

# Nuclear Relations: Retention, Shift, and Quality in Supply Chain Perspectives

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**Abstract-** This study aims to propose an improved trading environment for purchasing low material and alternatives to reform supply chain management among firms which are the parts manufacturers of nuclear industry. One of the means of construing experience is how elements of nuclear relations are constructed within linguistic constructions. Configurations of nuclear relation elements can be different from one language to another because of different grammar rules. As a particular construction is translated, the configurations may be retained or shifted. This study explores retention and shift of nuclear relation configurations as a result of translation and the effect on translation quality in a supply chain for language translation. Clauses and nominal groups in the original novel Percy Jackson portraying the main character's character and their Indonesian translation are investigated to reveal how the nuclear relation configurations are retained or shifted in the target language. Further, the correspondence of shift and retention and the accuracy and acceptability of the translation is investigated. The results reveal that nuclear relation configuration does not have direct impact on the accuracy of the translation. The configuration tends to be closer to the acceptability of the translation. Nuclear relation configuration can be retained whenever grammar rules allow in translating from English to Indonesian and be reformulated in situations which require shifts.

**Keywords;** translation, nuclear relations, retention, supply chain, quality

## 1. Introduction

The 'supply chain' metaphor has roots in the real world, of course; prior to the Internet translation work did, in fact, involve the shipping of things around the world. A company engaged in a localisation process would hire a translation firm as part of their efforts, and documents would be shipped by the truckload for the translators to process. That means there was literally a supply chain that involved logistics – sometimes very complex logistics, especially when the documents in question were sensitive and the security of data was paramount.

Today, logistics still matter, but the supply chain is largely virtual. But logistics are part of the supply chain concept,

so I suppose in a sense we still have a supply chain to deal with – and it's absolutely vital. It's simply about getting the source text to your translation workers, it's about setting up a system where source texts come in, translations go out, and everyone knows exactly where the other is at all times.

Translation across languages always involves difference as source language and target language are different in terms of linguistic and cultural norms. In the bounds of the difference between source language and target language, a translation functions to establish equivalence to be able to serve as Communication Bridge.

Aside from their differences, both languages serve the function to construe human experience. This notion is asserted [1-5] within the Systemic Functional Linguistics frame that "language does – as we put it – construe human experience. It names things, thus construing them into categories; and then, typically, goes further and construes the categories into taxonomies, often using more names for doing so." How human experience is construed in a discourse is a subject under discussion within the system of ideation of experiential meaning, which focuses on a number of elements in a discourse. Ideation concerns on activities taking place in the discourse, the people and things taking part in the activities, the associated places and qualities and also how these lexical elements are built up and how the lexical elements are related as a text progresses from one stage to the next [6-13].

The function of language in construing experience is essential in translation. The experience in the source language has to be precisely conveyed in the target language. This is the goal which has to be achieved by a translator in different linguistic environments. One of the actual instances is manifested in the translation of the novel *Percy Jackson and the Lightning Thief* into Indonesian. One element of experience which needs to be conveyed into the target language is how the main character is portrayed in the novel. The unfolding of the portrayal of Percy Jackson is accomplished through the processes taking place in the novel, along with the associated people, things, places and qualities, and is realized by clauses and nominal groups. Elements within

clauses and nominal groups construct lexical relations with more or less central involvement of the elements, labeled “nuclear relations” [14].

Referring to the points previously highlighted, the different linguistic norms on many occasions require the translator of the novel to rearrange the configuration of the translation of linguistic units. [15], putting remark on Jakobson’s concept of translation, points out “what is produced in translation is not what is said in its own terms, but is understood and refabricated by the translator”. Adjustment and refabrication may retain nuclear relations or cause shift. This raises an issue whether the retention and shift of nuclear relations within the linguistic units are parallel to the retention and shift of accuracy and acceptability.

Studies focusing on translation in connection to ideation have been done in various settings. A study examining the variation of experiential meaning in the subtitle of a movie was conducted by [16]. Studies were also done to examine various forms of lexical relations in translated texts and included in these studies are those investigating shift in lexical cohesion in novels and their translations [17-20]. These studies reveal shifts in cohesive tools, in lexical cohesion and in meaning and form as well as the factors leading to the emergence of the shifts. Two parallel studies focus on how to translate reiteration and cognitive synonyms [21-24] and through these researches, corresponding phenomenon is revealed, namely shifts occurring when the lexical elements are translated. In addition, translation of cohesion markers and the techniques used to translate cohesion markers are studied by [25]. The two studies also prove shifts in the translation of cohesion markers. Further, the impact of the identified shifts on the quality of the translation is also revealed. Some shifts have positive impact on the quality of the translation, while others have negative impact. A deeper and more focused research concentrating on shift in lexical cohesion, one type of cohesion marker, in the translation of a novel involving the impact on the quality of translation is carried out by [26]. Meanwhile, other studies that examine experiential meaning in translation are those examining transitivity in translation works [27-31]. From these studies, various shifts in the transitivity system are identified, which lead to differences in the way of looking at experience in the original texts and in the translation.

