

Examining the Efficiency of Machine Translation in Translating English Idioms used in American Media

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Abstract: The use of idioms permeates the American media, be it movies, series, TV sitcoms, chat shows, radio chats, documentaries and so forth. By definition, idioms are fixed expressions whose meaning cannot be inferred merely from the meanings of the words that compose it. With this in mind, translators face a tremendous challenge when attempting to translate American media to another language, whether that was done through dubbing or via the use of subtitles. Nevertheless, today's available resources can provide an appreciable assistance regarding such challenges. Among these resources are online machine translation services, particularly the ones that are based on machine learning and artificial intelligence. The central aim of this study was to explore the efficiency of online machine translation services in translating idioms used in American media. To attain this aim, three of the most reliable online machine translation services were examined to determine their level of accuracy concerning idioms translation: Google Translate, DeepL Translator, and Bing Microsoft Translator. The results have indicated that machine translation is capable of translating idioms with an average accuracy rate of 68.7%, with Bing Microsoft Translator being the most accurate. In most cases, the translation is done by paraphrasing. However, Bing Microsoft Translator sometimes opts for using idioms in the target language that are similar in terms of meaning to the ones in the source language, which reveals new horizons for the development of high-tech online machine translation services that would be able to accurately and meaningfully translate cultural-specific lexis such as idioms.

Keywords: idioms translation, machine translation, Google Translate, DeepL Translator, Bing Microsoft Translator.

1. Introduction

“In our consumption-oriented, mediated society, much of what comes to pass as important is based often on the stories produced and disseminated by media institutions” [3]. In today's digitalized world, media permeates the various aspects of our lives, with each country producing its own different types. This makes media to which people are exposed on a daily basis a rapidly and increasingly growing mixture of different cultures from all around the globe. With this kind of richness and reach, it is apparent that media has a significant role in representing the different cultures of the world and familiarizing nations with each other, which results in a better understanding and more appreciation of each other's cultures. However, the total opposite of that could be achieved in case of any cultural misrepresentation in media or any misinterpretation from the part of the audience.

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With the technology available today, media produced by a nation may easily cross national and cultural boundaries to reach other nations, a process in which translation plays a role of supreme importance. Media produced by some nations is more popular than that produced by other nations. The products of the American media, for instance, are among the most popular ones in the world. Consequently, the American media is immensely translated into various languages and reaches numerous cultures. Yet, this process is not without challenges, for inaccurate translations may lead to confusion or even to the construction of some serious misconceptions. For this reason, media should be translated as accurately as possible.

Effectively translating the different types of speeches present in the American media is not an easy task. Moreover, the prevalence of idioms, the “linguistic expressions or lexical items representing objects, concepts or phenomena of material life particular to a given culture” [1], in the American media further augments the difficulty of that task, for the translation of idioms demands more time and effort from the translators. As machine translation is becoming more efficient and effective in the field of translation [16], examining the extent to which it is capable of effectively translating challenging parts of language such as idioms is alluring and could help in saving time and reducing unnecessary cost and effort. Therefore, the aim of this paper is to examine the efficiency of machine translation in translating idioms, with focus being on three main online translation services: Google Translate, DeepL Translator, and Bing Microsoft Translator. To achieve this aim, two research questions were raised:

1. To what extent are online machine translation services capable of efficiently translating English idioms?
2. What is the most accurate machine translation service regarding the translation of idioms: Google Translate, DeepL Translator, or Bing Microsoft Translator?

2. Literature Review

2.1. The Nexus between Media and Culture

It is not a hidden fact that media surrounds us whenever we go nowadays. Our phones alone grant us unlimited and continuous access to different kinds of media: news articles, scholarly articles, educational videos, entertainment videos, blog posts, series and movies, chat shows, podcasts, to mention but a few. It is noteworthy to mention that back in 2010, 85% of American adults had a cell phone, and that 75% had access to the internet [12]. Currently, 97% of Americans have a cell phone, among of which 85% own a smartphone [13]. Without going through statistics about other electronic devices such as TVs and computers, this mass ownership of smartphones alone is sufficient to show that people experience unprecedented exposure to media.

