

## The Translation Process of Machine Translation for Cultural Terms on Balinese Folktales

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**Abstract**—*The goal of this study is to determine the capability of Google Translate in term of translating cultural terms. This study is conducted to analyze the translation performed by one of the well-known machine translation, Google Translate. The data is collected from the translation of seven traditional Balinese folktales chosen in random via online, namely Manik Angkeran, Kebo Iwa, Lubdaka, Tampaksiring, Origin of Bali, Origin of Singaraja, and Pan Balang Tamak. The data of the study is the translation on cultural terms translated by Google Translate. The cultural terms are classified with Cultural Term Classification Theory by Newmark. The analysis is conducted by comparing the translated text and the original text to identify the translation method utilized by Google Translate in translating cultural term into English. The Translation Method Theory and Classification by Newmark is used to identify the method of translation utilized by Google Translate. The methods then is used in order to determine the tendency of Google Translate in the translation toward cultural terms.*

**Keywords:** *cultural term; machine translation; traditional folktales; translation method; translation tendency*

**Abstrak**—*Tujuan dari penelitian ini adalah untuk mengetahui kemampuan Google Translate dalam menerjemahkan istilah kebudayaan. Penelitian ini dilakukan untuk menganalisis penerjemahan yang dilakukan oleh mesin penerjemahan yang cukup dikenal, Google Translate. Data dikumpulkan dari terjemahan tujuh cerita rakyat Bali yang dikumpulkan secara acak dan daring, berjudul Manik Angkeran, Kebo Iwa, Lubdaka, Tampaksiring, Sejarah Bali, Asal Mula Singaraja, dan Pan Balang Tamak. Data dari penelitian ini adalah terjemahan pada istilah kebudayaan yang diterjemahkan oleh Google Translate. Istilah-istilah kebudayaan diklasifikasikan dengan Teori Klasifikasi Istilah Kebudayaan oleh Newmark. Proses analisis dilaksanakan dengan membandingkan teks terjemahan dan teks asli untuk mengetahui metoda penerjemahan yang digunakan Google Translate dalam menerjemahkan istilah kebudayaan ke Bahasa Inggris. Teori dan Klasifikasi Metoda Penerjemahan Newmark digunakan untuk mengidentifikasi metoda penerjemahan yang digunakan oleh Google Translate. Metode tersebut lantas digunakan untuk menentukan kecenderungan pada Google Translate dalam menerjemahkan istilah kebudayaan.*

**Kata kunci:** *cerita rakyat tradisional; istilah kebudayaan; kecenderungan penerjemahanmesin penerjemahan; metoda penerjemahan*

## 1. Introduction

In modern era, communication has advanced further. Technology has been a great support, especially in term of language. Introducing a machine translation (MT), communication in term of breaking the language barrier had been easier and practice. From the history of the development progress, MT has four approaches; direct approach, rule-based approach, corpus-based approach, and lastly hybrid approach (Cheragui, 2012). MT has been developed since 1933 until 1956 as a one-word dictionary translation, but due to the further development, MT began to be developed with input of statistic given by users as a corpus data, while also learning from example-based data, thus gave birth to corpus-based and example-based model in late 1990 (Hutchins, 1995).

Hutchins and Somers (1992) defines machine translation as a process of translation from SL to TL with computerized system and, with, or without human assistance. Other also explains that machine translation is an automatic system that collect information from translation and compiled all the data as a corpus in which is used to translate an input from certain language, and creates the output without human intervention (Craciunescu, 2004). Machine translation is part of artificial intelligence, or AI, which is developed by mimicking human's brain as to create a creative problem solving in term of language transference (Sofer, 2009). One of many machine translation is Google Translate, a commonly known and used around the globe. Google Translate has been around since around 2006 as a statistic-based machine translation.

Despite the advancement, language barrier is still persisting, especially in cultural terms. Mona Baker (1992:21) describe culture as an abstract or concrete idea which is associated with religion, belief, social custom, and even food. Culture is a specific knowledge and special characteristic of a certain group of human from different location on the world, it means different place and different ethnic possess different

customs, ideas, or concepts about live. Culture affects the mind of people in that said group, especially language. Like culture, one language is unique from others. However, difference in culture sometimes conflict with communication, especially between different cultures. To solve this problem, translation is required.

