1

Table 1: Flouting the Maxims of Quality and Relation

Source Text	Target Text
"We could do it, you know," Gale says quietly. "What?" I ask.	يقول جيل بهدوء: "يمكننا القيام بذلك، كما تعلم". "ماذا أو ما؟" أسأل.
"Leave the district. <i>Run off</i> . Live in the woods. You and I, we could make it," says Gale. I don't know how to respond. The idea is so preposterous.	"اترك المنطقة. جريان المياه. عش في الغابة. يقول جيل. لا أعرف كيف أرد. الفكرة منافية للعقل.
"If we didn't have so many kids," he adds quickly. (Collins, 2008, p. 9)	ويضيف بسرعة: "إذا لم يكن لدينا الكثير من الأطفال".

In The Hunger Games, there is an annual toss that takes place in each district to choose the contestants who are going to participate, forcefully, in the games. In this part of the novel, Gale and Katniss were hunting in the woods to feed their families and talking about the annual Hunger Games and making fun of its host Effie. This excerpt from conversation 1 is very important for the following reasons: first, it highlights the dystopian nature of the current world Gale and

Katniss live in where food is a scarcity and survival is tough with these annual deadly games taking place. Second, it shows the close relationship that Gale and Katniss have, which is signified in their need to provide and hunt for their family. Third, the language itself is very important because without the entire context of the conversation the machine will find it difficult to mimic the sarcastic tone of their comments in the conversation and thus might miss the intended meaning brought forth in this conversation.

In this conversation Gale flouts the maxims of quality and relation. First, he flouts the maxim of quality by saying that 'We'll have a real feast', which is opposite to the reality of the actual situation where the food they found and Prim left is not enough. But in order to create a sarcastic comment that will lighten up the bitter reality of the situation, Gale flouts the maxim of quality by providing an untruthful utterance. GT translates this utterance correctly by providing a literal translation in the target text, 'سيكون لدينا وليمة حقيقية', and thus giving the same effect in the target text for readers. Later on, Gale also flouts the maxim of relation when he is talking about hunting and food they have for that day and then suddenly switches to mimicking Effie and talking about the capitol and The Hunger Games in an indirect way, by saying 'happy hunger games... may the odds ever be in your favor', for the obvious reason later illustrated by Katniss that to joke about it is better than to run in fear. Here, the GT translates the conversational intended meaning created through the flouting of the relation maxim correctly by following the original structure literally where it translates the flouting into 'ألعاب الجوع سعيدة...'. ولعل الاحتمالات كن دائماً في مصلحتك'. However, there are language mistakes in the translation provided by GT, where, for instance, it drops 'تاء التأنيث' that should have been added to 'كن'. In addition, the structure itself is odd and poorly constructed.

3.4.2 Conversation 2

Table 2: Flouting the Maxims of Manner, Quantity and Quality

Source Text	Target Text
"I turn to my mother and grip her arm, hard. "Listen to me. Are you listening to me?" She nods, alarmed by my intensity. She must know what's coming. "You can't leave again," I say.	، ألجأ إلى والدتي وأمسك بذراعها بقوة. "استمع لي. هل تستمع لي؟" أومأت برأسها منزعجة من شديتي. يجب أن تعرف ما هو قادم. أقول "لا يمكنك المغادرة مرة أخرى".
My mother's eyes find the floor. "I know. I won't. I couldn't help what —"	عيون أمي تجد الأرض. "أنا أعرف. أنا لن. لم أستطع مساعدة ماذا —"
(Collins, 2008, p. 24)	

In this part of the novel, Gale and Katniss again take off to the woods to hunt in order to provide food for their families. However, The Hunger Games' toss timing is approaching. In this part of the conversation that takes place at the beginning of the novel, Gale flouts both the maxim of manner and the maxim of quantity. He flouts the maxim of manner by providing an ambiguous utterance when he says 'we could do it, you know' and by saying 'run off' without mentioning to where. In these utterances he also flouts the maxims of quantity because by communicating very little, this led to the occurrence of ambiguous utterances. This is an indication that he fears Katniss' rejection and so he is hesitant about talking comfortably and clearly about the topic. Despite the fact that Katniss understands what Gale is trying to say, she still asks for clarification in order to avoid talking about the subject or addressing it. GT conveys the intended meaning by translating the message literally providing the reader with the same effect achieved in the source text. GT translates the first utterance into 'يمكننا القيام بذلك كما تعلم'.