A parallel connection can be drawn from the studies. Shifts in various forms of lexical relations have effect on a number of facets in translation, including the quality of translation. Among the areas investigated in the researches involving translation and experiential meaning, the nature of nuclear relations in translation appears to still open opportunity for deeper study. This research is thus conducted to study retention in addition to shift of nuclear relation configuration of constructions in the translation of

a novel and how they are correlated to the quality. The area of this study is not limited only to shift—the area also covers retention—to see a more thorough relationship between form and meaning within the scope of the study of translation and nuclear relations. Studying retention and shift can provide us with a picture of how the two languages construe experience. This translation research looks into a different feature of lexical relations compared to the researches previously remarked on. As the previous researches have proven the effect of shifts of cohesive aspects on translation quality, this research attempts to investigate the connection between nuclear relations and translation quality. The quality of translation works holds a focal significance within translation supply chain that end users must be assured of getting quality translation, as suggested by [31] “... it is important to have a standard guide for relationships between the requester and the translation service provider so that certain questions are answered before starting a translation project—questions for which answers are critical to the successful delivery of a quality translation through the translation supply chain to the end user.” Quality also holds equal degree of significance in game localization that the supply chain incorporates proofreading and testing to certify quality [32].

The first objective of this research is to explore retention and shift of nuclear relations within clauses and nominal groups realizing the portrayal of Percy Jackson in the English novel *Percy Jackson and the Lightning Thief* as the novel is translated into Indonesian. The second objective is to describe correlation between the retention and shift of nuclear relation configurations and the accuracy and acceptability of the translation.

## 2. Literature Review

Over the last twenty years, the supply chains of manufacturers and retailers have become ever more tightly linked. In many industries, retail sales trigger replenishment orders to manufacturers. Manufacturers with a well-tuned, just-in-time supply chain can automatically restock retail shelves as products are sold. As collaboration has increased, additional data from supply chain partners has allowed companies to use advanced analytic tool to further improve results. A clause, within the framework of Systemic Functional Linguistics theory, serves various functions. One of the functions is construing experience through a range of processes along with the participants (people and things) involved within, places and qualities [33]. How the clause’s constituents are interconnected is concisely described in the following figure.

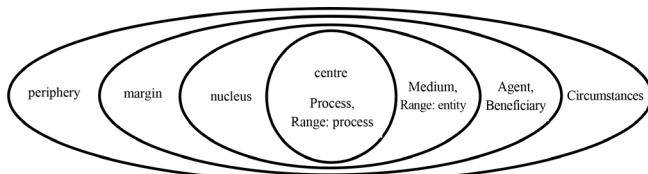


Figure 1. Nuclearity in the Clause

Taking the central position in a clause is the process realized by the clause. This central role also includes range: process, class or part. Medium is the nucleus (core) participant in the clause and is recognized as playing nuclear role. Both elements form a relationship of dependency. A process construed in a clause is dependent on the medium. The amalgam between process and medium (range: entity) determine other elements to give additional information concerning the existing event. Agent and beneficiary are regarded as further from the center, holding lesser degree of significance. The two can be left out from a clause as they are considered to play marginal role. In addition to the three elements, circumstantial elements can contribute to further expansion concerning the event. A wide range of circumstances serve as peripheral elements and some others nuclear elements [34].

System of nuclear relations is constructed and deepened from the need to augment the grammatical descriptions in construing experience, developed by [13]. The descriptions are viewed as solely covering some of the strategies offered by language for construing experience [3]. That “fields of experience consist of sequences of activities involving people, things, places and qualities” is unveiled in the aforesaid grammatical descriptions, Martin and Rose view that people, things, places, and qualities associated with the process have more or less central roles to the unfolding processes.

As the relations based on significance are developed from the previous idea, there is an obvious correlation between transitive model, ergative model of transitivity and the notion of nuclear relations. The relations concerning degree of involvement (ergative model of transitivity) correspond to the transitive model, which views elements of a clause as process along with participant(s) involved within and circumstance. Therefore, there exists correlation between ergative model and transitive model, in which elements composing a clause under ergative model’s point of view have equivalents in transitive model. The correlation is recapitulated in the table below.

Table 1. Transitive Functions and Ergative Equivalents

	Typical preposition	Ergative function	Transitive function							
			material	behavioural	mental	verbal	relational: attributive	relational: identifying	Existential	
processes	-	1 Process								
participants		2 Medium	Actor [mid.]; Actor or Goal [eff.]	Behavior	Senser	Sayer [mid.]; Target [eff.]	Carrier	Token	Existent	
	by	3 Agent	Initiator or Actor [eff.]	-	Inducer or Phenomenon ['please']	Sayer [eff.]	Attributor	Assigner	-	
	to, for	4 Beneficiary	Recipient; Client	-	-	Receiver	(beneficiary)	-	-	
	at, on, etc.	5 Range	Scope	Scope	Phenomenon ['like']	Verbiage	Attribute	Value	-	
circumstances	for; over, across, etc.	6 Extent	duration, frequency (temporal), distance (spatial)				how long? how far? how often?			
	at, in, on, from, etc.	7 Location	time (temporal), place (spatial)				when? where?			

with, by, like	8 Manner	means, quality, comparison, degree	how? what with? in what way? like what? to what extent?
through, for, etc.	9 Cause	reason, purpose, behalf	why? what for? who for?
6in case of etc. extent	10 Contingency	condition, concession, default	under what condition?
with, besides, etc.	11 Accompanime nt	comitation, addition	who/what with? who/what else?
as, into, etc.	12 Role	guise, product	what as? what into?
about, etc.	13 Matter		what about?
according to; to, etc.	14 Angle	source, viewpoint	who says? who thinks?