Translation in machine point of view is automated, thus no human intervention is required. Nida and Taber (1982:12) argue that translation is an effort to reproduce messages from source language to target language by finding the closest natural equivalent, first in meaning, then in grammatical unit. MT on basic level performs mechanical substitution on a word in one language to another language desired by user. However, this is also a factor that makes MT and human translators are not even close to be considered rival. Without an emotion to process the expression, MT would never be able to emulate the correct message into TL, unless human translators decide to intervene the translation result. This in fact is supported by Champollion (2001), in addition of those above, he states that '*computer will never understand, but it can translate*'. It is referred toward the incapability of MT being unable to understand the context of the text. Johnson (2004:67) claims that automatic translation relies on the implications created by human translator in 'pre-editing' of the source text into a 'sublanguage' and based on that the translation program can function successfully, and also in the subsequent 'post-editing' of the text. This explains the reason behind the achievements of machine translation in analyzing and processing technical scientific text while at the lowest performance at transferring 'linguistic ambiguity' in the process.

In term of translation, Larson (1984) states that translation is a process of changing a form of word from one language into another form in other language. Translation brings the word from source language into the target language without changing the context or meaning, or simply changing it completely, as long as it is satisfied the mean by

using an equivalent word on target language. Bell (1991:6) explained that translating is the replacement of representation of a text in one language by representation of an equivalent in second language. This statements lead into a conclusion that every translation requires equivalence between TL and SL. Catford (1951:1) states translation may be defined as the replacement of textual material in one language (SL), by textual material in another language (TL). In context of MT, the expression or word is simply word or expression that has a closest meaning possible.

In translation, machine translation is considered able to translate cultural term, however it is limited in strategy. With limited strategy, the result produced by machine translation, which in this case is Google Translate, tends to translate the cultural term with limited methods, even though there are around eight translation methods that can be utilized by machine translations; 1) literal translation, 2) word-for-word translation, 3) faithful translation, 4) free translation, 5) communicative translation, 6) semantic translation, 7) adaptation, and 8) idiomatic translation (Newmark, 1998).

## 2. Research Method

The study has planned as a qualitative study. Creswell (2009) states in qualitative research, the final report has a flexible structure and the data is analyzed in inductive manner. In qualitative approach, the researcher makes a knowledge claims based on mostly on many variation of individual experiences, social meanings, and historical constructions on developing theory and patterns, or perspective of the participatory. From seven Balinese Folklores which was selected in random

before from many online sources, the data is gathered in form of sentences contained cultural terms as the secondary data. The cultural terms was then translated into English text as the primary data. The data, which are the cultural terms translated by Google Translate then observed, identified, and finally classified by comparing the original text in Indonesian with the translation in English in order to determine the translation method utilized by Google Translate. The methods are compiled and classified in order to determine the tendency for the translation performed by Google Translate.

## 3. Theory

The theory used in this study is Cultural Classification Theory by Newmark (1998). There are five classification of cultural terms, namely 1) ecology, 2) material of culture, 3) social culture, 4) organization, custom, activities, and beliefs, and 5) gestures and habits. This study also uses Translation Method Classification Theory by, again, Newmark (1998). There are eight translation methods, which then divided by two strategy with opposing tendencies in translating. The strategies are namely SL-emphasized translation and TL-emphasized translation. Each strategy holds four strategy, which can be seen below.

SL-Emphasized	TL-Emphasized
Word-for-word	Adaptation
Literal	Free
Faithful	Idiomatic
Semantic	Communicative

**Diagram 1.** Newmark's V Diagram of Translation Method

## 4. Results and Discussion

The data are presented separately, starting from cultural terms collected from the folklores. The next presentation covers of data about translation method utilized by Google Translate in translating the cultural terms from Indonesian as a source language (SL) to English as a target language (TL). The number of translation methods are used to determine the tendency of translation used by Google Translate.

### 1. Cultural Terms

The cultural terms were collected from seven randomly chosen Balinese folklores, and thus elaborated briefly in descriptive qualitative method. The five terms are found as follow, 1) ecology, 2) material culture, 3) social culture, and 4) organization, custom, activities, leisure, and belief, and lastly 5) habit and gesture.

#### a. Ecology

According to Newmark (1988:96), term of ecology is categorized by a nature-related and geographical feature items with the absence of political and commercial value, but still represented the culture it comes from. Flora, fauna, weather, lands, and body of waters such as lake or river are cultural terms commonly found in Balinese folktales. There 21 data are related with ecology, and here is one of the example.

Original : Sidhimantra pun bergegas menuju **Gunung Agung**  
Translated : Sidhimantra rushed to **Mount Agung**

The translation above is done by Google Translate on one of the most known and sacred highest peak in Bali.