However, it is clear that, like the previous example, the structure and language of the sentence are odd and poorly constructed, which is an effect created due to the literal formation of the original structure into the target text. Then, in the following lines, Gale explains that he wishes they would leave the district or 'run off'; he tries to convince Katniss to escape with him so that they will not be forced to participate in the games. Gale flouts the maxim of quantity as he is less informative when he says 'run off' and not include in his utterance to where. GT wrongly translates 'run off' in to 'الهروب' and the right translation for it is 'الهروب'. This shows that GT could not convey the intended meaning of the utterance.

In the second part of the conversation, Gale also flouts the maxim of quality by saying that they 'have too many kids'. In fact, they do not, as they are not married and both are not parents. However, they are the ones taking care of their families and providing them with food and money. So here, the utterance is a sarcastic comment that indicates that Katniss and Gale have so many responsibilities and cannot just leave or run away to save their lives. GT translates the utterance literally and correctly into 'إذا لم يكن لدينا الكثير من الأطفال', giving the same effect of the source text's intended meaning. However, the literal translation of the original utterance provided an incomplete sentence in the target text. Instead, a part should have been added to the target sentence in order to construct the sentence correctly such as 'إذا لم يكن لدينا الكثير من الأطفال لنرعاهم'.

3.4.3 Conversation 3

Table 3: Flouting the Maxims of Quantity and Manner

Source Text	Target Text
"I turn to my mother and grip her arm, hard. "Listen to me. Are you listening to me?" She nods, alarmed by my intensity. She must know what's coming. "You can't leave again," I say. My mother's eyes find the floor. "I know. I won't. I couldn't help what —" (Collins, 2008, p. 24)	، ألجأ إلى والدتي وأمسك بذراعها بقوة. "استمع لي. هل تستمع لي؟" أومأت برأسها منزعة من شدتي. يجب أن تعرف ما هو قادم. أقول "لا يمكنك المغادرة مرة أخرى". عيون أمي تجد الأرض. "أنا أعرف. أنا لن. لم أستطع مساعدة ماذا —" مساعدة ماذا -

In this part of the novel, Katniss participates in the games in order to save her sister who got selected via toss to participate in the games. This conversation takes place in the building of justice when Katniss was saying goodbye to her mother and sister before the Games. In this conversation, Katniss warns her mother that she cannot give up on them like she once did due to her psychological illness. Katniss warns her mother and tells her 'you can't leave again', in this utterance the maxim of quantity is flouted as the information is less than it is required and also the maxim of manner is flouted as it is ambiguous and not clear to where did Katniss' mother leave earlier and why. But all what the reader knows is that the mother has left them before and Katniss has taken care of her sister in that period. However, this information is understood to both of them, so what Katniss says is known to her mother. It is correctly translated by GT as 'لا يمكنك المغادرة مرة أخرى', which is accurate and similar to the same effect created by the original utterance. Then, the mother also flouts the maxim of quantity and manner by saying 'I know I won't I couldn't help what...'. Google Translate also translates the intended meaning correctly in the target text 'أعرف أنا لن...لم أستطع مساعدة ماذا أنا'; however, the language, like the previous samples, is poorly constructed and wrong. Instead, it should have been translated into something like 'أنا أعلم... ولكن لم يكن الأمر 'بيدي'.