Theory concerning system of nuclear relations is developed from the profound investigation of English and this system is discovered in other languages as well. Languages, for example Kodava, a South Dravidian language construes experience through, among others, nuclear relation elements [21]. Indonesian and Javanese, as confirmed by [32], construe experience by means of central elements (along with elements performing other roles). Nuclear relations exist in different human languages yet relations in a particular language may be different from another because each language has its distinctive grammar rules.

Nuclear relations are also present within the elements composing a nominal group. Similar to clause, nominal group construes experience through central element, nuclear, and peripheral elements (qualities). How a nominal group's constituents are interconnected is briefly described in the following figure.

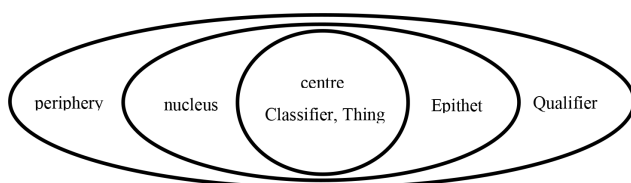


Figure 2. Nuclearity in Nominal Groups

The central slot of a nominal group is filled by the Thing. The slot can also be occupied by modifier which categorizes the Thing into classifications (Classifier). The nuclear role is performed by Epithet, the modifier describing quality of the Thing. Epithet, which plays less central role, is placed further from the Thing than classifier. Meanwhile, Qualifier carries out more peripheral role within a nominal group [13].

## 2.1 Clause and Nominal Group in English and bahasa Indonesia

In relation to translation and nuclear relations, there is a probability of the occurrence of shifts in the nuclear

relations as an English clause is translated into Indonesian. The probability is due to the differences in the grammar rules of both languages. In English grammar, predicator is one of the main parts of single independent clause (or simple sentence). A predicate can consist entirely of predicator, which is realised by a verbal group and it can also predicator together with one or more other elements. Meanwhile, in Indonesian grammar a sentence's predicate takes form of verb/verb phrase, noun/noun phrase adjective/adjective phrase, number or prepositional phrase. A predicate can be accompanied by elements of aspect or modality and it can be a subject of negation [28].

Another probable factor behind the occurrence of shift in nuclear relation configuration is natural way of expressing message. English has "grammatical expression of the location of events in time", labeled "tense" (p. 352) and realized by verb (p. 353). Indonesian grammar does not recognize tense and therefore, such category is naturally expressed by lexical items indicating time. This kind of lexical items are not always present in interaction [30]. In addition, change in terms of parts of speech is often inevitable. English intransitive verb "scare", meaning "get frightened" can be an accurate example. The equivalent message is generally realized by "takut" (be frightened) in Indonesian, which takes adjective form.

Meanwhile, English nominal groups nominal groups in *bahasa Indonesia* are composed of comparatively similar elements. The focal difference lies on how the elements are sequenced. Key principles regarding nominal groups in both languages include the following points.

Within English nominal groups:

- modifiers functioning as Numeratives or Article Deictic Genitive-Deictic/ Demonstrative Deictic, Classifier and Epithet are located on the left side of the Thing while modifiers that act as the Qualifier are located on the right of the Thing
- modifiers functioning as a classifier are always placed on the left side directly before the Thing and if

there are other modifiers other than qualifier, they are placed before the classifier

The sequential patterns of English complex nominal groups are

- Deictic<sup>^</sup>Demonstrative<sup>^</sup>Numerative<sup>^</sup>Epithet<sup>^</sup>Classifier<sup>^</sup>Thing<sup>^</sup>Qualifier or

- Genitive

Deictic<sup>^</sup>Numerative<sup>^</sup>Epithet<sup>^</sup>Classifier<sup>^</sup>Thing<sup>^</sup>Qualifier or

- Article (excluding “a”)<sup>^</sup>Demonstrative<sup>^</sup>Deictic<sup>^</sup>Numerative<sup>^</sup>Epithet<sup>^</sup>Classifier

<sup>^</sup>Thing<sup>^</sup>Qualifier

Contrastingly, within nominal groups in *bahasa Indonesia*:

- modifiers are given semantic roles according to the way they elaborate the Thing syntactically.

- modifiers functioning as numerative or article are located to the left of the Thing and modifiers functioning as classifier, epithet and qualifier, genitive-deictic/demonstrative deictic are located to the right of the Thing

Modifiers functioning as classifier are always placed on the right side directly after the Thing and if there are other modifiers other than numerative and article deictic, they are placed after the classifier.