Balinese people believes the volcano has its peak reaching toward the sanctuary where gods and other divinities are living. According to Pringle (2004) Pura Besakih is located on its slope. Google Translate has translated *Gunung Agung* into *Mount Agung*, by translating the word *Mount*. Even though the word *Agung* has a translation in English, which is *Great*, Google Translate does not translate the word. Theoretically, Google Translate is able to distinguish a name and translatable word, and retains the word *Agung* from SL due to it is being a name of a location, thus the system prevents it from translating it to avoid confusion.

#### b. Material Culture

Newmark (1988:97) categorized all items into this classifications from food, clothing, housing, means of transportation, as well as communication devices. The material culture found from the folktales are categorized as any items that are related toward daily necessities, kitchenware, buildings, human settlements, and artifacts. Some are unique with the culture it belongs to, while some items own each of its own concept compared to the equivalent translation in TL. Below is one of the 45 examples of material culture-related term.

Original : Ia lalu pulang dan memecahkan **celengannya**  
Translated : He then went home and broke his **piggy bank**

The original text, *celengan* is translated by Google Translate as *piggy bank*, and both has the same concept in term of money-saving device and pig-like model. However, *piggy bank* and *celengan* are not a direct translation

toward each other. *Piggy Bank* is, according to Burton (2020), originated from Middle Ages when pots and other clayware are used to store money. The clay material is called *pygg*. As the word evolves, *pygg* gradually pronounced as *pig*, then many England potters began to produce money jar in a shape of a pig to humor the origin word. There are also translation suggested by Google Translation. The highest frequency are *kitty* and *savings* as an uncommon suggested translation, and *moneybox* as rarest suggested translation, but *piggy bank* is the most used and common translation.

### c. Social Culture

According to Newmark (1988:95), any terms that belong to social culture is related to any kind of human interactions and the means of communication under the regulation of one's custom and culture, as well as the complexity of the pattern. From the folktales or stories the data gathered from, terms associated with social culture are found in form of kinship among people, or human as the social being, including the way of people addressing the other based on social hierarchy, nobility, and role inside the community. There are 17 terms associated with social culture from the folktales, one of the data can be seen below.

Original : **patih** Kerajaan Majapahit yang bernama Gajah Mada memang bertekad untuk menyatukan Nusantara

Translated: **The governor** of the Majapahit Kingdom, Gajah Mada, was determined to unite the archipelago

The term *patih* is referred toward the vice leader under the ruler of the king. The term is used by those who are appointed to rule a certain area under the legal ruler of current king. This practice had been done since long ago by ancient kingdom in Indonesia, especially Majapahit. According to Soedarso (2014) *patih* has an equal status as current governor in current government system of today's Indonesia. In term of translation, Google Translate has translate the term *patih* as *governor*. The term *governor* is considered as a bit broader, if compared with *patih*. In many story that includes kingdom-themed conflict, *patih* is also described as the one who lead an army, while on the contrary, the *governor* are not even related to military. Even so, both are still the same title of one who assume the control over some area under the ruler of the kingdom as an acting ruler.

### d. Organization, Customs, Activities, and Beliefs

Newmark (1998:95) states any items that are related with the political and administrative aspect, social organization, religion, history, and artistic terms that belong specifically to a certain culture, country, or nation are classified into this cultural term classification. In this study, 22 data related to this term has been found, below is one of the data sample.

Original : **patih** Kerajaan Majapahit yang bernama Gajah Mada memang bertekad untuk menyatukan Nusantara

Translated: **The governor** of the Majapahit Kingdom, Gajah Mada, was determined to unite the archipelago

Google Translate has made translation on *roh* into a term of *spirit*. The explanation is since the term from original text is translated and transferred with the specific term from TL with an equal concept. The term *Roh* is adapted from Arabic *Ruuh*, which is meant as the one who controls over the body and mind. From the story, titled Lubdaka, the term *roh* is told levitating on the sky as it is confused to where it should go, due to Lubdaka once a cruel hunter, believed that the bad karma led Lubdaka into the void realm. Balinese people has a belief when one has died, the spirit the left the mortal body and hovering about on the realm of spirit, called *Pitraloka*. The term *spirit* from TL, however is referred toward the soul or the force that causes the mortal body to life, or giving life to any living being.

#### e. Habits and Gestures

To express complex and complicated emotions such as discontent, anger, confusion, happiness, or suspicion, human has special way in expressing it, such as through body movements and gestures. In this classification of cultural terms, gestures and habits are classified toward the specific behaviors and habits of an individual in a certain situation. Habit that is seen in consistent succession is deemed as custom, which eventually becomes the culture. There are only 5 data found from the folktales.