3.4.4 Conversation 4

Table 4: Flouting the Maxim of Quality

Source Text	Target Text
"Sadly, rules are rules, and Katniss Everdeen's time has been spent. Well, best of luck to you, Peeta Mellark, and I think I speak for all of Panem when I say our hearts go with yours."	"للأسف، القواعد هي القواعد، وقد قضى وقت كاتنيس إيفردين. حسناً، حظاً سعيداً لك، بيتا ميلارك، وأعتقد أنني أتحدث نيابة عن كل بانيم عندما أقول إن قلوبنا تتماشى مع قلوبكم

In this part of the novel, the contestants taking part in The Hunger Games are being interviewed individually by Caesar the host. Each one took their part until lastly it became Peeta Mellark's turn. This excerpt is taken from the conversation that took place between Caesar

and Peeta in the interview. Here, Caesar was asking Peeta if there is any special girl waiting for him at home and Peeta replies that there is. So, Caesar encourages him that he must win the games and go back to her. But then Peeta replies that this cannot be done since she is a contestant in the games too and if one of them wins, the other dies. So, Caesar answers by saying the excerpt above. In this part of the conversation, Caesar flouts the maxim of quality by saying that "our hearts go with yours" because logically, one's heart cannot leave its owner and just go with somebody. By flouting the maxim of quality, Caesar creates the intended meaning of being sympathetic towards Peeta for his bad luck, meaning that he feels sorry for Peeta and his misfortune. GT, in the translation of this part, translates the intended meaning completely wrong and that is due to literally translating the part into the target text. In other words, by literally translating the flouting that took place in the conversation into 'إن قلوبنا تتماشى مع قلوبكم', the machine misses out on the intended meaning of the utterance. Instead, this part should have been translated into 'نحن نشعر بالأسف لأجلكم' or 'قلوبنا معكم' to achieve the same image of the original utterance.

3.4.5 Conversation 5

Table 5: Flouting the Maxim of Quality

Source Text	Target Text
"He made you look desirable! And let's face it, you can use all the help you can get in that department. You were about as romantic as dirt until he said he wanted you. Now they all do. You're all they're talking about. The star-crossed lovers from District Twelve!" says Haymitch.	"لقد جعلك تبدو مرغوباً فيه! ودعنا نواجه الأمر، يمكنك استخدام كل المساعدة التي يمكنك الحصول عليها في هذا القسم. لقد كنت رومانسياً مثل الأوساخ حتى قال إنه يريدك. الآن كلهم يفعلون. أنت كل ما يتحدثون عنه. العشاق المتقاطعين بالنجوم من ديستريكت اثنا عشر!" يقول هاي ميتش

This excerpt is from conversation 5, where Katniss, Peeta, and Effie were talking about Peeta's love confession for Katniss, who comes from the same district as Peeta. Then, Peeta and Haymitch reveal that they agreed together for Peeta to do this in order to guarantee more sponsors when the games begin. In this exact utterance, Haymitch highlights that Peeta actually did Katniss a favor by making her look desirable, which will help her get more sponsors in the games. Here, Haymitch flouts the maxim of quality twice. The first time he flouts it when he says that Katniss is 'as romantic as dirt', which conveys the intended meaning that she has zero romantic qualities or knowledge of romance, which, therefore, will affect people's perception of her and thus affect the sponsoring process. GT wrongly translates the intended meaning by translating the utterance literally. Thus, missing the entire aim of the utterance. Instead, the utterance should have been translated into 'لا تملكين' أي خبرة في الحب. The second time that Haymitch flouts the maxim of quality is when he says that they are

'star crossed lovers'. Here, it does not really mean that these lovers were crossed by the stars, instead the utterance means that they are unlucky lovers. Therefore, by translating it literally, GT provides an odd and weird output. Instead, it should have been translated into 'الحبيبان المنحوسان'.

3.4.6 Conversation 6

Table 6: Flouting the Maxims of Manner, Relation and Quality

Source Text	Target Text
"You hungry?" I can see her swallow hard, her eye flickering to the meat.	انت جائع؟" أستطيع أن أراها تبتلع بقوة وعينها تومض على اللحم.
"Come on then, I've had two kills today."	"تعال إذن ، لقد قتلت اليوم شخصين."
Rue tentatively steps out into the open.	شارع يخطو مبدئياً إلى العراء.
"I can fix your stings."	"يمكنني إصلاح لسعاتك."
"Can you?" I ask.	