In addition, complex nominal groups in *bahasa Indonesia* have the following sequential patterns:

- Numerative<sup>^</sup>Thing<sup>^</sup>Classifier<sup>^</sup>Epithet<sup>^</sup>Qualifier<sup>^</sup>genitive-deictic/demonstrative deictic

- Article<sup>^</sup>Thing<sup>^</sup>Classifier<sup>^</sup>Epithet<sup>^</sup>genitive-deictic/demonstrative deictic

genitive-deictic and demonstrative deictic can occur together and if they do, the location of genitive-deictic precedes demonstrative deictic. If article deictic is already present in front of the Thing, genitive-deictic/demonstrative deictic tends not to be required [32].

## 2.2 Translation Quality

The grammar rules of both languages initiate either retention or shift in nuclear relation configuration as the clauses are translated. This retention or shift can then be led to the area of translation quality, particularly whether it affects the result in a positive or negative way. Translation is always linked to the idea about quality, particularly of translation product. The quality of the translation has long been one of the main discussions in the field of translation. There are already many views regarding the quality of a translation product that have been put forward, which involve a range of different approaches. Whatever meaning is used to define "translation quality", translators will always try to produce what is considered 'good translation'.

Experts express their ideas about the quality of the translation. Cited from [8, 9], Reiss views quality by

emphasizing aspects of function by classifying text into four. High quality translation is the one that is adequate based on the characteristics of each type of text. Koller distinguishes five frames of reference to define translation equivalence: denotative equivalence, connotative equivalence, text-normative equivalence, pragmatic equivalence and formal-aesthetic equivalence. Koller views the quality of a translation based on equivalence, which is defined based on five frames of reference. In the descriptive approach, a translation is evaluated mainly in terms of form and function in the system of the recipients' culture. In [14] argue that the quality of a translation is determined by three aspects, namely accuracy, acceptability and readability. They characterize the accuracy and acceptability of a translation as follows:

Accuracy is a term used in translation evaluation to refer to the equivalence between the source language text and target language text. The concept of equivalence leads to the degree of sameness in terms of content or message between the two texts. A text can be identified as "translation", if the text has a correlation regarding equivalence with other texts.

Acceptability refers to the level of conformity of a translation to the linguistic and cultural rules, norms in the target language. The conformity is viewed both at the micro level and at the macro level.

Meanwhile, [20] defines the term "readability" as "how easily written material can be read and understood". Deriving from the definition, the readability of a translation work can be outlined as how easily a translation work can be understood.

The instruments for assessing the quality of the translation referred to in this paper are those put forward by [14]. The choice is based on the point that they are operational, in the way that the instruments fit the analysis required to meet the objectives of the research. In addition, they offer the model for assessing the quality of micro unit of translation. The level of accuracy and acceptability is represented by score ranging from 3 to 1, in which 3 represents the highest level.

## 3. Methodology

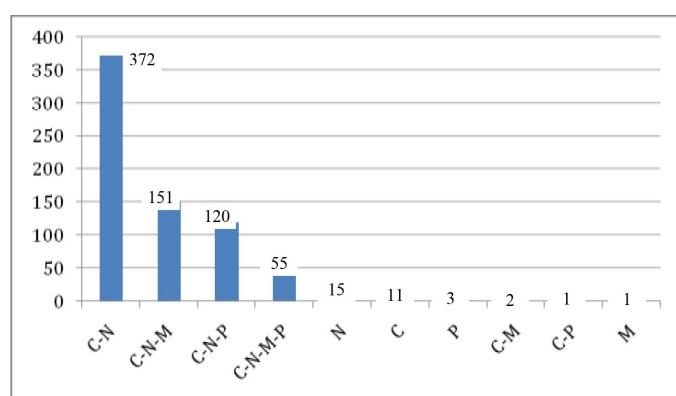
This research is a descriptive qualitative research investigating, first, retention and shift of nuclear relations within clauses and nominal groups realizing the portrayal of Percy Jackson in the original Percy Jackson and the Lightning Thief and its Indonesian translation and secondly, the correlation between retention and shift of nuclear relations and translation equivalence and naturalness. The data are the clauses and nominal groups which realize how Percy Jackson is depicted in the novel Percy Jackson and the Lightning Thief and their translation. The other data take form of information about translation quality used for assessing the accuracy and acceptability of the translation. The clauses and nominal

groups were collected by means of content analysis while the information about translation quality was obtained through Focus Group Discussion, involving three raters (informants who assessed translation quality). The data were analyzed in four stages: domain analysis, taxonomic analysis, componential analysis and theme analysis. The procedure was based on [26] approach. At the first stage, clauses and nominal groups in the novel were grouped into those suggesting the character of Percy Jackson and those which do not. Only clauses and nominal groups which reveal Percy's characteristics were further analyzed and the rest were used as context. The data were then classified in terms of whether or not the data undergo shift of nuclear relations. At the next stage, the correlation between the variable of retention and shift of nuclear relations and that of accuracy and acceptability of the translation of the data was studied. At the last stage, patterns and relationships discovered in this study are discussed within wider context.