Each country contributes to the constant expansion of the already vast existing media with its own different kinds of productions, making the media that surrounds us these days an ever-growing combination of different cultures from all around the world. This, in turn, opens new horizons for us to open up to other people’s cultures without having to actually visit the physical location where those cultures predominate. In this regard, McLuhan [9] stated that mass media extends our connection to parts of the world where our physical bodies cannot reach. More specifically, media gives us the opportunity to establish connections with the different cultures that exist on earth at minimum cost and effort and maximum speed and variety. One may become more familiar with numerous cultures in an hour or even less than that. As ordinary as it may sound to us in the current era, this possibility would have sounded fairylike to the people who lived in the preceding eras.

2.2. The Influence of Media on Culture

Since the current communication networks tie societies together to form what can be referred to as a one global system, no rational being would disagree with the fact that media indeed plays an appreciable role in the production and the representation of cultures all around the globe. However, the potentials of media go beyond the mere fact of producing contents that make people more acquainted with each other's cultures. Being exposed to the different media around us affects, in diverse degrees, what and how we eat, what and how we wear, what we regard as valuable education, what we consider amusing, and how we perceive the world around us in general. In other words, media does not only provide us with free and worthy knowledge about the various cultures of the world, but also influences a myriad of elements of our own culture due to cultural learning. Furthermore, media generates awareness and accelerates change; that is, it has the potential to create interest in an event or idea as well as to generate an environment in which change can take place more easily [4]. In light of this, the nexus between media and culture could not be more apparent.

With the significant role of media in representing the world's different cultures and in familiarizing people with each other's cultures, media contributes to the encouragement of better appreciation and understanding between different cultures. As one gets to know more about another culture, he or she develops a better understanding of the way of life of the people of that culture and why they live in that fashion. Nevertheless, media may also contribute to the increase of misunderstandings between cultures. The stereotypes about religion, sexuality, ethnicity and so forth may form a negative image in the minds of people about certain cultures. Therefore, media is a two-edged sword: it has the potential to either unite, to some extent, the cultures of the world or to form walls of misunderstandings between them.

2.3. The Transfer of Culture through Media

All things considered, today's available technology makes it easy for media to cross national and cultural boundaries through various means. The translation of media from its original language to another language, either by way of subtitles or dubbing, is one way for the media produced by one nation to go beyond the latter's national and cultural confines. Of course, some cultures have relatively more presence in media than the others; the American culture is one of them. Today, the majority of people are familiar with Hollywood. It is one of the oldest, largest and most popular film industries in the world.

With the popularity of the American film industry in particular and the American media in general, the latter gets translated into numerous languages, and thus crosses borders towards other cultures. However, the translation from English to languages of the other cultures – and translation in general, for that matter – is an extremely challenging task. Any kind of inaccuracies could certainly lead to misunderstandings. Accordingly, failure to provide proper translation of American media results in failure to efficiently represent the American culture. This is, of course, applicable to the translation of any media, not just that of America. The American media is highlighted because it is the focus of this paper. What makes the translation of the American media even more challenging is the prevailing presence of linguistic expressions that are typical for a language and specific to a single culture: idioms.

2.4. The Challenges Accompanying Idioms Translation

By looking for the definition of the term idiom in the Longman dictionary of language teaching applied linguistics, we find that it is defined as “an expression which functions as a single unit and

whose meaning cannot be worked out from its separate parts. For example: She washed her hands of the matter means she refused to have anything more to do with the matter” [14]. In her book, *In Other Words*, Mona Baker refers to idioms as frozen patterns of language that allow little or no variation in form and often carry meanings which cannot be deduced from their individual components [2]. In another definition, Larson [8] defined idioms as “a string of words whose meaning is different from the meaning conveyed by the individual words”, and which carry “certain emotive connotations not expressed in other lexical items.”

All of the three definitions above agree upon idioms being a set of words that function as a single unit and which their meaning cannot be understood from their separate parts. However, Baker [2] adds the idea that idioms mostly do not allow variation in form, while Larson [8] adds the fact that idioms carry emotive connotations that cannot be expressed through the use of other lexical items. Therefore, it is possible to define idioms as a set of words that function as a one meaningfully influential unit, and which accept little to no modifications in form.

Idioms Features. What characterizes idioms is that they “provide vivid descriptions and expressions that are more powerful and effective than literal and nonidiomatic language. [...] at the same time, idioms stubbornly resist easy classification and are some of the most difficult vocabulary terms to teach” [10]. Kövecses [6] adds to this by comparing idioms to a “mixed bag” that includes metaphors, metonymies, pairs of words, idioms with “It”, similes, sayings, phrasal verbs, grammatical idioms, and others. There are five factors that make of idioms those challenging lexical items they are. First, their word order resists change; second, their words reject omission; third, there are no extra words that might be added to an idiom; fourth, the words in an idiom are unreplaceable; lastly, the grammatical structures of an idiom resist change.