In this part of conversation 6 in the novel, The Hunger Games has already started. In this part of the conversation, Katniss was trying to form an alliance with Rue from district 11. This is after Katniss has been stung by dangerous wasps and Rue decided to help her when she fainted. When she recovers, Katniss hunts two squirrels for them to eat together and suggest that they should form an alliance. In this exact part of the conversation, Katniss was inviting Rue to eat with her. Here, Katniss flouts the maxim of quantity and Rue flouts the maxims of relation and quality. However, both understand the intended meaning of the flouting taking place in their conversation. First, Katniss flouts the maxim of quantity when her utterance is less informative than it should be. Katniss does not specify which type of 'two kills' she had today. Therefore, the maxim of manner is also flouted due to this lack of information and thus it resulted in forming this ambiguous utterance. Therefore, it comes as no surprise that GT wrongly translates the intended meaning of this utterance by adding in the Arabic language The word 'شخصين', which back translates into 'I've killed two people'. GT, despite having the entire context of the conversation to translate the meaning right, still wrongly translates the conversational implicature into the target text.

In the part where Rue answers Katniss, Rue flouts the two maxims of relation and quality. The relation maxim is flouted because instead of saying 'yes I am hungry' or 'thank you for the food' instead she offered something in return which is to cure Katniss stings. This flouting is understood by both participants in the conversation, which is a clear acceptance of forming an alliance; Katniss offered food and Rue offered to cure Katniss' stings. Rue also flouts the maxim of quality by saying that she can 'fix' Katniss' stings. When, in fact, stings are not 'fixed', they are 'cured'. But still, the first clearly indicates the meaning of the second and this is understood by Katniss. GT translates the utterance literally and gets the intended meaning right; however, in Arabic, the word 'إصلاح' cannot be used to describe

the process of curing someone from an injury. It is a word that is usually used with fixing machinery in Arabic. Therefore, the correct term that should have been used here is 'معالجتك' or 'تخفيف ألم لسعاتك'.

3.4.7 Conversation 7

Table 7: Flouting the Maxim of Quality

Source Text	Target Text
We were about as hard to follow as a herd of cattle, but I try to be kind.	كنا على وشك أن نتبعه مثل قطيع من الماشية ، لكنني أحاول أن أكون طيباً.
"And she's very clever, Peeta. Well, she was. Until you outfoxed her."	"إنها ذكية جداً ، بيتا. حسناً ، كانت كذلك. حتى تفوقت عليها."

This conversation in the novel happens when Pita and Katniss find each other again after being separated when the games began. Here, Pita tells Katniss that she out smarted the other contestants who were after them to kill them. Pita flouts the maxim of quality by saying that Katniss 'outfoxed' the other contestant who was after them. Here, this flouting takes place to create the conversational implicature that Katniss is smarter than the other contestant. Instead of the usual literal translation of original utterances, GT actually uses a structure that is closer to the source text's intended meaning, which is 'تفوقت عليها'. However, there is a need for addition of another word to the utterance in Arabic in order to have a cleared sentence structure. Like adding the word 'ذكاء' to make better enhance the style of the language in the target text and so it becomes 'تفوقت عليها ذكاء'.

3.4.8 Conversation 8

Table 8: Flouting the Maxim of Manner

Source Text	Target Text
"Then you shoot me," I say furiously, shoving the weapons back at him.	"ثم تطلق النار علي" ، قلت له بشراسة ، وأنا أدفع الأسلحة نحوه.
"You shoot me and go home and live with it!" And as I say it, I know death	"تطلق النار علي وتعود إلى المنزل وتعيش معها!" وكما أقول ، أعرف الموت هنا ، الآن سيكون أسهل من الاثنين.

Conversation 8 takes part towards the end of the novel between Katniss and Peta. It takes place when The Hunger Games leaders decide to change their latest deal that for the first time on history, two from the same district can win the competition instead of one. But then, Peta and Katniss, each refuse to kill the other and end up settling on committing suicide and not give the capitol people a winner. Just before they were about to eat the poisonous berries, Peta and Katniss are informed that they can keep their former deal and they are both announced the winners. In this part of conversation 8, Peta flouts the maxim of manner by providing an utterance that is ambiguous, but yet it

is understood by Katniss, when he says 'live with it'. Here, 'it' refers to the guilt of killing him, but in order not to flout the maxim of quantity, Peta provides an ambiguous utterance with the pronoun 'it'. Therefore, it comes as no surprise that GT wrongly translates the utterance into 'معها', indicating that Peta is telling Katniss to go live with someone and not a feeling. Instead, GT should have translated the utterance into 'عودي الى بيتك وتعايش مع الوضع', where this translation gives the indication that she will live with the idea of killing him as a memory, which is the meaning intended in the source text.