Original : disinilah Beliau melakukan **semadi** dan mendapatkan pawisik untuk menciptakan air penawar racun, kini air ini dikenal dengan nama *Tirta Empul*

Translated : this is where he did **meditation** and got pawisik to create antidote water, now this water is known as Tirta Empul

The term *semadi* is referred toward an action of the one who is considered the expert in religion, such as high priest, or *Rsi*. Accordingly from the story, most figures of religions or even god has done this when in doubt or requesting for supernatural assistance or spiritual interference. In literal explanation, *semadi* is an exercise done by anyone releasing any kind of thought that causes distraction, stress, and anxiety (Vitahealth, 2008). During the process of *semadi*, someone enters the deepest part of the mind to reflect, think, and find a solution for the any problem. The term is translated by Google Translate into *meditation*, which has the exact meaning with the term *semadi* in sense of clearing the mind to find a solution and guidance.

#### 2. Translation Method and Tendency

Along with the cultural terms, the data are also observed and identified to find the method utilized by Google Translate to translate the cultural terms. The utilized translation method are word-for-word translation, literal translation, faithful translation, semantic translation, free translation, and adaptation translation. The tendency of the translation utilized by Google Translate in translating cultural terms from Indonesian into English is determined by two translation emphasize; SL-emphasize and TL-emphasize.

##### a. Word-for-word Translation

Google translated has utilized this method of translation on 9 data. In term of preserving the culture from SL, both

literal translation and word-for-word translation methods are utilized the same. In its application, word-for-word translation method utilized by Google Translate is exactly as Newmark has stated in word-for-word method, in which word-for-word translation method maintains the grammar rule in SL, forcing it into TL (Newmark 1988: 46). One of the translation results are displayed below.

Original : Sidhimantra pun bergegas menuju **Gunung Agung**

Translated : Sidhimantra rushed to **Mount Agung**

The translation done by Google Translate on *Gunung Agung* in SL into *Mount Agung* into TL is categorized as word-for-word translation method. In this data, *Gunung* is translated into *Mount*, and *Agung* is just transferred into *Agung*. In term of grammatical order, Google Translate has brought the rule of SL and fit it with the TL sentence. The translation is done without regarding the context for TL reader, thus creating a completely direct result of translation for the ecology-related term of SL, *Gunung Agung*.

#### b. Literal Translation

Newmark (1988:46) stated, this method of translation converses the SL grammar construction into closest TL equivalents. The differences between literal and word-for-word is seen from how Google Translate had translate the term by utilizing this translation method. The terms are translated while maintaining the culture of SL by adapting the grammar structure of the TL. There are 43 data translated by Google Translate with literal translation method.

The result of the translation are presented below.

Original : Sehingga tempat ini juga dinamai dengan **Pura Tirta Empul**

Translated : So this place is also named **Tirta Empul Temple**

The process performed by Google Translate in translating *Pura Tirta Empul* into *Tirta Empul Temple* is classified as literal translation method since the translation has brought the term from SL while adapting the grammar of the TL. The word *pura* is translated by adapting an equivalent word *temple*, both word are the modifier of *Tirta Empul*, a tourism object famous in Bali. The literal translation method is belonged to SL-emphasized classification, which shows the tendency of the MT in translating a name of place or cultural location. The word *Tirta Empul* itself is not translated since Google acknowledge the term as a name, thus transferring the word as the way it is into TL.

#### c. Faithful Translation

Newmark (1988:46) states, this method of translation converses the contextual meaning in disregard of the context in TL, in order to produce a precise translation result. Any translation performed by Google Translate without changes is considered as faithful translation method in a hypothesis that Google Translate retains the cultural term as the way it is in SL. There are 35 data translated with this method by Google Translate. Below is one of the data that has been translated with this method.

Original : mayat bertumpukan seperti gunung, maka tempat ini namai **Dusun Sawa Gunung**

Translated: corpses are piled up like mountains, then this place is named **Dusun Sawa Gunung**

In term of faithfulness, the aspect of translation is not limited in the unchanged linguistic aspect, but also the cultural concept in term of meaning. The translation of place or cultural location is deemed as not translated term, thus causing the data untranslated. However, the term *dusun* is actually translatable with suggested translation choice of *village* as the most common, while *backwoods* and *country* as uncommon suggestions provided by Google Translate statistic. The reason for the untranslated word despite of being able to be translate might be caused due to the MT considered the term *Dusun* as part of the name, thus the program had refused to translate it.