Idioms Classification. Despite the challenging nature of idioms, there were attempts to classify them into different categories. One of these attempts tries to categorize idioms into five categories. The first of which is colloquialism, which is an expression that is not used in formal speech or writing. Instead, it is used in casual speech such as in everyday conversations. For instance, people may say about someone who has laughed a lot: he or she has almost died of laughter! The second category is that of proverbs. A proverb is a short, generally known sentence of the folk which contains wisdom, truth, morals, and traditional views in a metaphorical, fixed and memorable form which is handed down from generation to generation (Mieder, 1993). The American proverb “a bird in the hand is worth two in the bush” is a good example of a proverb. Slang falls within the third category of idioms. They are highly informal expressions often used to say words which are not appropriate or somehow taboo. The use of slangs adds more humor and fun to speech and mitigates the latter’s seriousness and formality. Examples of slangs are “all-nighter”, “around-the-clock” and “chill”. The fourth category is that of allusions. An allusion is “a brief reference, explicit or indirect, to a person, place or event, or to another literary work or passage” (Abrams, 1971). In the Harry Potter series of movies, for instance, one of the characters said “my math teacher is he who must not be named”. The Italianized part of the sentence refers to the villain: Voldemort. The fifth and last category of idioms is that of phrasal verbs, which are the combination of a verb and a preposition or adverb or both that have a meaning that is different than the original verb. They are mainly used in daily speech. One of the commonly used phrasal verbs is “go on”, meaning to continue.

Idioms Translation Challenges. It should be obvious by now that idioms cannot be translated literally for the result would signify anything but the real meaning of the translated idiom.

Consequently, translating idioms constitutes a truly perplexing challenge [7]. In this regard, Baker [2] states that “the main problems that idiomatic and fixed expressions pose in translation relate to two main areas: the ability to recognize and interpret an idiom correctly and the difficulties in rendering various aspects of meaning that an idiom or a fixed expression conveys into the target language”. She listed five difficulties that face a translator in his or her attempt to translate an idiom: 1) the lack of an equivalent of an idiom in the target language, 2) the existence of an equivalent in the target language but with different contextual and situational use, 3) the potential possibility of encountering an idiom that may be used in the source text in both its literal and idiomatic sense at the same time, and 4) the different source-language and target-language conventions concerning the use of idioms in written discourse, in certain contexts, or the frequency of their use.

In addition to the difficulties mentioned earlier, there is another crucial one: the number of idioms in a language. According to the Cambridge international dictionary of idioms, there are over 7,000 idioms currently used in British, American and Australian English [17]. For an advanced learner of a foreign language, only 3,000 to 4,000 words constitute his or her active vocabulary, while 4,000 to 5,000 constitute the learner’s passive vocabulary. Comparing the active and passive vocabulary of an advanced learner with the number of the idioms used in English clearly shows how enormous is the challenge of translating them.

Idioms Translation Strategies. Given the fact that idioms manifest a massive task for translators, it was a must for theorists and practitioners to devise strategies that help translators in the translation of idioms. In this regard, Shojaei [15] asserted that translators should consider a number of factors in order to correctly translate idioms. These factors involve socio-linguistic elements, cultural aspects, linguistic and stylistic considerations, and meta-lingual factors.

Concerning practical strategies, Baker [2] proposed four strategies to deal with idioms translation. The first one is using an idiom of similar meaning and form, where the translator attempts to find an idiom in the target language that is equivalent to the one in the source language in terms of meaning and form as well. It is noteworthy to mention that this strategy is regarded as the ideal one to translate idioms, but there are languages that differ drastically from each other. For this reason, applying this strategy is most of the times impossible. Using an idiom of similar meaning but dissimilar form is the second strategy proposed by Baker. As the name suggests, it refers to when a translator tries to find an idiom in the target language that is equivalent to the one in the source language in terms of meaning only, irrespective of its form. The third strategy is translation by paraphrasing. Commonly used by translators to translate idioms, this strategy is useful when an equivalent to the idiom in the source language cannot be found in the target language. Rather than entirely removing the idiom, the translator uses the translation by paraphrasing strategy to try to transfer, as accurately as possible, the meaning of the idiom to the target language. The last strategy in Baker’s list of strategies is translation by omission. In situations where there is no equivalence between the idiom in the source language and another in the target language, and when an idiom is extremely difficult even for the translator, the latter may opt for the strategy of completely getting rid of the idiom. It should be noted, however, that this is the translator’s last resort.