3.4.9 Conversation 9

Table 9: Flouting the Maxims of Manner and Quality

Source Text	Target Text
so I just say, "Yes, he's gotten very responsible lately."	وأنا أقول ، "نعم ، لقد أصبح مسؤولاً للغاية مؤخراً."
"Well, there's just this and we go home. Then he can't watch us all the time," says Peeta.	"حسناً ، هذا فقط ونعود الى المنزل. ثم لا يستطيع أن يشاهدنا جميعاً الوقت ،" يقول بيتا.
I feel a sort of shiver run through me and there's no time to analyze why, because they're ready for us. We sit somewhat formally on the love seat, but	أشعر بنوع من الارتعاش يمر من خلالي ولا يوجد وقت لتحليل السبب ، لأنهم جاهزون لنا. نجلس بشكل رسمي إلى حد ما على كرسي الحب ، لكن يقول قيصر ، "أوه ، امض قدماً وانعطف بجانبه إذا أردت. بدا الأمر حلوة جداً."
Caesar says, "Oh, go ahead and curl up next to him if you want. It looked very sweet."	

Conversation 9 takes place at the end of the novel where Peta and Katniss are being interviewed by Caesar as the winners of The Hunger Games. This except from conversation 9 starts between Peta and Katniss, where Peta is telling Katniss that they just have to go through this interview and then they will go home. Then, in the second part, Caesar tells Katniss to curl up beside Peta for the interview to show intimacy between the two star-crossed lovers. First, Peta flouts the maxim of manner by being ambiguous, where he says 'this' as a reference to the interview and the entire final situation. GT translates this part correctly by translating the utterance literally and thus mimicking the same ambiguity and effect into the target text. However, when it comes to the second part of the conversation where Caesar flouts the maxim of quality by saying 'curl up' and here he does not mean that Katniss should sit in a curled up position next to Peta, but rather intends to say that she can sit close or snuggle next to Peta. GT wrongly translates the utterance by translating 'curl up' into 'وانعطف'. This translation is not only wrong and inaccurate, but also gives the feeling that Caesar was trying to give Katniss road directions instead of just telling her to sit or snuggle beside Peta. Instead, it should have been translated into 'اقتربي منه'.

4. Results and Discussion

The following table and charts provide the total number of instances where maxims are flouted in the source text. They also include the number of wrong translations and the number of correct translations of conversational implicatures in GT's output when these maxims were flouted. They also include the number of wrong and correct translations for each maxim separately.

Table 10: Summary of Data

Maxim	Number of occurrence	Wrong translation	Correct translation
Quality	8	4	4
Quantity	5	2	3
Relation	2	-	2
Manner	7	3	4
Total	22	9	13

Table 10 presents instances of maxims that were flouted in the original conversations, the number of wrong translation and the number of correct translations done by GT. Before interpreting the numbers of wrong and correct translations, it is important to also interpret the flouting instances that took place in the 9 conversations in order to understand the nature of conversational implicatures that took place in the novel. First, when it comes to the maxim of quality, it is clear that it was the maxim flouted the most in order to create conversational implicatures. Throughout the analysis of the conversations, it is clear that the maxim of quality was flouted in order to achieve the following effects: create sarcastic comments, highlight an aspect about a person's character or situation, and to indicate the possibility of something to take place. An example of flouting the maxim of quality to create a sarcastic comment took place in conversation 1, when Gale said that they were going to have a feast with just cheese, bread and berries. As for flouting the maxim of quality to highlight an aspect about a person's character or situation, this took place in conversations 5 and 7, when Caesar described Peeta and Katniss as 'star-crossed lovers' and when Peeta, in conversation 7, said that Katniss 'outfoxed' the other contestants. The maxim was also flouted to tell participants in the conversation that they can do something, for instance, when Caesar said the Katniss can 'curl up' beside Peeta.