## 4. Findings and Discussion

### 4.1 Realization of Attitude in Both Languages (Clause)

Being a central figure in a novel, Percy Jackson is represented as having multifaceted nature. As many as 731 clauses in the novel are identified as containing information which can be unified to reveal Percy's character. These clauses can be specified into more detailed features and can have different configurations of nuclear relation elements. The distribution of each category of nuclear relation configuration is summarized in the following figure.



**Figure 2.** Realization of Portrayal of Percy Jackson (Clause)

The dominant configuration which realizes the main character's attitude portrayed by the clauses is configuration made up of central-nuclear elements. As the figure shows, 522 data represent Percy by means of processes and the participants involved within. In addition to the 522 clauses, 151 clauses depict Percy through central-nuclear-marginal elements: processes and

participants involved in and those instigating them. A fewer number of clauses, 120, give picture about Percy through central-nuclear-peripheral elements, signifying processes along with participants involved in them and the encompassing circumstances. The other 55 suggest how Percy is portrayed in the story by the use of central-nuclear-marginal-peripheral elements, realizing all facets which construe experience. In contrast, Percy is also portrayed only through the use of single element and fragmented elements in a number of elliptical clauses. Fifteen clauses consist of nuclear element; 11 clauses are comprised of central element; and a small number of clauses consist of peripheral element, central-marginal, central-peripheral elements and marginal element only.

The first category of configuration used for portraying Percy is clause consisting of central and nuclear elements. An instance of the portrayal of Percy is unfolded within the story in the form of the following clause, showing how he views his own life as a half-blood (descendant of a god).

### 4.2 Being a half-blood is dangerous

The statement is part of his narration at the beginning of the story. It indicates Percy's pessimistic trait in the way that he sees his being himself as an obnoxious thing. The clause consists of a central element "is" and nuclear elements "being a half blood" and "dangerous".

A noteworthy number of data taking form of clause with all nuclear elements (central, nuclear, marginal and peripheral) are identified. One of the clauses identified as a member of the category is the clause below.

### 4.3 She'd send me right back to Yancy.

It is one of the clauses told by Percy to the readers when he thinks about how the reunion with his mother will be like. He thinks in a linear way (based on logic, rules and rationality) that his mother does not expect Percy to go back home from the boarding school (Yancy). The clause is composed of central element "send", nuclear element "me", marginal element "she" and peripheral element "to Yancy".

Contrary to previous data belonging to the previous category, three categories are composed of clauses with only single elements. The presence of these clauses is due to the use of ellipsis in the constructions, which "makes it possible to leave out parts of a structure when they can be presumed from what has gone before" [5]. The presence of clauses with only single elements is also caused by the use of specialized expressions.

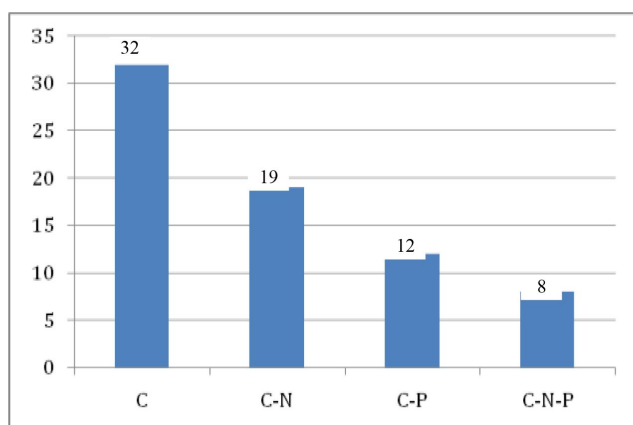
### 4.4 Mind your manners.

She was probably my age, **maybe a couple of inches taller**

The elliptical clause "maybe a couple of inches taller" lacks of the elements of subject and verb, which can be

presumed from the previous construction and leave the clause only with nuclear element. The clause “mind your manners” is addressed to Percy, which gives a picture about how he behaves. The idiom is analyzed as clause having only central element as the experience it realizes is not an order to consider the addressee’s manners as important but it is a warning for Percy to behave courteously.

In addition to the 731 linguistic units portraying the character of Percy Jackson in the form of clauses, 71 other data take form of nominal group. The nominal groups portraying the attitude of Percy Jackson can also be specified into more detailed features and have different configurations of nuclear relation elements. The 71 nominal groups can be classified into four categories based on the elements composing the groups, namely physical action and mental attitude. The distribution of the nominal groups revealing the main character’s action and mental attitude is summarized in the figure.



**Figure 3.** Classification of Portrayal of Percy Jackson (Nominal Group)

The dominant configuration which realizes the main character’s attitude as implied by the nominal groups is configuration made up of central element. The identification highlights that 32 nominal groups represent Percy by means of the central element, Thing alone or along with classifier. Thing with no classifier is included in this category based on the statement that “a nominal group can consist of a Thing only” (Gerot & Wignell, 1995, p. 141). The data also cover 19 nominal groups showing Percy’s nature through central-nuclear elements (central element and element describing them). Twelve nominal groups present the depiction of Percy through constructions made up of central-peripheral elements, namely central element and its qualifying modifier. The rest of the nominal groups consist of central-nuclear-peripheral elements, in which central element along with its describing and qualifying elements are all present within the constructions.