2.5. Machine Translation Overview

By Machine translation simply refers to automatic translation fully done by a computer. It is not to be confused with computer-assisted translation, which although makes immense use of computer, the human agent is who mainly guides the translation process and who controls its output. In machine

translation, a text gets translated from the source language to the target language without human interference. Its central aim is, like that of any translator, to preserve the meaning when translating from one language to another. In what is known as the Georgetown Experiment, a collaboration between IBM and Georgetown University in 1954 resulted in a public demonstration of a Russian-English machine translation system. The latter was capable of translating more than sixty Russian sentences into English, which encouraged many scholars and translators to believe in the potentials of machine translation in the future. For instance, Melby [11] notes that future computers might be able to make judgments, decisions and choices consistent with non-linguistic knowledge that people frequently refer to in their daily lives. Currently, we live in the era of big data. Machine translation has at its disposal tremendous corpora of data on which it can base its translation choices, and it is continuously growing larger and smarter. This makes the field of machine translation promising for developers, researchers, and translators.

The Need for Machine Translation. One may wonder about the extent to which machine translation is needed even though the number of human translators around the globe is an appreciable one. The reasons why the world is in need of machine translation are many. First of all, there are too many texts to be translated and their number keeps increasing. Therefore, human translators do not suffice to translate all of that. Second, using machine translation is not as expensive as hiring human translators. Third, machine translation is rapid. It can translate a text of a thousand words in under 5 seconds. As today's world is interconnected more than ever, speed is an extremely important factor. Last but not least, top-quality translation that currently requires human interference is not always needed. Sometimes only the gist of a text is what needs to be understood by the target audience. With taking all of the aforementioned reasons into account, machine translation seems to be needed now and would be needed even more in the foreseeable future.

Machine Translation Approaches. The two main approaches in the field of machine translation are the rule-based approach and the corpus-based approach. In the former, a set of rules are defined to be followed by the computer throughout the translation process. This is the traditional approach that often results in literal translations. However, various changes were made in order to improve the quality of translation. In the corpus-based approach, on the other end of the spectrum, equivalent linguistic items are automatically extracted through reliance on the available corpora of data. Within the corpus-based approach is a word-based model and another that is phrase-based. The difference between them is that the former considers sentences as combinations of single words while the latter views sentences as combinations of linguistic chunks. To determine the most accurate translation, this approach relies on probabilities. The probability is calculated with the help of the different language and translation models, and the probability scores of translations are generated from the already available translated data. Ultimately, the translation that has a high probability is selected as an ultimate translation.

Problems in Machine Translation. Currently, machine translation faces a number of problems that need to be solved in order to become more effective at translating. The stylistic differences among languages constitute a significant challenge for machine translation. Languages have different word orders. For instance, English has a subject-verb-object order while Arabic has a verb-subject-object order and Hindi has a subject-object-verb order. The differences in the sense of words are also a problem for machine translation. The equivalent of the linguistic item in the source language may have different senses in the target language, which requires a proper selection of words. Machine

translation also faces the problem of not resolving pronominal references, which often leads to incorrect translations. Another problem is that of ambiguity. Machine translation often fails to determine the correct meaning when a sentence is prone to different interpretations. In addition, the challenging nature of idioms makes it difficult for machine translation to effectively translate them.

3. Method

It is now well established that machine translation currently offers great potentials and is already used by people in various domains for a plethora of purposes. However, with languages being sophisticated and sometimes radically different from each other, machine translation still faces a variety of problems that must be overcome in order for it to become more effective. A part of language that manifests a significant challenge for machine translation are idioms. The characteristics of an idiom makes it difficult for translation. Human translators use a set of strategies specifically fashioned to handle the translation of idioms, while machine translation relies on two general approaches to achieve this task. However, one may ask: to which extent is machine translation efficient in the translation of idioms?

To answer this question, the most commonly used idioms in the American news in particular and media in general were identified and reduced to a list of ten commonly used ones. Then, these ten idioms were translated into three languages using three of the most promising online machine translation services: Google Translate, Bing Microsoft Translator and DeepL Translator. Afterwards, Context Reverso was used to evaluate the accuracy of the translations generated by the abovementioned 3 machine translation services.