When it comes to the maxim of quantity, it is clear that the maxim was flouted for the following reasons: hint the need to talk about sensitive topics and to signal to information already known to participants but not to readers, which also caused the flouting of

the maxim of manner. An example of when the maxim of quantity was flouted to hint the need to talk about sensitive topics took place when Gale was trying to hint to Katniss that they should be running away. As for information that is already known to participants but not to readers, this took place when Katniss was telling her mother that she should not leave her sister again now that she will be gone for the Games. On the other hand, the maxim of relation was flouted only twice in the 9 conversations and this shows that participants in the novel's conversation did not often change subject while talking to one another. The only instances where the maxim of relation was flouted were when Rue was trying to trade medical help for food and when Gale mimicked Effie, *The Hunger Games'* host, in order to discuss the idea of running away with Katniss.

When it comes to the maxim of manner, it is clear that this maxim was flouted to keep the readers wondering about certain events that are already known to participants in the conversation but not to readers, and thus continue reading the novel in order to figure what happened, for instance, readers do not know at first to where had Katniss' mother leave. Then it was also flouted to avoid communicating more necessary information than is required, because the context of the conversation already showed what was happening. For instance, like in conversation 9, where Peeta says 'there's just this and we go home'.

After interpreting the conversational implicatures that took place in the novel's conversations, it is also important understand what the numbers of correct and wrong translations indicate. First, when it comes to the maxim of quality, out of the 8 instances where the flouting took place in the source text, GT translated half of these instances right and the other half it provided wrong translations. Second, when it comes to the maxim of quantity, out of the 5 instances, GT conveyed 2 wrong translation of the intended meaning and 3 correct instances. Third, when it comes to the maxim of relation, the two flouted instances that occurred in the source text were correctly translated into the target text. Fourth, when it comes to manner maxim, out of the 7 instances where the maxim was flouted, GT had 3 wrong instances and 4 correct ones. Finally, when it comes to the total of 22 instances where the maxims were flouted, 9 were translated wrong by GT and 13 were translated right.

It is clear that GT can, to a good extent and despite of the language mistakes, translate conversational implicatures. Especially that it provided a correct translation for more than the half of the present instances. However, with the ratio of 8 to 13, it is clear

that some flouting of certain maxims poses a greater challenge for the machine to translate than others. These maxims are: the maxim of quality, where the machine only translated half of the instances correctly and manner, where it translated only 4 instances correctly out of the 7 instances. It is also important to highlight that when it comes to the maxim of quantity two of the mentioned instances where from conversations 2 and 6 of the parts where Gale said 'run off' and Katniss said 'I had two kills today', which also were the parts where the maxim of manner was also flouted due to participants being less informative than needed in the conversation and, therefore, they also flouted the maxim of manner by being ambiguous. This shows that in the parts where the flouting of maxims of manner and quantity intersects, it becomes challenging for GT to translate.

Finally, it is important to draw the links between the interpretation between the functions of conversational implicatures in the selected conversations and the wrong and correct instances of translation. It is clear that figurative language created through the flouting of the maxim of quality imposes the greatest challenge for GT to translate. It is also clear that ambiguous or unclear utterances, created through the flouting of the manner maxim, also imposed a challenge for GT.

5. CONCLUSION

To conclude, this study attempted to provide a pragmatic perspective in analyzing the mistakes in GT's output. The study also aimed to discover to what extent GT can translate conversational implicatures. It also aimed to identify which maxim, when flouted, imposed a challenge for GT to translate. It specifically achieved these aims through investigating the translation of conversational implicatures created through the flouting of Grice's (1991) maxims in the selected conversations from the novel *The Hunger Games* by Collins (2008). The findings of the study revealed that GT can, to a good extent, translate conversational implicatures. Especially if these implicatures are created through the flouting of the relation maxim. But the intended meaning created through the flouting of the quality and manner maxims imposed a greater challenge for the MT system to translate. When it comes to the quantity maxim, parts in conversation where the flouting of manner and quantity intersects, it also poses a challenge for the machine to translate. Finally, when the conversational intended meaning of each flouting was analyzed, it is clear that figurative and unclear utterances imposed a great challenge for GT to translate.

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