The dominant category of data in the form of nominal group covers those consisting of central element only.

Data of this type often occur since these nominal groups already carry particular meaning revealing the depiction of Percy Jackson or the depiction is expressed through classifying modifier.

You know who I am, **little cousin?**

The nominal group is part of Ares’ question to Percy, consisting of central element, the Thing along with classifier. The modifier “little” is a classifier in the way that it does not indicate size but it is a class distinguishing “little cousin” from the other class as in “little brother” and “big brother”. The nominal group lets readers know a piece of Percy’s identity that he is Ares’s cousin.

The next two categories are those category covering two elements, in which the central element is further characterized with either nuclear element, modifier which describes the Thing, or peripheral element, modifier which adds quality to the Thing. The describing and qualifying modifiers in the nominal groups embody information suggesting Percy’s traits.

Finally, **brave Percy Jackson** (I was beginning to like this kid) ...

... he sent me here. Half-Blood Hill. Summer camp for **bratslike you.**

The last category consists of data taking form of clause with all nuclear elements (central, nuclear, and peripheral). One of the clauses identified as a member of the category is the nominal group below.

A man torn apart. **An adolescent boy with serious issues.**

The nominal group appears in the story as part of a news article and it describes Percy (the Thing) in the story as a young person through the use of the nuclear element “adolescent”. In addition, the nominal group also informs the readers that Percy has problem with behavior, as indicated by the peripheral element, “with serious issues”.

#### 4.5 Nuclear Relations and Translation Quality

The finding presented in the previous section concerning realization of experience by means of nuclear relation configuration in the source language text leads to the next point to remark on, which is whether retention and shift take place upon the translation of the constructions into the target language and have an impact on the conveyance of message (accuracy) and the naturalness of the expression in the target language (acceptability). The statements about translation quality in the description of the following data are based on the result of the quality assessment. Several patterns are identified and the details are provided in the following section.

The 731 data in the form of clauses portraying the attitude of Percy Jackson are categorized into those with retained nuclear relation configurations and undergoing shift of configurations. The table summarizing the retention and shift of nuclear relation configuration along

with the explanation is provided in the following parts of the analysis.

**Table 2.** Nuclear Relations and Translation Quality (Clause)

shift/retention	Accuracy		$\Sigma$	acceptability		$\Sigma$
	high	reduced		high	reduced	
retained	483	58	541	499	42	541
shifted	157	33	190	173	17	190

*Aku nggak perlu kaulindungi.* (I don't need to be protected by you.)

marginal (agent)	central	nuclear (medium)
you	don't need	to protect, me
<i>kau</i>	<i>nggak perlu</i>	<i>aku, lindungi</i>

The clauses show identical elements (central, nuclear, and marginal). The clause's voice changes as a result of translation into the target language. Despite the change of voice from active into passive, the translation still delivers the message of the original. The translation contains no distortion and it sounds natural.

ST : You call him smelly.

TT : *Kau menjulukinya si Bau.* (You name him smelly.)

marginal (agent)	central	nuclear (medium)	marginal (beneficiary)
you	called	smelly	him
<i>kau</i>	<i>menjulukiki</i>	<i>si Bau</i>	<i>nya</i>

The clause shows that both the source language and the target language clauses have identical elements and thus, the same nuclear relation configuration (central-nuclear-marginal). The message of the original clause is totally conveyed in the target language and at the same time, the translation sounds natural.

ST : I volunteered to take the first watch.

TT : *Aku sukarela mengambil giliran jaga pertama.* (I voluntarily take the first watch)

central	nuclear (medium)	peripheral (circumstance)
volunteered	I, to take (the first watch)	-
<i>mengambil (giliran jaga pertama)</i>	<i>aku</i>	<i>sukarela</i>

The example shows different case, in which the original clause and its translation are different in terms of the configuring elements. The peripheral element is part of the translation while it is not part of the original. Despite

Among the 731 clauses depicting the portrayal of Percy Jackson, 541 undergo retention of nuclear relation configuration. The other 190 clauses change their configurations following the translation into the target language. The following brief account provides more detailed exploration.

ST : You don't need to protect me.

TT :

the difference, both the source language clause and the translation contain equivalent message. The expression "*Aku sukarela mengambil giliran jaga pertama.*" is the natural way to express the message in the target language.

ST : I got into more fights with Nancy Bobofit and her friends.

TT : *Aku semakin sering berkelahi dengan Nancy Bobofit dan teman-temannya.* (I more frequently engage in physical encounter with Nancy Bobofit and her friends.)

central	nuclear (medium)	peripheral (circumstance)
got into (more fights with Nancy Bobofit and her friends)	I	-
<i>berkelahi (dengan Nancy Bobofit dan teman-temannya)</i>	<i>aku</i>	<i>semakin sering</i>

The clauses contain different elements because of the different way in expressing the experience in both languages. Here, "more" modifies the noun while its equivalence "*semakin sering*" modifies the verb. Both convey equivalent message and the accuracy is rated 3. In addition, the alteration results in a translation with the highest score for acceptability.