According to Hsu [5], the following idioms are among the most used ones in the English news: in the long run, on the sidelines, all out, behind the scenes, big deal, across the board, around the corner, follow suit, over the top, and in full swing. The table in the subsequent page demonstrates these idioms frequency in English news and lists them from the most- to the least-frequent idiom.

Table 1. Idioms frequency in English news

Idiom	Frequency
In the long run	88,576
On the sidelines	82,562
All out	76,996
Behind the scenes	66,109
Big deal	63,961
Across the board	48,834
Around the corner	48,006
Follow suit	46,304
Over the top	41,748
In full swing	34,051

Having listed a set of the most commonly used idioms in English media, they were then translated into Arabic, Spanish, and French using three of the most popular and reliable online translation services, which are Google Translate, Bing Microsoft Translator, and DeepL Translator. It should be noted, nevertheless, that DeepL Translator did not support translation into Arabic, and it was therefore used to translate into Spanish and French only.

4. Results

4.1. Idioms Translation using Google Translate

Most people are familiar with Google Translate, which is a multilingual neural machine translation service owned and developed by Google. It is used to translate texts, documents, and websites from and into more than 100 languages. This was the first online translation serviced that was used to translate the idioms previously identified as the most commonly used ones in English media. The next table shows the idioms and their Google translations into Arabic, Spanish, and French.

Table 2. The most common idioms in American media and their translation using Google Translate

Idiom	French Translation	Spanish Translation	Arabic Translation
In the long run	À long terme	A la larga	على المدى البعيد
On the sidelines	En marge	Al margen	على الجوانب
All out	Tous dehors	Completamente	الجميع إلى الخارج
Behind the scenes	Dans les coulisses	Entre bastidores	خلف الكواليس
Big deal	Grosse affaire	Vaya cosa	صفقة كبيرة
Across the board	Dans l'ensemble	En todos los ámbitos	عبر المجلس
Around the corner	Au coin de la rue	A la vuelta de la esquina	حول الزاوية
Follow suit	Faire de même	Seguir el ejemplo	تحذو حذوها
Over the top	Sur le dessus	Excesivo	فوق القمة
In full swing	En plein essor	en plena marcha	في ارجحة كاملة

4.2. Idioms Translation Using Bing Microsoft Translator

In the subsequent table, the same idioms and their translation into Arabic, Spanish, and French are demonstrated. However, the online machine translation service used this time is Bing Microsoft Translator. The latter is a translation tool owned by Microsoft Corporation which was launched in 2009, and which currently supports more than 60 languages.

Table 3. The most common idioms in American media and their translation using Bing Microsoft translator

Idiom	French Translation	Spanish Translation	Arabic Translation
In the long run	A long terme	A la larga	على المدى الطويل
On the sidelines	En marge	Al margen	على الهامش
All out	Tout dehors	Todo fuera	كل شيء
Behind the scenes	Dans les coulisses	Detrás de escena	وراء الكواليس
Big deal	Grave	Importante	مهم
Across the board	Dans tous les domaines	En todos los ámbitos	في جميع المجالات
Around the corner	Au coin de la rue	A la vuelta de la esquina	قاب قوسين أو أدنى
Follow suit	Suivre	Sigue su ejemplo	تحذو حذوها

Over the top	Excessif	Pasado de rosca	مبالغ فيه
In full swing	En plein essor	En pleno apogeo	على قدم وساق

4.3. Idioms Translation Using DeepL Translator

Not as popular as Google Translate and Bing Microsoft Translator, DeepL Translator is a neural machine translation service that was launched on August 28, 2017. It was developed by the German corporate DeepL GmbH, which suggests that it is more accurate and nuanced than the other available online machine translation services. It currently supports over 24 languages. Unfortunately, Arabic is not one of the supported languages yet. The following table shows the translation of the most common idioms in the American media, using DeepL Translator, into Spanish and French.