#### d. Semantic Translation

Among the translation methods that belonged to SL-emphasized translation category, semantic translation methods is the most flexible method of translation in term of preserving the culture from SL. The translation performed by Google Translate has shown that the cultural terms translated by utilizing this method are converted into a neutral expression in TL. Google Translated utilized semantic translation method only on 5 data. The data below is one of the translation with this method.

Original : Sidhimantra membunyikan **genta** seperti petunjuk dalam mimpinya.  
Translated: Sidhimantra sounded the **bell** like a clue in his dream

The SL term *genta* is referred toward a holy bell used by Hindu priest/priestess while incanting the prayer, leading the other prayers, and only seen used in a special ceremony. In KBBI, *genta* means 1) a metal-made cup upside down with a small bat which upon hitting the metal cup, causes a high pitch sound to reverberate, 2) a big bell commonly found on church, and 3) a bell attached on cattle, especially cows. On the other hand, the term is translated as *bell*, which according to Merriam Webster, it is 1) a thing that resembled a bell, 2) metallic device that gives reverberating sound when hit, 3) a percussion that gives a sound similar as bell when struck. From the translation Google Translate has used semantic translation method by translating the term into a neutral expression in TL. This translation method is used to maintain the culture from SL by translating the term with a word from TL with broader meaning. Also, the term *genta* and *bell* have few similarities in aspect of causing a reverberating sound upon hit, however in context, *genta* and *bell* are not related. The suggested translation for this could be *holy bell* as to emphasize the context of the holiness of the *genta* from the story.

#### e. Free Translation

Newmark (1988:46) states free translation crafts its own style in translating the text, including a changes in form or contents. In the practices, the translation of the cultural terms has undergone a significant changes after Google Translate utilized this method. The changes is done replacing the terms into a complete a term or expression that far from related with the culture in SL. So far only 5 data are translated with this



translation method by Google Translate. The translation method has produced the data presented below.

Original : patih Kerajaan Majapahit yang bernama Gajah Mada memang bertekad untuk menyatukan **Nusantara**

Translated : The governor of the Majapahit Kingdom, Gajah Mada, was determined to unite the **archipelago**

The term *Nusantara* is translated into *archipelago* by Google Translate, which is categorized as free translation. The term *Nusantara* is referred toward a country Indonesia, however in Majapahit Era, the term had been referred toward the territory of Southeast Asia. The translation of the term into *archipelago* is done by Google Translate by replacing it with a term that is not related in meaning, let alone context, as the term has nothing to do with each other. However the word *archipelago* has similar concept and synonymously being a cluster of islands since Indonesia consists of many islands, despite it was misinterpreted as *archipelago*, (Gaynor, 2007).

#### f. Adaptation Translation

There are 12 data that has been translated with this method. In term of closest tendency in translation toward TL, the adaptation translation method is considered as the correct method of translation among other TL-emphasized translation. In the process of translation, the cultural terms translated by Google Translate in utilizing this process has translated into a the culture of TL. It is the way to achieve equivalence which is in accordance with the culture of TL

(Newmark, 1998:46). The translation of this method can be seen below.

Original : Ia lalu pulang dan memecahkan **celengannya**  
Translated : He then went home and broke **his piggy bank**

Despite both term has something to do with word *pig* (*celeng* in Indonesian), etymologically the terms are not related at all. In each practice, both are used to save money, or coins which is another form of currency. The term *celengan* is popularized due to how money-saving device in SL culture is shaped after a swine animal. However, in case of *piggy bank*, the origin of the term is derived from a pun, or word play of the material commonly used to craft the thing, named *pygg* or clay. The translation is done by Google Translate by utilizing adaptation translation method, which is by transferring the term from SL and replace it with equivalent term from SL culture.

#### 5. Conclusion

Based on the findings and discussions presented above, from seven Balinese folktales which are chosen in random. The folklore are Manik Angkeran, Kebo Iwa (there are two version of the folktales), Tampaksiring, Lubdaka, The Origin of Bali, The Origin of Singaraja, and Lastly Pan Balang Tamak, five cultural terms had been found with total 110 terms from the folktales. For the translation strategy, Google Translate is able to translate few cultural terms from traditional folktales. There are 6 methods out of 8 translation methods proposed by Newmark that has been utilized by Google Translate to translate the cultural terms. The utilized methods are word-for-word translation

method, literal translation method, faithful translation method, semantic translation method, free translation method, and adaptation translation method.

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