ST : You've got the biggest heart of any satyr ever.

TT : *Kaupunya (hati yang terbesar di antara semua satir.* (You've got the biggest heart of all satyrs.)

central	nuclear (medium)
've got (the biggest heart of any satyr ever)	you
<i>punya (hati yang terbesar di antara semua satir)</i>	<i>kau</i>

Both clauses are made up of the same elements, central and nuclear. The idiomatic expression "biggest heart" is translated literally into "*hati terbesar*", which conveys different meaning. In the source language, "big heart" means "kind" while in the target language, "*hati terbesar*"



is associated with the closest idiom “*besar hati*”, meaning “arrogant”, “being proud” or “open-minded” [2]. In addition, the Indonesian idiom’s superlative form results clumsy expression. The translation of the clause indicates that identical nuclear relation configuration may end up in low level translation quality in terms of accuracy and acceptability.

ST : You have offended the gods.

TT : *Kau telah menyinggung perasaan para dewa.*  
(You have irritated gods’ feelings.)

marginal (agent)	central	nuclear (medium)
you	have offended	the gods
<i>kau</i>	<i>telah menyinggung perasaan</i>	<i>para dewa</i>

Similar to the preceding clause, the clause in the target language has the same nuclear relation configuration as that of the original. The same elements involved in both clauses, however, produces inaccurate translation. This happens due to the mistranslation of the verb “have offended”, which actually means “have opposed”.

The 71 data revealing the portrayal of the main character in the story are categorized based on the nuclear relation configurations in the target language: retained and shift. A considerable number of the nominal groups undergo retention and the rest involve shift of nuclear relations. The detailed more account is provided as follows.

**Table 3.** Nuclear Relations and Translation Quality (Nominal Group)

shift/retention	Accuracy		$\Sigma$	acceptability		$\Sigma$
	high	Reduce		high	reduce	
retained	43	10	53	51	2	53
shifted	14	4	18	16	2	18

The translation of the nominal group does not cause shift of nuclear relation configuration but it causes change in the message. The word “brat” in the clause means “badly behaving child”. The translation points to different referent.

Table 2 and Table 3 show similar trend that retention is more frequently identified than shift of nuclear relation configurations as a result of the transfer of message performed by the translator. This finding implies that there is high degree of similarity in the way to construe experience in English and in Indonesian. The first similarity is in terms of processes along with (directly and

indirectly involved) participants and various kinds of circumstances at the level of clause. The second similarity involves Thing and the elements classifying, describing, and qualifying it. This finding augments the point revealed [6] and [33] that similarities are present between English and Indonesian simple and passive sentences.

In addition, the elaboration in the earlier section points out the association between nuclear relation configurations, translation and the quality of the result, in terms of accuracy and acceptability. The findings lead to the following points.

Identical configuration in both languages does not secure the accuracy of the translation. Conversely, different nuclear relation configurations may result in equivalent message.

Relying on the previous elaboration, included in the data are clauses and groups showing identical nuclear relation configurations in both languages. The configuration of the original constructions is reproduced in the identical way in the target language. The constructions in both clauses convey similar message. This group incorporates a clause undergoing translation in which a change happens to the clause’s voice “You don’t need to protect me.” The change of voice still retains the same elements: the process, the agent and the medium, and is still able to communicate the message that the one doing the action (referred by the pronoun “you”) does not need to commit the action (protect) upon the speaker (referred by the pronoun “me”). The expression with its different syntactic constructions is commonly used in Indonesian. On the contrary, another group of the analyzed data show identical nuclear relation configurations but they convey disparate message in the target language. This group contains the clause “You have offended the gods.” which is translated to “*Kau telah menyinggung perasaan para dewa*”. The discrepancy is caused by the inappropriate choice of equivalent used in translating “offend”.

In terms of acceptability, nuclear relation configuration may undergo retention or shift, in order to be labeled natural. The natural configuration is the one that matches the Indonesian grammar rules, which are to some extent different from those of English. Therefore, reconfiguration is often found to be common in the practice of translation from English into Indonesian. The identified pattern also exemplifies how naturalness is achieved through reconfiguration of the elements constructing the target language clauses. Shifts due to the translation of the clause occur as the effect of the adjustment to target language grammar rules. The translation of the clause “That was really a nice thing you told him.” uses predicate taking form of adjective, one of the possible forms to function as predicate in Indonesian clauses [28]. The use of adjective ends up in natural expression with lack of verb in the target language. In

addition, structural adjustment is also noticeable. The retention of nuclear relation configuration of the original, “*Perkataanmu barusan adalah baik sekali.*” tends to produce unnatural translation. The point is in line with what is asserted in a research investigating translation of verbs from Chinese into Malay [23]. The research confirms that the difference in grammar formulas and the restructuring of sentences between Chinese and Malay language led to zero translation in the translation of verbs in Chinese into Malay. This zero translation also occurs because of the decision of the translator to retain the target language norm. In addition, zero translation is in line with the findings of Rose’s 2005 study of traditional stories from eleven language phyla. Within the language phyla, Rose discovers the existence of options between presence or absence of process, especially that which signifies relation.