Table 4. The most common idioms in American media and their translation using DeepL Translator

Idiom	French Translation	Spanish Translation	Arabic Translation (unsupported)
In the long run	A long terme	A largo plazo	-
On the sidelines	Sur la touche	Al margen	-
All out	Tout le monde dehors	Todo fuera	-
Behind the scenes	Les coulisses	Entre bastidores	-
Big deal	La belle affaire	Gran cosa	-
Across the board	Dans tous les domaines	En todos los ámbitos	-
Around the corner	Au coin de la rue	A la vuelta de la esquina	-
Follow suit	Suivez le mouvement	Siga el ejemplo	-
Over the top	Au-dessus de la tête	Por encima de la media	-
In full swing	En plein essor	En pleno apogeo	-

4.4. Idioms' Actual Meaning Using Context Reverso

Unlike the previously stated online machine translation services, Context Reverso is based on neural machine translation – an approach to machine translation that uses an artificial neural network to predict the likelihood of a sequence of words –, contextual dictionaries, online bilingual concordances, grammar and spell checking, and conjugation tools. It uses a large corpus of data to provide a variety of possible translations for the source text based on how it was previously translated by a considerable number of human translators. In the case of idioms, the same procedure is followed and thus the most frequent translations are presented.

Table 5. The actual meaning of idioms using Context Reverso

Idiom	French Translation	Spanish Translation	Arabic Translation
In the long run	à long terme sur le long terme	a la larga	على المدى الطويل على المدى البعيد

On the sidelines	à l'écart sur la touche	en el banquillo al margen	في الهامش في موقف المتفرج
All out	tous	todos	كل شيء جميعا
Behind the scenes	en coulisse dans les coulisses	en secreto entre bastidores	وراء الكواليس وراء الستار
Big deal	important grave	gran cosa	شيء مهم أمر جلل
Across the board	dans tous les domaines partout	en general	في جميع المجالات بوجه عام
Around the corner	autour du coin	a la vuelta de la esquina	قريب قاب قوسين أو أدنى
Follow suit	faire de même	hacer lo mismo seguir el ejemplo excesivo	يحتذوا نفس الحذو تفعل نفس الشيء
Over the top	trop dépasser les limites du raisonnable		أكثر من اللازم
In full swing	en plein essor	en pleno apogeo. en plena marcha	على قدم وساق بكامل طاقتها

5. Discussion

To examine the efficiency of the online machine translation services, the translations of the idioms generated through the use of Google Translate, Bing Microsoft Translator, and DeepL Translator are examined in terms of whether or not their meaning corresponds with that of the translated idiom. The table below shows a summary of the results by stating whether or not the translations generated through the use of the different online machine translation services are accurate. To determine that, translations are compared with the true meaning of the idioms provided by Context Reverso.

Table 6. The efficiency of machine translation in translating idioms used in American media

Idiom	Languages	Google Translate	Bing Microsoft Translator	DeepL Translator
In the long run	Arabic	Accurate	Accurate	-
	Spanish	Accurate	Accurate	Accurate
	French	Accurate	Accurate	Accurate
On the sidelines	Arabic	Inaccurate	Accurate	-
	Spanish	Accurate	Accurate	Accurate
	French	Accurate	Accurate	Accurate
All out	Arabic	Inaccurate	Accurate	-
	Spanish	Accurate	Inaccurate	Inaccurate
	French	Inaccurate	Inaccurate	Inaccurate
Behind the scenes	Arabic	Accurate	Accurate	-
	Spanish	Accurate	Accurate	Accurate
	French	Accurate	Accurate	Inaccurate
Big deal	Arabic	Inaccurate	Accurate	-
	Spanish	Inaccurate	Accurate	Accurate
	French	Accurate	Accurate	Inaccurate
Across the board	Arabic	Inaccurate	Accurate	-
	Spanish	Accurate	Accurate	Accurate
	French	Inaccurate	Accurate	Accurate
Around the corner	Arabic	Inaccurate	Accurate	-
	Spanish	Accurate	Accurate	Accurate
	French	Inaccurate	Inaccurate	Inaccurate

Follow suit	<i>Arabic</i>	Accurate	Accurate	-
	<i>Spanish</i>	Accurate	Accurate	Accurate
	<i>French</i>	Accurate	Inaccurate	Inaccurate
Over the top	<i>Arabic</i>	Inaccurate	Accurate	-
	<i>Spanish</i>	Accurate	Inaccurate	Inaccurate
	<i>French</i>	Inaccurate	Accurate	Inaccurate
In full swing	<i>Arabic</i>	Inaccurate	Accurate	-
	<i>Spanish</i>	Accurate	Accurate	Accurate
	<i>French</i>	Accurate	Accurate	Accurate