Meanwhile, other two clauses undergo shifts dealing with the clauses’ elements. The verb “volunteered” in “I volunteered to take the first watch.” is expressed in the target language as adverb “[*secara*] *sukarela*” (voluntarily) because “*sukarela*”, as the equivalent of “volunteer”, takes form of adjective. Similarly, the part of the verbal phrase (central element) in the translation of “I got into more fights with Nancy Bobofit and her friends.” is expressed as circumstance (peripheral element). The component “more fights with Nancy Bobofit and her friends” serves in the clause as range: process and, thus, plays central role together with the verbal group “got into”. In the target language, the message is realized as “*semakin sering*”, which is a circumstance and plays peripheral role. Similar to the shift in the previous examples, it ends up in natural expressions in the target language. The following translations, involving retention of the original nuclear relation configuration, sound more English than Indonesian. Both expressions sound closer to the Indonesian version with the original English constructions, as pointed in the following translations.

*Aku bersukarela\* untuk mengambil giiran jaga pertama.*

*Aku terlibat dalam lebih banyak perkelahian dengan Nancy Bobofit dan teman-temannya.*

The point concerning changes and shifts in terms of nuclear relation configuration has substantial correlation to the phenomenon revealed in the previous researches conducted by [27] and [18]. Shifts in cohesion markers in a text, in the previous researches, have been proven to be a factor determining translation quality. The findings of this research intensify the notion that shifts have influence to quality. The research done by [14], however, exposes different fact: that retention of cohesion marker tends to be proportional to the acceptability of the result. This means that shifts in cohesion marker have the tendency to

lessen the degree of acceptability. The findings of this research and those of the research done by Supana reveal a slightly dissimilar phenomenon in the way that shifts are employed to achieve conformity to the target language norms.

Retention and shift in terms of nuclear relation elements also happen to nominal groups as an effect of translation to the target language. Based on the pattern resulting from the analysis, it can be seen that either retention or shift predominantly ends up in translation having high quality, i.e. translation which have equal content and sound natural in the target language. The nominal group “a rebellious streak” is well translated with no shift to the target language. The original nominal group is made of central element “streak” and nuclear element “rebellious”. The configuration is retained in the target language, central element “*sikap*” and nuclear element “*pemberontak*”, a noun functioning as epithet and describing the Thing as streak of being opposed to status quo. Additionally, the message within the group “brave one” is well conveyed into the target language in spite of the shift of nuclear relation configuration from central-nuclear to central element only.

Another phenomenon is identified. In terms of nuclear relation configuration, a noteworthy case is revealed. Unlike English clauses which requires verb to function as a clause’s predicate, certain Indonesian clauses can involve configuration with or without explicating central element. This kind of clauses consists of those showing process of identifying. Since Indonesian grammar rules allow verb/verbal phrase as well as other parts of speech, central element in identifying clauses can be apparent part of the construction or it can also be implicit. This is not the case when it deals with English grammar rules. One of the examples identified in the data is the clause presented below.

ST : My mom is the nicest lady in the world.

TT : *Ibuku perempuan paling baik di dunia.* (My mom is the nicest woman in the world.)

The message of the original clause can alternatively be expressed by “*Ibuku adalah perempuan paling baik di dunia.*”, in which “*adalah*” (a verb which means “be identical with”) functions as the central element. Both translations convey similar message, which means both are acceptable equivalents of the source language expressions.

The phenomena previously discussed can be linked to [7], who identifies two among three variables which make contrastive analysis possible “a particular grammatical structure in one language may be a requirement while in another it may be one choice amongst several” and “a particular structure in one language may be unmarked while in another it may be marked”. Translation involving other pair of languages, thus, may establish different cases regarding retention and shift of nuclear relations. Nuclear

relation configuration can be retained whenever possible in translation to retain the relations among elements in linguistic constructions and be reformulated in situations which obligate changes; i.e. target language's not allowing such retention. Translation, in any case, involves reproducing "closest natural equivalence" [16].

## 5. Conclusion

Translation may be a largely virtual activity in the modern world, but the supply chain it requires is very real. To conclude, it is noticeable that central, nuclear, marginal and peripheral elements in English and Indonesian are governed by the grammar rules of each language. The rules are sometimes similar, allowing Indonesian translation of English clauses to have identical configurations to the original counterparts. In other cases, the rules are different, causing Indonesian translations not to have identical configurations. Nuclear relation configuration does not always correspond to the reduction of the degree of accuracy (the level of the equivalence of message between the source language constructions and those of the target language). The configuration tends to be closer to the acceptability (the level of naturalness; i.e. the conformity of a translation to the target language linguistic and cultural rules and norms). This suggests that nuclear relation configuration can be retained whenever possible in the translation involving English and Indonesian and be reformulated in situations which obligate shifts.

Since this research covers limited area of investigation, in future researches, the area can be expanded to comparison of translation from one language into multiple languages or be expanded to a larger area, for example the effect of shifts of nuclear relation configuration on textual meaning.

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