Starting with the translation of the idioms from English to Arabic, the results indicate that Google Translate results are 30% accurate. The translations are mostly literal ones; this is proven to be as not useful with regards to idioms translation. For instance, “on the sidelines” is translated by Google Translate to “على الجوانب” and “big deal” to “صفقة كبيرة”. Bing Microsoft Translator, on the other hand, shows an accurate translation of idioms with a surprising percentage of 100%. The translations of the idioms correspond with the meanings of those idioms. “Big deal”, for example, is translated to “مهم”, and “over the top” to “مبالغ فيه”. More surprisingly, Bing Microsoft Translator sometimes opts for the second-best strategy proposed by Baker [2]: using an idiom of similar meaning. For instance, it translates “around the corner” and “in full swing” to “قارب قوسين أو أدنى” and “على قدم وساق”, respectively.

Shifting focus towards the Spanish translations, the results indicate that Google Translate’s accuracy in translating idioms from English to Spanish is 90%. However, it should be noted that some of these translations could be deemed not as accurate in certain contexts. For instance, Google Translate translates “all out” to “completamente” whereas the actual meaning of the idiom in Spanish is “todos”. The two words are close in terms of meaning and can be used interchangeably in Spanish, but in certain contexts the use of one word instead of the other is required to convey the right meaning. Concerning Bing Microsoft Translator, the results show an almost similar accuracy of 80%, with the strategy being translation by paraphrasing in most cases. For example, “big deal” is translated to “importante”. For DeepL translator, the level of accuracy when translating idioms from English to Spanish is 80% as well.

With regards to the translation of idioms from English to French, Google Translate is 60% accurate. “Across the board” and “over the top”, for instance, are translated to “dans tous les domaines” and “excessif”, respectively. The translation accuracy of Bing Microsoft Translator, on the other hand, is found to be 70%. It seems to be capable of identifying the actual meaning of an idiom and of avoiding literal translation that would render the translation inaccurate. For example, Microsoft Bing Translator translates “big deal” to “grave” and “over the top” to “excessif”. As for DeepL Translator, its level of accuracy concerning the translation of English idioms into French is 40%. In most cases, DeepL Translator opts for literal translation. For example, “all out” is translated to “tout le monde dehors” and “around the corner” as “au coin de la rue”. Even worse, it sometimes changes the meaning or omits part of it as in the translation of “big deal” to “la belle affaire” and “behind the scenes” to “les coulisses”, respectively. In order to summarize everything stated in the paragraphs above concerning the efficiency of machine translation in translating idioms, the table below summarizes the accuracy level of each online machine translation services.

Table 7. The accuracy level of online machine translation services

	Google Translate	Bing Microsoft Translator	DeepL Translator
English to Arabic	30%	100%	-
English to Spanish	90%	80%	80%
English to French	60%	70%	40%

6. Conclusion

The link between culture and media is strong as each one is capable of influencing the other in various degrees. The latter has the potential to represent the former and to expand its reach beyond the constraints of cultural and national borders, towards an audience of different languages. This whole process is possible thanks to, besides the technological progress, translation. Dubbing and subtitling are both means through which an audience who speaks a given language becomes capable of accessing the media produced by other nations. As challenging as is the process of translation, the existence of some complex linguistic elements in a language makes the job of translators even more difficult. Among these linguistic elements are idioms, which possess features that makes their translation exigent. However, the current existence of online machine translation services could potentially make the process of idioms translation easier. For this reason, this paper manifested an attempt to examine the efficiency of machine translation in the translation of the most common idioms in the American media.

Based on the results, it is concluded that machine translation is currently capable of translating idioms with an average accuracy rate of 68.75%, with Bing Microsoft Translator being the most accurate online machine translation service, compared to Google Translate and DeepL Translator. Machine translation seems to be using Baker's [2] third strategy in most cases, which is translation by paraphrasing. Nevertheless, Bing Microsoft Translator appears to have the capacity to opt for Baker's [2] second strategy as well, using an idiom that is similar in meaning, especially when translating idioms from English to Arabic.

In this paper, only ten idioms were used. Further research on a larger scale concerning the efficiency of machine translation is encouraged. With everything into account, machine translation appears to be promising and getting better with the advances in relevant fields such as big data and artificial-intelligence, and thus more research is needed to explore and potentially exploit its capacities to improve translation while significantly reduce its cost and time.

Conflict of Interest

The author declares no conflict of interest

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